# Medical Patriotism: The University Units and Base Hospitals of World War I

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## Medical Patriotism

#### THE SOUTHERN PRACTITIONER

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DEERING J. BOBERTS, M.D.

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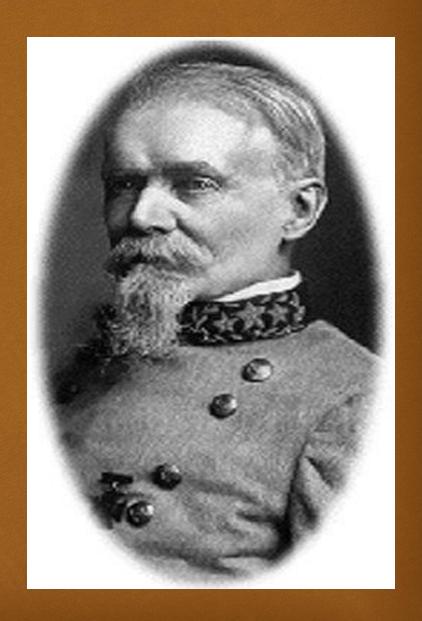
VOL. XXXIX

NASHVILLE, MAY, 1917

NO. 5

# Deering J. Roberts, M.D.

- General Practitioner in Nashville
- ∞ Age 77 in 1917
- Surgeon General, UCV
- Regimental surgeon in CSA
- Surgeon-in-charge, Bates Division, Battle of Franklin (400)
- Surgeon-in-charge, Gun-Factory Hospital, Nashville (1200)
- Chairman, Practice of Medicine, Medical Dept. of the University of Tennessee
- Chairman, Practice of Medicine, Medical Dept. of the University of the South



# Deering J. Roberts, M.D.

mit the following personal statement: As soon as I learned that "a state of war" existed involving our country, I wrote to Hon. Joseph W. Byrns, Representative of the Hermitage District of Tennessee in Congress, requesting him to see at as early date as possible and convenient Surgeon-General William C. Braisted, U. S. N., and Surgeon-General Wiliam C. Gergas, U.S. A., and inform them that I was ready and willing at any time after twenty-four hours' notice to serve in any capacity in which my services could be of use. I stated that, owing to

# Deering J. Roberts, M.D.

To this, on April 16th ult., I received the following reply, dated April 13th:

"My Dear Dr. Roberts:—I am in receipt of your favor of April 9th, in which you patriotically tender your services to the Government. Your letter states so fully and clearly your eminent qualifications that I am going to take the liberty of filing it with General Braisted, and I shall tell him how highly you are regarded both professionally and personally in Nashville and Tennessee. With high regards, I am,

"Sincerely yours,

JOSEPH W. BYRNS."

By the same mail I received the following:

"Washington, D. C., April 14, 1917.

"My Dear Doctor:—Your letter addressed to Mr. Byrns has been forwarded to this bureau, and a special note has been made of your case, should any occasion arise to advance the age limit.

"Very truly yours,

"W. C. Braisted, Surgeon-General U. S. Navy.

# Background

- ∝1914: Col. William C. Gorgas, M.D., MC, USA appointed Surgeon General of the Army
- ∝1915: U. S. Army had too few physicians for a war.
- Regular physicians = 443; active duty reservists = 146; Medical Reserve Corps = 1757, no units
- Gorgas worked to prepare.
- Worked through Congress and with the civilian medical profession.

