The Tuskegee Study: Untreated Syphilis in the Male Negro 1932-1972

Ban Mishu Allos
Microbiology and Immunology Course
Vanderbilt School of Medicine



Cathy McGowan, M.D.

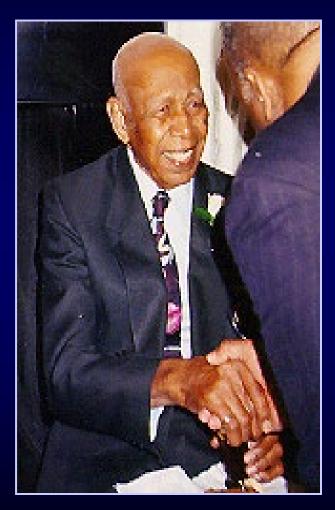
Surviving participants of Tuskegee study: formal apology ceremony, May 16, 1997



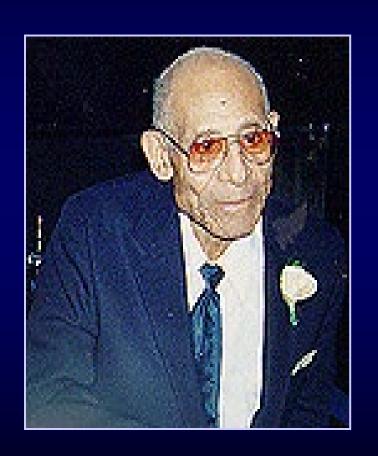
"No power on Earth can give you back the lives lost, the pain suffered, the years of internal torment and anguish, What the United States government did was shameful, and I am sorry."

President Bill Clinton, to the 5 Tuskegee survivors May 16, 2017

Surviving participants of Tuskegee study: formal apology ceremony, May 16, 1997



Herman Shaw



Charlie W. Pollard

"An authentic, exquisitely detailed case study of the consequences of racism in American life."

-The New York Times Book Review

BADBLOOD

The Tuskegee Syphilis Experiment

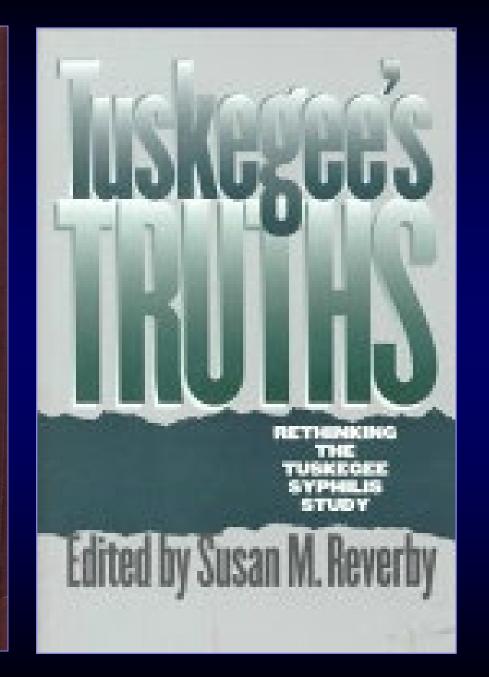


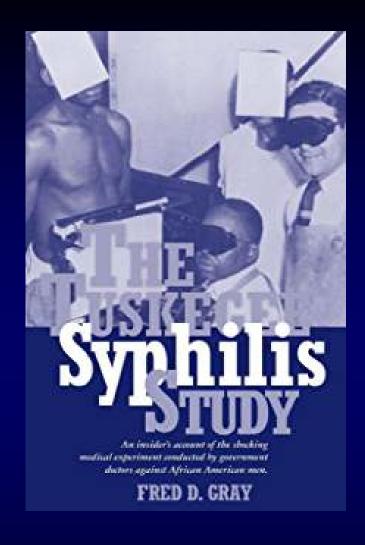
The modern classic of race and medicine updated with an additional chapter on the Tuskegee Experiment's legacy in the age of AIDS

