Introduction
This article examines the outbreak and spread of the great 1918 influenza pandemic on the Norfolk Naval Shipyard, Naval Training Station Hampton Roads and Norfolk Naval Hospital and the efforts made to contain it. Outbreaks of diseases such as influenza on large scale in closely packed installations are devastating to employee health, productivity, and morale. One of the worst was the great influenza pandemic of 1918. This pandemic struck the United States hard. Ultimately the death total for the nation was close to a million people. Because this virulent flu strain (H1N1) peaked initially among naval personnel on shore duty in the last weeks of 1918, one scholar has called this “largely a naval affair”\(^1\) The outbreak was often referred to as the “Spanish flu” but the 1918 pandemic did not, as many people believed, originate in Spain. This nickname was actually the result of a widespread misunderstanding to Spain’s consternation.\(^2\) Scientists are still unsure of its source. France, China, and Britain have all been suggested as the potential birthplace of the virus. In the United States the first known case was reported at a military base in Kansas on March 11, 1918. Researchers have also conducted extensive studies on the remains of victims of the pandemic, but they have yet to discover why the strain that ravaged the world in 1918 was so lethal.\(^3\) Modern scholars have increasingly focused their attention on the massive movement of large concentrations of military personnel in WWI as proximate cause for the swift spread of the virus. During WWI large numbers of military personnel were assembled in crowded army and naval shore stations or
crossed the Atlantic to Europe and from the United States in packed troop ships which became perfect though unwitting vectors for disease transmission. 4

The Influenza Pandemic Arrives

The new influenza virus arrived in Virginia late in the summer of 1918, apparently brought by soldiers arriving to take ships from Norfolk and Newport News to the war in Europe. It quickly appeared among personnel at U.S. Navy and Army facilities training recruits for the war effort, and by September it began to spread throughout the state. 5

By the end of September, thirteen men had died from influenza at the Norfolk Naval Base. After 350 new cases were reported in the city of Norfolk on October 2, Norfolk officials closed schools and public meeting-places. 6 Norfolk schools, churches, and public gathering places were closed. Norfolk also opened an emergency hospital, and the city’s doctors, druggists, and morticians worked day and night. The Times-Dispatch Richmond Virginia reported that the large number of furloughed soldiers from nearby military bases exacerbated the epidemic in the Norfolk area. 7

The 1918 influenza killed mostly young recruits in their late teens and early twenties. Why was this flu so deadly to this particular group? The answer, according to work by the University of Arizona evolutionary biologist Michael Worobey, had to do with the flu viruses those victims encountered as children, decades before. As dominant flu strains change over time, people born after 1889 had never encountered a strain similar to the Spanish flu, leaving them vulnerable in the pandemic. 8 Flu symptoms included body temperatures up to 105 degrees, delirium, and as author Lynette Iezzoni puts it, coughing up of “pints of greenish sputum.” Flu weakened the body’s defenses, often allowing secondary pneumonia, which caused most of the deaths, to invade, filling lungs with blood and other fluids and turning oxygen-deprived skin blue. Influenza occasionally led to other respiratory conditions or severe complications such as
meningitis, internal bleeding, and organ damage. The great influenza pandemic devastated the Naval Training Station Hampton Roads where it arrived on 13 September 1918. During the pandemic 3005 recruits at the training station contacted the disease and 175 of them died. Most of the recruits were treated at Norfolk Naval Hospital and the naval hospital registers reflect the speedy spread of the virus. The first sailors admitted specifically for “influenza” date, from 17 September 1918. The first three victims were Derrell Madison, Gustave Jensen and George Lloyd Ralph all seaman second class, in training at the Naval Training Station Hampton Roads. They were admitted suffering from influenza but fortunately recovered sufficiently to resume duty on 27 September 1918. Throughout the pandemic, accordance with wartime security, the Department of the Navy was reluctant to reveal the extent of the influenza outbreak however leaks and rumors quickly disclosed the presence of virus at Norfolk to the nation.