# William C. Gorgas, M.D.

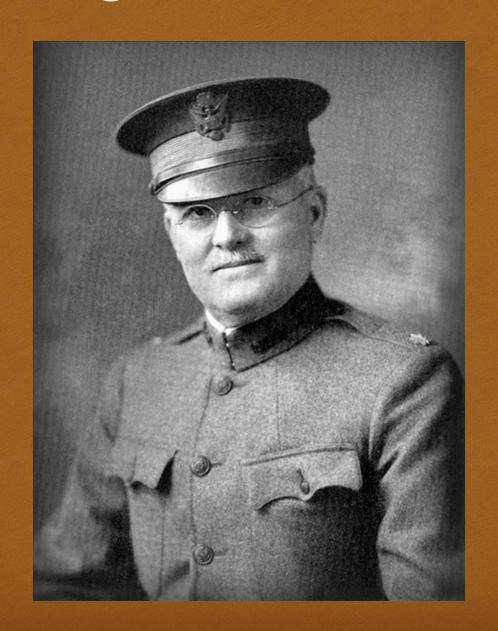


Surgeon General of the Army Age 60 in 1914

# Background

- 1916: National Defense Act increased size of the Army.
- Allowed for creation of Council of National Defense (CND) on which Franklin H. Martin, M.D., Founder & Director of the American College of Surgeons, served.
- Martin appointed an Advisory Committee, aka the Medical Committee, of the CND (Gorgas, Braisted, Blue, Kean, Welch, Mayo, Simpson).
- 1916: Committee of American Physicians for Medical Preparedness (Martin, Mayos, Simpson, Finney)
- □ 1917: General Medical Board of the CND to oversee medical mobilization. Absorbed the CAPMP.
- 1918: Armistice approx. 30,000 physicians

## George W. Crile, M.D.



# George Crile

- «Age 50 in 1914.
- Prominent American surgeon
- Served in Puerto Rico during Spanish-American War.
- Pioneering work in blood transfusion, shock and its treatment, balanced anesthesia, surgical instrument design
- Established Lakeside Hospital in Cleveland.
- Co-founder of the Cleveland Clinic

#### 1914

- Thousands of Americans ('American colony') living in Paris who wanted to help the war effort by providing medical care to war casualties.
- American Ambassador Myron Herrick and ex-Ambassador Robert Bacon facilitated this effort along with Francis Drake, President of the American Chamber of Commerce in Paris.
- Rerrick: Clevelander and friend of Crile
- French government donated an unfinished high school in suburb of Neuilly-sur-Seine to the cause American Ambulance (Hospital)
- Oct.: Drake visited Crile for advice, suggestions, and to ask if he would consider service at the hospital.

#### 1914 – "The Plan of a University Service"

- Crile: "I would be of no use without my staff."
- Crile devised plan: Privately funded, 3-month's service, furnish surgeons/nurses/equipment, do research, recruit 3 other 'units'.
- American Ambulance Board to Crile: Assume control of a 150-bed service, recruit 3 other 'units', fund it, start Jan. 1, 1915.
- Crile agreed: Raised funds and volunteers, obtained equipment & supplies, recruited Harvard/Univ. of Penn./Northwestern
- Dual purpose: (1.) Participating institution's hometown would have a vested interest in the Ambulance. (2.) First hand knowledge of military surgery would be obtained for the United States.

#### American Ambulance

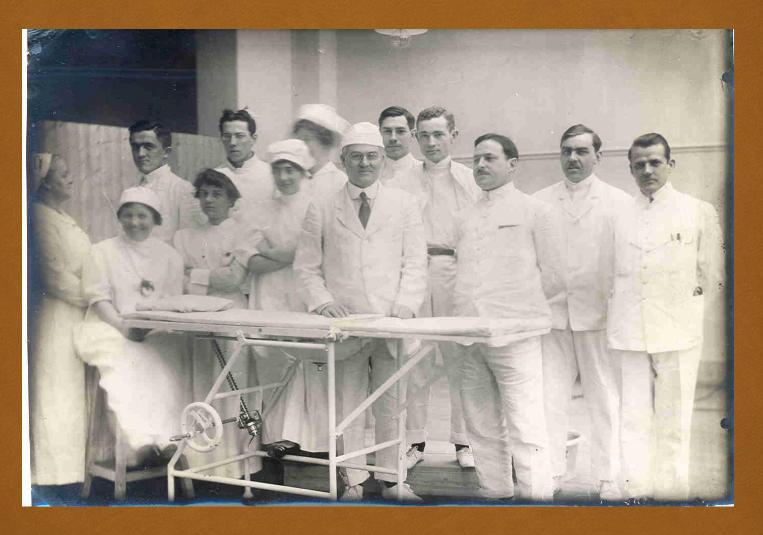
- Sailed Dec. 30, 1914
- Regan work Jan. 11, 1915



#### American Ambulance – First Service of a University Unit - 1915

- The unit functioned as in Cleveland 2 surgeons, 1 neurologist, 4 residents, 2 nurse anesthetists, 2 OR nurses, 1 researcher, 1 record keeper
- Crile felt the administration of the Ambulance managed extremely well.
- The entire experience demonstrated that "philanthropy was at its best."
- "Thinking about these weary, bedraggled men intently engaged in killing their fellows, amidst cold and rain and mud, infected with vermin, covered with scabs, the stench of their own filthy bodies mingling with that of their decomposing comrades..."
  - Crile was relieved on Feb. 8 by William E. Lower, M.D.