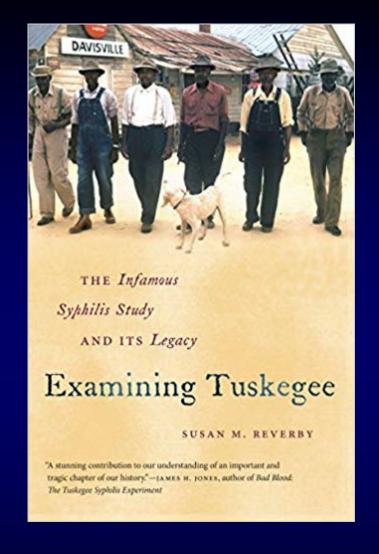


New and Expanded Edition

James H. Jones

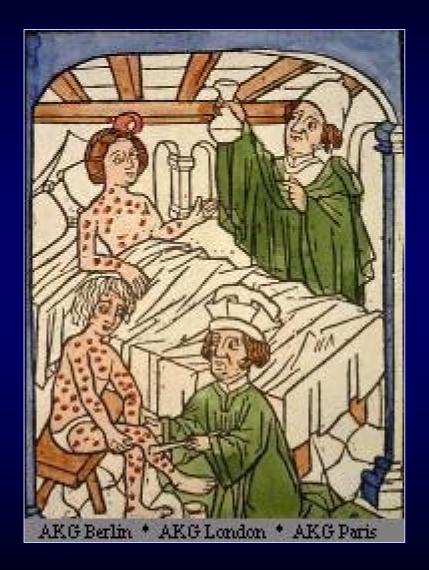






Fred Gray published his book, The Tuskegee Syphilis Study" in 2003 and Reverby wrote a second book on the topic published in 2013, "Examining Tuskegee".

15th century illustration of secondary syphilis



Two syphilis patients, a woman in bed and a man sitting on a stool, both covered with lesions, are depicted in this woodcut from 1497, just three years after the disease spread across Europe for the first time.

A physician holds up a flask of the woman's urine that has been sampled for analysis, while another applies a mercury-containing salve to the man's legs—a treatment that was often said to be worse than the disease.

Treponema pallidum was discovered and recognized as the cause of syphilis in 1905



Prevalence of cardiovascular syphilis in the Oslo study of untreated syphilis (1890-1910)

	Males, %	Females, %
	(N=303)	(N=584)
Aortic insufficiency	7.3	3.3
Aortic aneurysm	3.6	1.5
Uncomplicated aortitis	2.6	2.9
Coronary stenosis	0.7	0.3
Aortitis	0.7	0.0
Total	15	8.0
		Gjestland et al.

Prevalence of neurosyphilis in the Oslo study of untreated syphilis

	Freq	Frequency	
	Males	Females	
Туре	(N=331)	(N=622)	
Diffuse meningovascular	3.6	1.7	
General paresis	3.0	1.7	
Tabes dorsalis	2.5	1.4	
Gumma of brain	0.3	0.2	
Total	9.4	5.0	
		Gjestland et al.	

Cardiovascular syphilis in the Oslo study of untreated syphilis: comparison of known study group to autopsied patients

	Percent in study group	Percent in autopsied group
Uncomplicated aortitis		
Males	2.6	9.3
Females	2.9	11.2
Complicated aortitis		
Males	12.2	25.3
Females	5.1	10.4
		Gjestland et al.

Bruusgaard, 1929 Gjestland, 1955

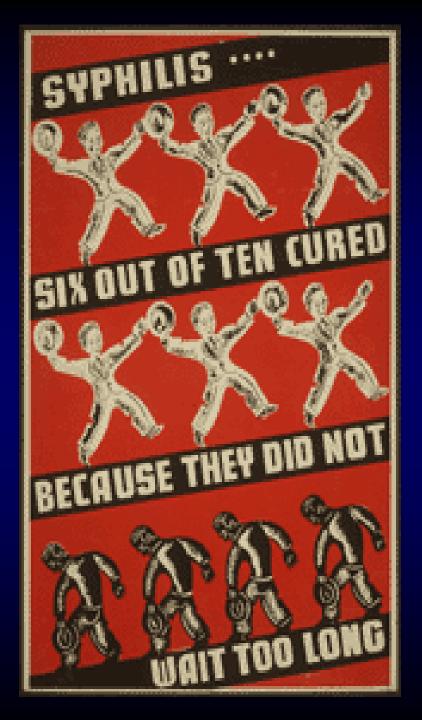
Standard Treatment of Syphilis: Early 1930's