Public Health Poster 1918

Despite official reluctance word of the outbreak was widely and rapidly disseminated. For example on 3 October 1918 the Richmond Times Dispatch included an article regarding the tragic death of Edwin Stewart Granger, Yeoman 1st Class USNR at Norfolk Naval Hospital. The young yeoman was a salesman in civilian life had only enlisted in the navy six months previously. Granger had married Margaret Williams, of Highland Park just a month previously. At his death Edwin Granger was twenty nine years of age; his body was returned to his family in Richmond for burial. On 4 October 1918 the Richmond Times Dispatch list of the dead from influenza included seaman 2nd class Victor Sharp Metcalf, the only child of the former dean of Richmond College and professor of English literature at the University of Virginia J.C. Metcalf. Seaman Metcalf a graduate of Richmond College, was twenty two years old when he died early in the morning on 3 October at Norfolk Naval Hospital. The young sailor’s “parents were at his side when he died from pneumonia following an attack of influenza.” On 10 October 1918 the Evening Star of Washington DC ran an article and photo regarding the death of Harold Flournoy Brooks, Yeoman 2nd Class USNR. Brooks was the son of prominent local family and had died at Norfolk Naval Hospital on 6 October 1918.
On 11 October 1918 the *Richmond Times Dispatch* carried a story “Sailor Flu Victims Not down Hearted. Frank C. Fisher finds his boy and others smiling at the ravages of the malady” The editor included some details of Fisher’s trip to visit his ailing son Seaman second class John Fisher at the Norfolk Naval Hospital. Fischer senior reported he found his son John and “all the boys… game fellows fighting the flu and pneumonia like good soldiers.” By December the disease rate was slowing down however just before Christmas on 23 December 1918 Captain Robert Combs Greenwell USN died at the Norfolk Naval Hospital. Captain Greenwell was a native of the District of Columbia. He was born on 4 July 1884 and had served in the United States Coast Guard on Revenue Cutters and later transferred to the U.S. Navy where he served on the USS *Florida* and USS *Mayflower*. Captain Greenwell left behind a grieving widow and family. He is buried in the Congressional Cemetery Washington DC.

**Norfolk influenza outbreak is National News**

On 22 October 1918 the *Rogue River Courier*, of Rogue River Oregon carried the details of letter from Miss Bernice Umphlette then residing in Norfolk to her sister with the banner headline “Terrible Death Toll Norfolk” Umphlette wrote

“We are having a terrible siege of Spanish Influenza. Really, People are dying by the hundred. They are using school buildings for hospitals and all public places such as barber shops, schools, churches shows etc. are closed. The disease is very contiguous but I have not caught it thus far. There are so many dying that the undertaker can scarcely take care of the bodies. The condition is awful it is like war…”

Almost 9,000 cases of influenza were documented in Norfolk and by October 8 1918 at least 3,500 of these were on the naval station.
At the end of the year almost 1,000 deaths were reported by health officials in the area, but it is suspected the number was far more substantial as many did not seek out medical care.

**Two Naval Nurses who sacrificed their lives**

![Hortense Elizabeth Wind RN USNR](image1)

![Ann Marie Dahlby RN USNR](image2)

During the pandemic “the terrible truth was there was no effective medical intervention; doctors were virtually helpless. But nurses were not. The best that could be done for the afflicted was to provide them with soups, baths, blankets, and fresh air until the disease or the patient died. This enormous task fell on the large group of naval nurses and medics.”

By the time of the armistice on 11 November 1918, over 1550 nurses had served in naval hospitals and other facilities at home and abroad. During the war, 19 Navy nurses died on active duty, over half of them from influenza. Three of the four Navy Crosses awarded to wartime Navy nurses were given posthumously to women who sacrificed their lives during the 1918 flu pandemic.

Two navy nurses died while comforting ailing and dying sailors. One of these was navy nurse Hortense Elizabeth Wind (1891 -1918) USN. Nurse Wind was the chief dietitian at the Norfolk Hospital. She was from Council Bluffs Iowa and a graduate Iowa State University. In late summer of 1918 she was assigned to the hospital where she often worked long hours during the epidemic. Nurse Wind came down with influenza in early December, which quickly turned into pneumonia. She died on 10 December 1918. Her body was returned to her home town where she was given hero’s funeral complete with military band from Fort Dodge. As the band played Nearer My God to Thee; her flag draped coffin was lowered in the grave and a firing squad fired the farewell salute.

The second nurse who lost her life in the line of duty a and played a vital role during the pandemic was Ann Marie Dahlby. Nurse Dahlby was born in Minneapolis Minnesota on 23 October 1892 and grew up in a large family of prosperous Danish immigrants. Working closely with patients she came down with influenza on 18 November and died at the naval hospital of pneumonia on 26 November 1918. She was twenty six years of age at the time of her death; her name is listed among those nurses who died in service to their country.

So quickly did the epidemic erupt from the first reported cases at the navy base in Norfolk and docks in Newport News that the deadly virus seemed less like a disease and “more like some diabolical wildfire" As the number of new influenza cases and deaths decreased, Norfolk
health authorities lifted their ban on November 1, 1918 however physicians had to examine children for signs of influenza before they were allowed to return to school.  

During the height of the epidemic, as morbidity soared, the city of Norfolk soda shops substituted paper cups for the usual glass variety. Norfolk officials required soft drinks to be served in paper cups and ordered restaurants to sterilize all cooking utensils and silverware.

The Great Pandemic and Collective Memory

Writing after the war Captain Richmond C. Holcomb USN noted “It was over quickly, took its toll of dead and was over, so far as the epidemic intensity was concerned in about four weeks.”