#### American Ambulance – First Service of a University Unit - 1915



Western Reserve University through Lakeside Hospital

### The Experience

THE LAKESIDE UNIT AT THE AMERICAN AMBULANCE 421

A COMPOSITE REPORT OF THE THREE MONTHS'
SERVICE OF THE LAKESIDE UNIT AT
THE AMERICAN AMBULANCE

INTRODUCTION
By G. W. CRILE, M. D.

- \* Cleveland Medical Journal 1915; 14:421-439.
- ❖ Detailed: Completely volunteer effort, nitrous oxide/oxygen anesthesia, frostbite, tetanus and gas gangrene, review of French field service, fractures, neurological aspects, shrapnel and rifle wounds
- Crile summarized: U.S. obligation to help the unfortunate of war; U.S. academia must carry on the work of the great European centers.

- Seemed a very productive time.
- Socialized with renown French physicians (Carrel, Dakin, Roux).
- Produced a war surgery symposium.
- Presented his research to the exclusive French Society of Biology.
- Sailed back and forth on the Lusitania.

# Harvey W. Cushing, M. D.



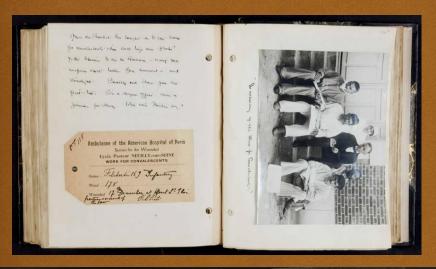
# Harvey Cushing

- ∝Age 45 in 1914.
- Founder of American neurosurgery
- Native of Cleveland
- Career: Johns Hopkins, Harvard/Brigham, Yale
- Father of the "fabulous Cushing sisters"
- Pulitzer Prize-winning author

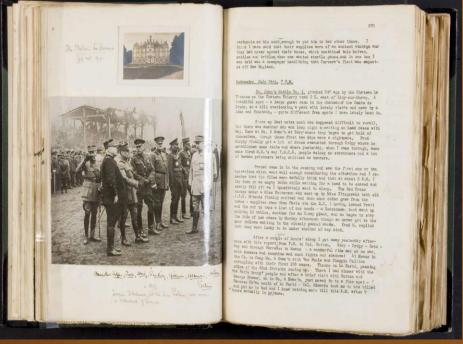
# American Ambulance – 2<sup>nd</sup> Rotation

- Crile had contacted Cushing about the AA project.
- ∝Jan. 1915 Harvard accepted (if they did not fund it).
- Cushing raised the funds privately.
- He would be a consultant and not the director.
- Had second thoughts but felt obligated.
- Sailed March 22, 1915; began work April 1.
- Kept a diary "one of medical history's major Great War journals"

#### Cushing's War Diaries



1915



HARVEY CUSHING, M.D. Author of The life of SIR WILLIAM OSLER" 1915 AMERICAN AMBULANCE,
NEULLY, FRANCE: EARLY SCENES THE MARNE & FLANDERS 1916 U.S.A: ORGANIZATION OF A BASE HOSPITAL UNIT 1917 WITH B.E.F.: MESSINES RIDGE, PASSCHENDAELE 1918 WITH A.E.F.: CHÂTEAU-THIERRY, ST.MIHIEL, ARGONNE

1936

1918

#### **Cushing Writes Home**

#### Correspondence.

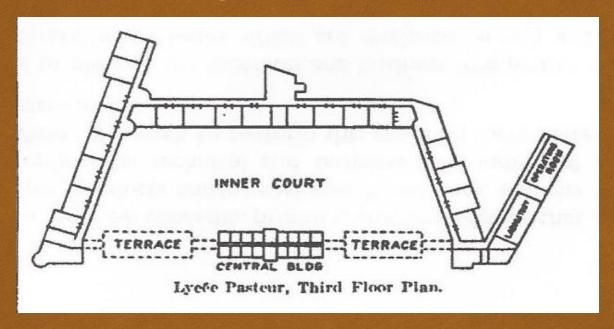
THE HARVARD UNIT AT THE AMERICAN AMBULANCE IN NEUILLY, PARIS.

Paris, April 8, 1915.

Dear Mr. Editor: We have been here two weeks and you may be glad to have a few words of our early impressions.