Organic arsenicals

 (arsphenamine, neoarsphenamine)

Mercury

Bismuth



Library of Congress circa 1936-1941

STAMP OUT SYPHILIS



EVERY BABY IS ENTITLED TO BE BORN HEALTHY



BLOOD TEST & EXAMINATION SHOULD BE MADE BEFORE MARRIAGE BY YOUR DOCTOR OR

SI STUYVESANT PLACE . STATEN ISLAND

Library of Congress circa 1936-1938

Julius Rosenwald Fund

- Philanthropic organization
- Syphilis seroprevalence study 1929-31
- Treatment of seropositives was primary goal

Initial goals of the study

To study the prevalence of syphilis among African Americans.

To determine the practicability and effectiveness of measures for mass control of syphilis.

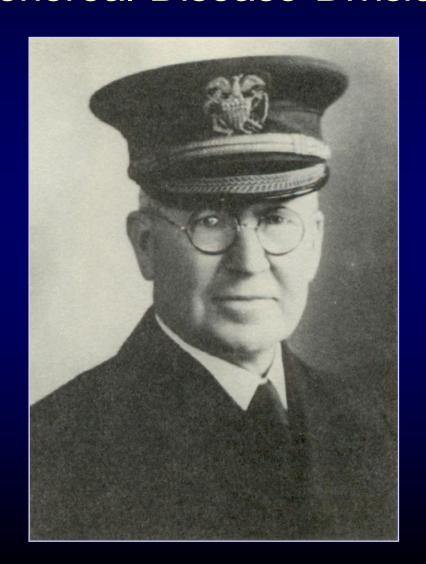
Later...to study the natural history of untreated syphilis.

The study was to be performed with cooperation of the USPHS.

James H. Jones Description of the "Syphilis Men"

The venereal disease section in the U.S. Public Health Service (PHS) had attracted a group of physicians who, based on the standards of the day, were often very liberal in matters of race. They were concerned about the relative neglect of the treatment of venereal disease in the African-American community and thought that with better science and better treatment, syphilis could be prevented and cured among this population. They also were more likely than most whites of the day to urge the advanced training and hiring of black staff, work alongside black professionals, and try to form partnerships with the black community. Like most white scientists of their day, they viewed all research subjects, especially the uneducated, as basically unable to grasp the nature of a scientific research project and unwilling to consent to research unless given special inducements. They were also zealous in trying to advance their scientific and public health agenda for the presumed good of the community.

Taliaferro Clark, Chief United States Public Health Service Venereal Disease Division

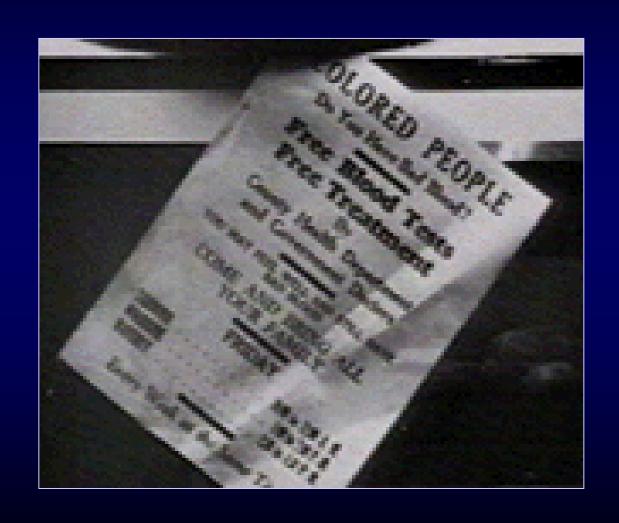


Racist assumptions that undergirded the study

"Syphilis in the Negro is in many respects almost a different disease from syphilis in the white."