As the mortality rate steadily declined, the men and women of the Norfolk Naval Shipyard, Naval Training Station Hampton Roads and Norfolk Naval Hospital returned to their shops and offices. By the time the pandemic finally ended, it had killed around 25 times more people than any other flu outbreak in history. All over America families received word of the sudden and unexpected death of beloved sons and daughters. It killed both rich and poor all over the globe; possibly it killed more people than the first and second world wars put together. In the United States wartime secrecy regulations regarding this trauma and the vast number of deaths, abetted this process. After the war, given the utter helplessness to control influenza, leaders and the public began to downplay the epidemic as a significant event. Unlike recent tragedies, there were no national memorials erected, public ceremonies or moments of silence for the hundreds of thousands of victims; in effect erasing this dramatic story from history and our collective memory. Today except for individual family grave markers there are but few reminders of the victims of our great pandemic.
Death Rates of Naval Recruits

The following is a summary of the data on six naval recruits from the Naval Training Station Hampton Roads admitted to Norfolk Naval Hospital on 2 October 1918. The recruits below are enumerated on the General Register of Patients page 173. The cause of death for each recruit is listed as pneumonia. At Norfolk hospital after a patient progressed from influenza to pneumonia, death typically followed within an average of six days in the small sample below. The 1918 pandemic struck hardest at the young, the average age of death for the six recruits below was age 20 most were away from home for the first time and had only been in the navy three or four months. The recruits names and related data were summarized from the hospital general register page 173. The recruits birthdays and cause of death were confirmed in the State of Virginia Death Records. The young sailors listed below are but a small sample of 175 who died from the training station during the great influenza pandemic of 1918. During the outbreak pneumonia was the most frequent complication cited by Naval Hospital Norfolk where 30% of all cases admitted, subsequently developed pneumonia. The fatality rate for this disease overall during the pandemic was an astounding 28.6%.

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<th>Name</th>
<th>Patient number</th>
<th>Rank</th>
<th>Enlisted</th>
<th>Admitted to Hospital</th>
<th>Death</th>
<th>Born</th>
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<td>Martin, Rudolph Henry</td>
<td>5382</td>
<td>Apprentice Seaman</td>
<td>20 July 1918 Columbia S.C.</td>
<td>2 October 1918</td>
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<td>Erlbeck, Leo Joseph</td>
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<td>19 July 1918 Baltimore Md.</td>
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<td>10 October 1918 age 21</td>
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<td>Nelson, Oscar Wilhelm</td>
<td>5389</td>
<td>Fireman 3/c</td>
<td>3 June 1918 Cincinnati Ohio</td>
<td>2 October 1918</td>
<td>7 October 1918 age 21</td>
<td>11 November 1896</td>
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<td>Brennan, John Francis Xavier Robert</td>
<td>5391</td>
<td>Apprentice Seaman</td>
<td>29 July 1918 Washington D.C.</td>
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<td>7 October 1918 age 21</td>
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<td>Miller, Frank Monroe</td>
<td>5396</td>
<td>Landsman Musician</td>
<td>5 August 1918 Baltimore Md.</td>
<td>2 October 1918</td>
<td>9 October 1918 age 18</td>
<td>12 January 1900</td>
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<td>Tarkenton, Eric Lee</td>
<td>5402</td>
<td>Seaman-2/c</td>
<td>14 June 1918 Norfolk Virginia</td>
<td>2 October 1918</td>
<td>6 October 1918 age 21</td>
<td>23 November</td>
</tr>
</tbody>
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Endnotes

1 Crosby, Alfred W *America's Forgotten Pandemic the Influenza of 1918* (Cambridge University Press :New York 2004),57

2 Kolata, Gina, *Flu the Story of the Great Influenza Pandemic and the Search for a Virus Cure* 2011


4 Crosby, p.57, 217


7 Barker, p. 23


10 Holbrook, Richmond A Century with Norfolk Naval Hospital (Printcraft Publishing Portsmouth Virginia 1930), 417


12 DON 1918 Norfolk Naval Hospital Case files p. 128 patients 3337 -3339e

13 Richmond Times Dispatch 3 October 1918 , p. 7

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15 Richmond Times Dispatch 11 October 1918, p.7

16 Evening Star Washington DC 23 December 1918, 7

17 Rogue River Courier Rogue River Oregon 24 October 1918, p.1


19 Omaha World –Herald 18 December 1918 , p.1

20 The Trained Nurse and Hospital Review, Volumes 62-63 January to December 1919 (Lakeside Publishing: New York City 1919), 119
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22 Barker, p.36
23 Barker, pp. 106-107

24 Holcomb, 438


28 Holbrook, Richmond *A Century with Norfolk Naval Hospital* (Printcraft Publishing Portsmouth Virginia 1930), 417