- Boston Medical and Surgical Journal 1915; 172(21):801-803.
- Have the entire 3<sup>rd</sup> floor, 162 beds.
- Hospital under military organization, not Red Cross.
- Cases in 3 main groups: UE, LE, and jaws.
- Many cranial injuries and chest cases

#### **Cushing Writes Home**



- ∝ X-ray is routine.
- Biggest regret: Did not bring dentist.
- All (Unit) have done well.
- 5 surgeons stay at AA, remainder (including Cushing) comfortably housed in Paris.
- Will be a success and credit to Harvard and America.

# Cushing

- Actively recruited for head cases soon had plenty.
- Cushing was first to successfully use magnet to extract metal from brain.
- "The brain of course is not a pie, even though it may in the past have been treated as such by the little Jack Horners of surgery."
- Surreal adventure: operating, socializing, sightseeing, visiting other European surgeons, touring the front, reviewing British medical system
- Sailed home May 8, 1915 through Lusitania's debris field.
- Unit finished the rotation.
- Cushing told Crile the war trip was "an experience not to be missed."
- Joined the AMRC and became involved in the preparedness movement.

- Crile & Lower felt the U.S would enter war. Gorgas believed it was coming.
- Crile addressed the American First Aid Conference; advocated "well-organized hospital units of men who have trained together."
- Gorgas was influenced by the speech and wrote Crile about a hypothetical scenario.

#### WAR DEPARTMENT

OFFICE OF THE SURGEON GENERAL WASHINGTON

August 25, 1915

Dr. George W. Crile Osborn Building Cleveland, Ohio

Dear Dr. Crile:

Your remarks yesterday with regard to units for active service have made a great impression upon me, and I would like to discuss the matter with you. As a basis of discussion I will outline the following proposition: Suppose war has been declared and the Medical Department is establishing a base hospital at Huntsville, Alabama; you are the chief of the surgical unit. Can you furnish me the names of other members of the unit, doctors, nurses, orderlies, and all concerned? What equipment is necessary, if any, which should go with the unit?

You understand that this letter is written purely with the object of discussion.

With kindest regards, I remain yours,

Very sincerely,

(signed) W. C. Gorgas

- Crile replied with a complete outline.
- Recommended "American medical colleges in good standing would form an excellent nucleus" to develop the plan.

THE UNIT PLAN OF ORGANIZATION OF THE MEDICAL RESERVE CORPS OF THE U.S.A. FOR SERVICE IN BASE HOSPITALS 1

By G. W. CRILE, M.D., F.A.C.S., CLEVELAND, OHIO

Surgery, Gynecology & Obstetrics 1916; 22:68-69.

#### Crile writes:

As a result of this correspondence and of the publicity given the plan, the American Red Cross initiated the formation of Base Hospital Units in connection with civilian hospitals throughout the country, under the direction of Colonel Jefferson R. Kean, Medical Corps, U.S. Army, who was assigned to the Red Cross for this purpose.

Thus the formation and service of the Lakeside Unit at the American Ambulance marked the beginning of the "Unit Plan of Organization of the Medical Reserve Corps of the U.S.A. for Service in Base Hospitals," out of which grew the Civilian Base Hospital organization that was developed later by the American Red Cross.

Crile GW. George Crile: An Autobiography, 1947.

#### University Units and Base Hospitals

- Gorgas asked Crile to proceed.
- Franklin Martin asked Crile for 5 practical suggestions for preparedness.
- Crile responded:
- "1) Lay in a stock of gauze, cotton, instruments, etc., etc., etc., sufficient for six months of a major war.
  - 2), 3), 4), 5) Do it now."

As a consequence of all our efforts, General Gorgas came to the war wholly prepared.

#### Off to War

This message had hardly left my office before the historic order which initiated the first mobilization of any United States contingent for overseas service was in preparation.

Base Hospital #4
Office of the Director
April 28, 1917

Order #1

Instructions have been received this day from Washington, ordering the immediate mobilization of Base Hospital #4 for service abroad. You are accordingly requested to report in the amphitheater in Lakeside Hospital, Monday, April 30, at 12:00 o'clock for further information.

G. W. CRILE, Director
Base Hospital #4

#### Lakeside Unit and Base Hospital No. 4

- ∝Sailed May 8, 1917.
- First American contingent of the U.S. Army to serve in the First World War.
- ∝In London assigned to B.E.F. General Hospital No. 9, Rouen, France (1540 beds).
- Took over the service May 28.
- Unit served 21 months; 82,179 pts.
- Crile had himself transferred to Casualty Clearing Station (CCS) No. 17.