Dr. JE Moore of Johns Hopkins University in a letter to Clark, head of the US Public health service, 1932.

Handbills distributed in Macon County, Alabama by United States Public Health Service in 1932



Coercive strategies used to recruit participants

The fact that African Americans had almost no access to medical care resulted in an increased willingness on the part of African American men to participate in the study.

For many study participants, the examination by the PHS physician was the first medical examination they had ever undergone.

In addition, food and transportation were supplied to participants.

Burial stipends were used to get permission from family members to perform autopsies on study participants

Typical farm cabin in Macon County Alabama, 1931



Noted black sociologist, Charles Johnson, did a study of the county and its people and took these photos as part of the Rosenwald study

Photo of a sharecropper, Macon County, 1931



Tuskegee Institute



Established in 1881 by Booker T Washington

Cooperating agencies in the Tuskegee study

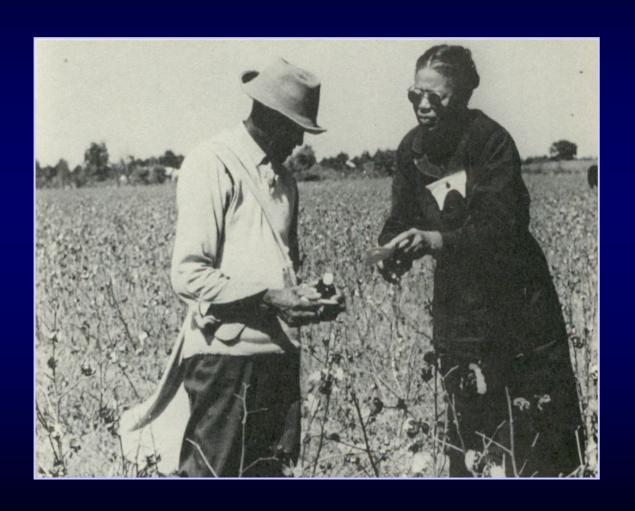
- Tuskegee Institute
- Macon County Medical Society
- Alabama State and Macon County Boards of Health
- Milbank Memorial Fund
- Local black churches and public schools
- Local plantation owners

Community church used for blood drawing

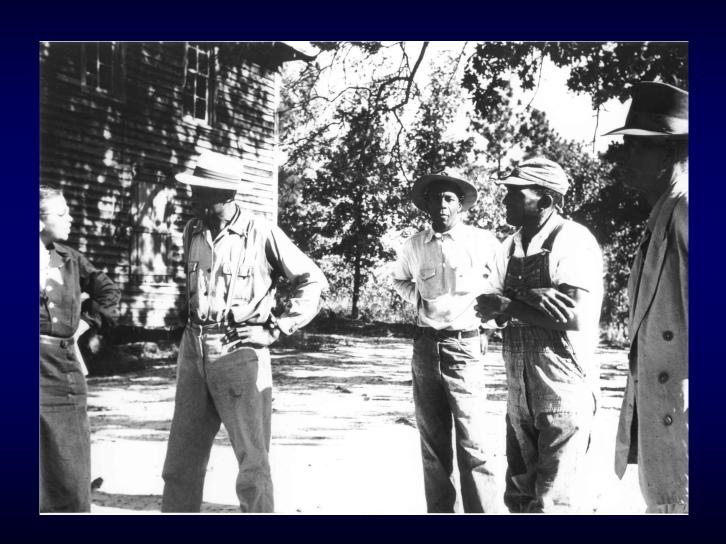


Involvement of black churches ensured smooth execution of the experiment.