#### Lakeside Unit and Base Hospital No. 4



King George V: "It is characteristic of the humanity and chivalry which have ever been evinced by the American nation that the first assistance rendered to the Allies is in connection with the profession of healing and the work of mercy."

# Base Hospital No. 4



- Seemed to be everywhere.
- Introduced blood transfusion to French & English armies, introduced saline infusion resuscitation, had 'moratorium' wards changed to 'resuscitation' wards, did inspection tours of French & English armies, noted wounds with maggots never had gas gangrene, brought nitrous oxide anesthesia to the CCS, learned orthopedics from the British, researched shock/gas injury/metabolism/wound infection.
- Returned to NY in Oct., proceeded to Washington, met with Franklin Martin, and learned about chaos and disorganization in SG's office.

- Wrote "A Suggested Plan of Clinical Organization of the Medical Service of the U.S. Army."
- Met with Chief of Gas Services: Gave him gas shells and told him gas masks don't work.
- Met with Chief Engineer of the Army about his research on concussive effect of high explosives.
- Met with Sec. of War Baker and discussed limitations of American uniforms.
- Gave several specimens to Army Medical Museum.
- Presented his organizational plan to the ACS and the Exec. Comm. of the CND who endorsed it.
- Met with the CND reported on leading war problems.

- Leading war problems: Lice, fleas & scabies, trench nephritis, trench heart, trench fever, war neurasthenia, phosgene & mustard gas poisoning, shell concussion, wound infection, exhaustion, treatment of compound fractures
- His plan of organization would meet them all.
- Dec. 1917: Returned to France
- Sept. 1918: Near the front with Mobile Hospital No. 5 (organized from BH No. 4).
- Rain, mud, flu, pneumonia, rats!'
- Nov. 1918: Armistice

#### Harvard Unit and Base Hospital No. 5

- Sept. 1915: Gorgas asked Cushing to reform his University Unit for a 500-bed hospital.
- Harvard Unit Base Hospital No. 5 formed with Cushing as Director.
- Sailed May 11, 1917.
- June 1: Took over B.E.F. General Hospital No. 11, Camiers, France.
- Roor site, poorly supplied; made the best of it.
- Sept. 4, 1917: Germans bombed, killing 4 and wounding 22.
- First Americans to die in WW I while officially serving their country.

Harvard Unit Base Hospital No. 5 Camiers, France



A Typical Row of Hospital Marquees in "B Lines" with the Cement Works Beyond



CAMIERS CAMP, LOOKING TOWARD "A LINES" WITH THE CEMENT WORKS BEYOND

#### Harvard Unit and Base Hospital No. 5

- Nov., 1917: BH No. 5 took over B.E.F. GH No. 13 in Boulogne, France (in a large casino).
- □ Unit served 20 mo.; 45,837 pts.



## Cushing

- After a week Cushing sent to CCS 46 and went back & forth, very busy. Serious head wounds directed to him.
- Dissatisfied with the British (lazy) and American HQ (unorganized and inefficient).
- First began to experience LE claudication (heavy smoker).
- Sept./Oct., 1917: Operated constantly at CCS 46 cold, wet, mud.
- Dinner conversation: How quickly the crows, the frogs, the maggots could pick a dead body clean.
- Surgical results steadily improved.

## Cushing - CCS 46



## Cushing

- 1918: Reported his results in British Medical Journal (Feb.) and British Journal of Surgery (April) became the definitive work on wartime brain surgery.
- ∝June: Made chief neurosurgical consultant for the A.E.F.
- ∝Aug.: Developed flu.
- Coct.: Developed polyneuritis (Guillain-Barre).
- His war was over.

#### The Case of Edward Revere Osler

- 2nd Lt. Osler, British Royal Field Artillery, age 21, was the only son of Sir William Osler and Grace Revere Osler.
- Aug. 29, 1917, 4:30 PM: Battle of Passchendaele. Battery moving artillery and bridging shell holes. Hit by a German shell while standing in a shell hole.
- Sustained shrapnel wounds to chest, abdomen, and thigh.
- Carried to the gun pit & wounds dressed, then 3000 ft. by stretcher to the dressing station, then placed on ammunition railway to local farm, then by motorized ambulance to CCS 47. Arrived cold and pulseless. Total time = 4 hrs.
- William Darrach and George Brewer (Columbia Coll. P&S, BH No. 2) happened to be there. Crile (friend of the Oslers) was summoned. Cushing (very close to the Oslers) summoned from CCS 46 & arrived 10 PM.
  - Revere was told his father's friends were there.

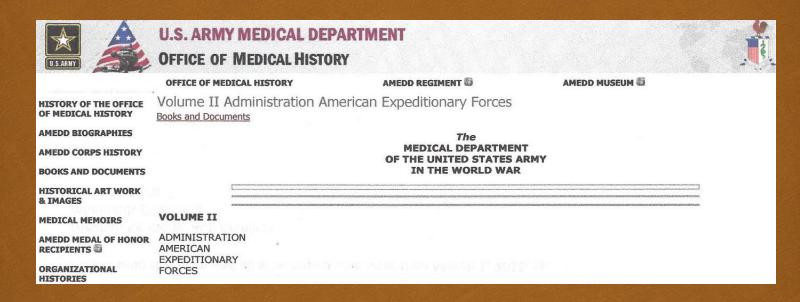
#### Revere Osler

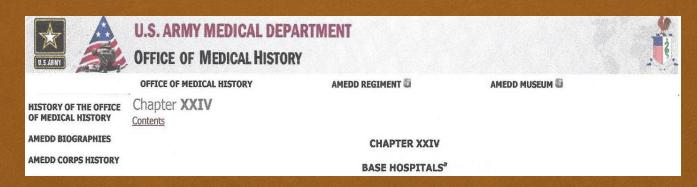
- Incredibly, 4 of the most skilled surgeons America could offer had assembled. Operated around MN. Darrach and Brewer explored the abd. under ether, Crile transfused, Cushing monitored pulse.
- Findings: multiple colon perforations, hemothorax, large thigh wound. Repaired and dressed.
- Survived operation but died about 7 AM.





#### University Units and Base Hospitals





### University Units and Base Hospitals

- ∝50 were authorized. 48 became functional in France.
- Original Six: Lakeside Unit BH No. 4, Harvard Unit BH No. 5, Presbyterian (NY) Hospital Unit BH No. 2, Pennsylvania Hospital Unit BH No. 10, Washington Univ. Unit BH No. 21, Northwestern Univ. Unit BH No. 12.
- ∝LOS range: 5-21 mo.

# Interesting Facts Among the University Units and Base Hospitals

- Howard Lillienthal, M.D. Mt. Sinai (NY) HospitalUnit BH No. 3 pioneer in thoracic surgery
- Reginald Fitz, M.D. Harvard Unit BH No. 5– appendicitis
- Northwestern Unit BH No. 12: Two nurses killed during ship's target practice on initial voyage.
- Johns Hopkins Unit BH No. 18: 32 third-year medical students completed their last year in France.
- Lilly Unit BH No. 32 was largely sponsored by Eli Lilly & Co. and its President, J. K. Lilly.
- Yale Unit BH No. 39 was actually Mobile Hospital No. 39 (near the front) because Yale Medical School was too small to staff a BH.