Unidentified subject and Nurse Rivers in cotton field



Nurse Rivers and study participants







Tuskegee Study

- No protocol existed which documents the intent of the study
 - Follow natural history of untreated syphilis
 - Design evolved over time and often changed
 - No standardization of methods
 - "Study in nature"
- No evidence that informed consent obtained
 - Never told that enrolled in a study
 - Diagnosis and treatment of "bad blood"
 - Never told they were infected
- Almost all of the men received some form of treatment

Raymond Vonderlehr and Thomas Parran



Tuskegee Study

- •Began in 1932, intended to last one year
 - •Enrolled 407 males, age ≥ 25 yr with positive Wasserman
 - "latent" syphilis of ≥ 4 yrs duration
- Incentives- tonics, vitamins, aspirin, burial stipend for "end- point" patients
- Periodic PE, CXR, and EKG done at Andrews Hospital
- Spinal taps done at time of initially proposed end of study-patients informed that these were "back shots"
- •Resumed indefinitely in June of 1933 when 200 seronegative controls added

Taking a blood sample



A doctor in Tuskegee, Ala., drew blood from a subject of the government's experiment on black men to determine what happens when syphilis is left untreated. The men were deceived into thinking that they were being treated. CreditNational Archives at Atlanta

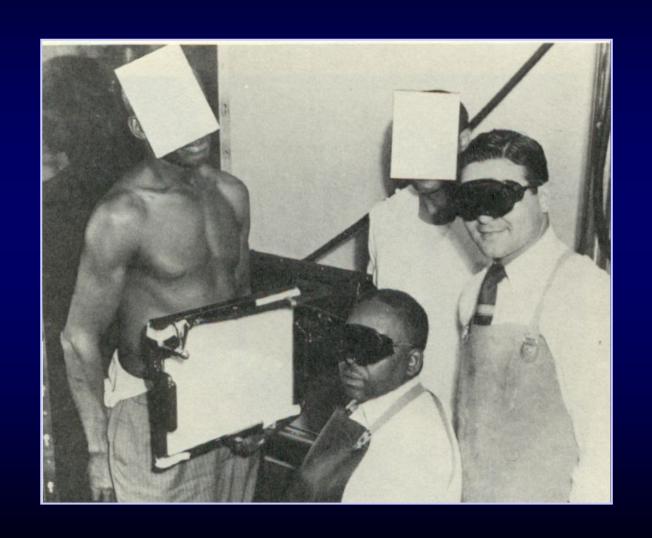
Ophthalmologic exam



Cardiographic evaluation

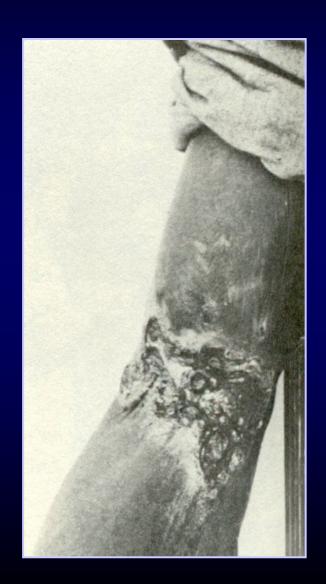


Performing X-ray examination on unidentified subject



Ulcerated cutaneous syphilis of patients enrolled in Tuskegee study





Maron County Bealth Department

SERVICE COOPERATING WITH TUSKEGEE INSTITUTE

Deer Sir:

Some time ago you were given a thorough examination and since that time we hope you have gotten a great deal of treatment for bad blood. You will now be given your last change to get a second examination. This examination is a very special one and after it is finished you will be given a special treatment if it is believed you are in a condition to stant it.

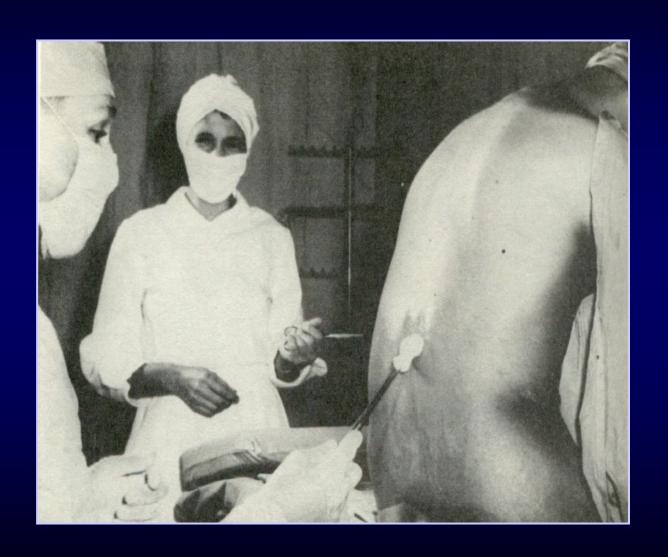
If you want this special	examination and treatment ye	o u
must meet the nurse at	on	

M. She will bring you to
the Tuskegee Institute Hospital for this free treatment. We
will be very busy when these examinations and treatments are
being given, and will have lots of people to wait on. You
will resember that you had to wait for some time when you
led your last good examination, and we wish to let you know
that because we expect to be so busy it may be necessary for
put to remain in the hospital over one night. If this is
becausery you will be furnised your meals and a bed, as well
the examination and treatment without cost.

RDINNER THIS IS YOUR LAST CHANCE FOR SPECIAL FREE TREAT-

Macon County Health Department

Spinal tap, Nurse Rivers, 1933



Nurse Eunice Rivers

"Miss Rivers" trained at Tuskegee and was the chief on-site assistant for the Tuskegee Syphilis Study.

She was the only staff person to work with the study for all 40 years of its existence (she continued to help out with the summer "round-up" of the subjects for physical exams even after she retired in 1965).



Unidentified subject and Nurse Rivers in cotton field

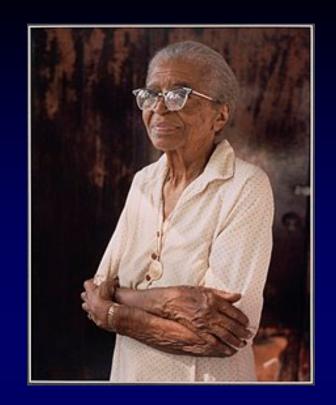
She trained in nursing during an era when following the physician's orders without question has the hallmark of good nursing practice.

Fred Gray reminds us that as a black woman in the South in the 1930's, working under the direction of white male doctors, she could not realistically be expected to object or to alter any aspect of the study.

She grew up when White Supremacy and Jim Crow ruled the land.

Nurses were expected to follow physician order without question.

One of first African-Americans to work at Alabama Health Department and later, the USPHS



She won the respect of her supervisors who described her professional competence and acute human relations skills.

She first authored papers in scientific journals

Nurse Rivers in 1958 became the third annual recipient of the Oveta Culp Hobby Award (highest award by HEW). Ironically, by working on the Tuskegee Syphilis Study, a thoroughly racist experiment, Nurse Rivers struck mighty blows for desegregation and made a place for herself (and, by extension, her race) in the liminal space between black professionalism and the world of white medicine.

James H. Jones Author, *Bad Blood*

Eunice Rivers with Tuskegee Study Physicians, 1955



By the 1950's, however, the study physicians became more and more dependent upon her knowledge of and personal relations with the subjects, tended to view her as more of an equal colleague. She also was a principal author of one of the reports on the study published in 1953

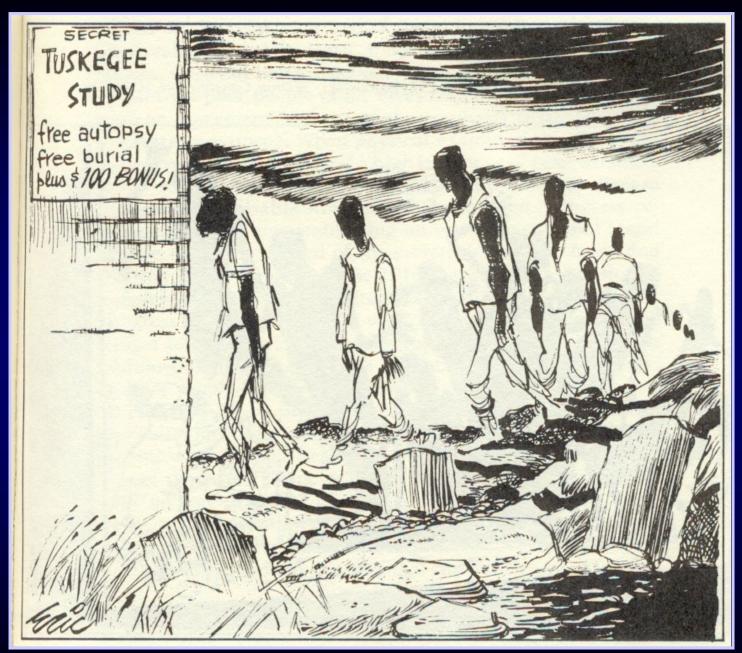
Nurse Rivers: a complicated character

In interviews prior to her death, Ms. Rivers continued to believe that the subjects benefited greatly from the study.