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MEDICAL SCHOOL LEGACIES (39) OF THE UNIVERSITY UNITS AND BASE HOSPITALS (48):
New York University School of Medicine - Bellevue Hospital Unit BH No. 1, Post-Graduate Hospital Unit BH No. 8
        (NEW YORK)
Weill Cornell Medical College – Presbyterian Hospital New York Unit BH No. 2, New York Hospital Unit BH No. 9
        (NEW YORK)
Columbia University College of Physicians and Surgeons - Presbyterian Hospital New York Unit BH No. 2, New York
        Hospital Unit BH No. 9 (NEW YORK)
Icahn School of Medicine at Mount Sinai – Mount Sinai Hospital Unit BH No. 3, Roosevelt Hospital Unit BH No. 15
        (NEW YORK)
Case Western Reserve School of Medicine - Lakeside Hospital Unit BH No. 4 (CLEVELAND)
Cleveland Clinic Lerner College of Medicine - Lakeside Hospital Unit BH No. 4 (CLEVELAND)
Harvard University School of Medicine - Harvard University Unit BH No. 5, Mass. General Hospital Unit BH No. 6
        (BOSTON)
Boston University School of Medicine - Boston City Hospital Unit BH No. 7, Mass. Homeopathic Hospital Unit No.
        44 (BOSTON)
University of Pennsylvania Perelman School of Medicine - Pennsylvania Hospital Unit BH No. 10, University of
        Pennsylvania Unit BH No. 20 (PHILADELPHIA)
Northwestern University Feinberg School of Medicine - Northwestern University Medical Dept. Unit BH No. 12
        (CHICAGO)
Rush Medical College - Presbyterian Hospital Chicago Unit BH No. 13, St. Luke and Michael Reese Hospital Unit
        BH No. 14 (CHICAGO)
Wayne State University School of Medicine - Harper Hospital Unit BH No. 17, Detroit College of Medicine Unit BH
        No. 36 (DETROIT)
Johns Hopkins University School of Medicine - Johns Hopkins Hospital Unit BH No. 18 (BALTIMORE)
University of Rochester School of Medicine and Dentistry - Rochester Unit BH No. 19 (ROCHESTER)
Washington University School of Medicine – Washington University School of Medicine Unit BH No. 21 (ST. LOUIS)
Medical College of Wisconsin - Milwaukee County Hospital Unit BH No. 22 (MILWAUKEE)
University at Buffalo Jacobs School of Medicine and Biomedical Sciences - General Hospital Buffalo Unit BH No. 23
        (BUFFALO)
Tulane University School of Medicine - Tulane University Unit BH No. 24 (NEW ORLEANS)
University of Cincinnati College of Medicine - General Hospital Cincinnati Unit BH No. 25 (CINCINNATI)
University of Minnesota Medical School - University of Minnesota Unit BH No. 26 (MINNEAPOLIS)
University of Pittsburgh School of Medicine - University of Pittsburgh Medical School Unit BH No. 27 (PITTSBURGH)
University of Colorado School of Medicine - City and County Hospital Denver Unit BH No. 29 (DENVER)
University of California San Francisco School of Medicine - University of California San Francisco Unit BH No. 30,
        San Francisco Hospital Unit BH No. 47 (SAN FRANCISCO)
Northeast Ohio Medical University – Youngstown City Hospital Unit BH No. 31 (YOUNGSTOWN)
Indiana University School of Medicine - Indianapolis Lilly Unit BH No. 32 (INDIANAPOLIS)
Albany Medical College - Albany Hospital Unit BH No. 33 (ALBANY)
Temple University School of Medicine - Episcopal Hospital Philadelphia Unit BH No. 34 (PHILADELPHIA)
University of Southern California Keck School of Medicine - Good Samaritan Hospital Los Angeles Unit BH No. 35
        (LOS ANGELES)
SUNY Downstate College of Medicine - Kings County Hospital Brooklyn Unit BH No. 37 (NEW YORK)
Jefferson Medical College - Jefferson Medical College Unit BH No. 38 (PHILADELPHIA)
University of Kentucky College of Medicine - Good Samaritan Hospital Lexington Unit BH No. 40 (LEXINGTON)
University of Virginia School of Medicine – University of Virginia Unit BH No. 41 (CHARLOTTESVILLE)
University of Maryland School of Medicine - University of Maryland Unit BH No. 42 (BALTIMORE)
Emory University School of Medicine - Emory University Unit BH No. 43 (ATLANTA)
Medical College of Virginia – Medical College of Virginia Unit BH No. 45 (RICHMOND)
Oregon Health Sciences University School of Medicine - University of Oregon Medical Dept. Unit BH No. 46 (PORTLAND)
New York Medical College - Metropolitan Hospital New York Unit BH No. 48 (NEW YORK)
University of Nebraska College of Medicine - Nebraska University Unit BH No. 49 (OMAHA)
University of Washington School of Medicine - University of Washington Unit BH No. 50 (SEATTLE)
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## Further Reading

# Professional Doctors but Amateur Soldiers: The US Army's Affiliated Hospitals Program, 1915-1955

Sanders Marble

War & Society 2008; 27(1): 39-58

## Conclusions

- The University Units and their Base Hospitals in World War I represent an unprecedented degree of medical patriotism from the 'medical warriors' and 'surgeon-patriots' who served.
- They functioned effectively, although not perfectly, under imperfect conditions and accomplished their mission.
- The Units are an important and unique component of the medical histories of the participating institutions and deserve to be further explored.
- George Crile, Harvey Cushing, and likely others were kindred spirits to surgeons named 'Hawkeye.'
- Would you have gone?