They received regular physical exams from "government doctors," a service unavailable to others in Macon County.

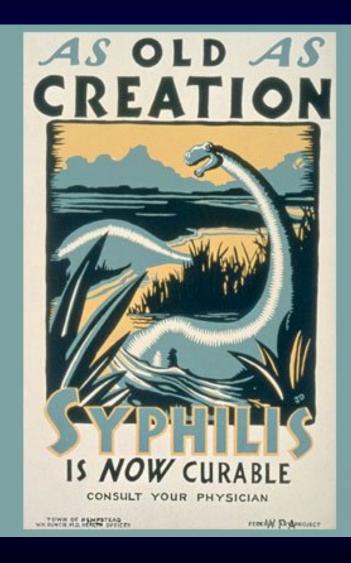
Later on, the PHS budget was able to pay for medical care for the men for various minor complaints, so long as no treatment was given for their syphilis.

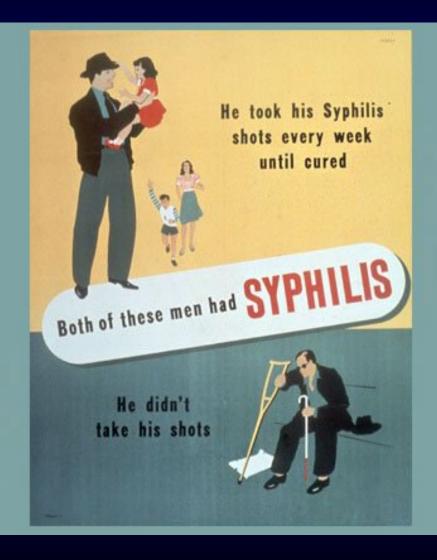
Ms. Rivers was described by all the subjects as appearing wholly dedicated to their well-being and very attached to them.



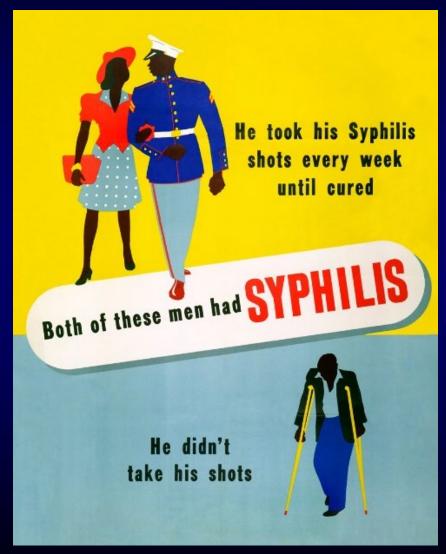
Lou Erikson, Atlanta Constitution, 1972

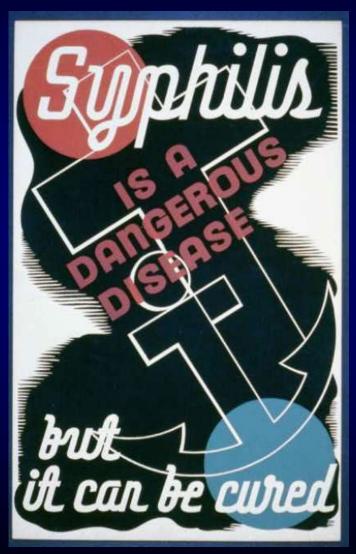
The introduction of penicillin as a cure for syphilis in 1943 changed the landscape of this once-pervasive disease





1945: Penicillin accepted as treatment of choice for syphilis.





USPHS Rapid Treatment Penicillin Clinics were established to treat Syphilis in 1947



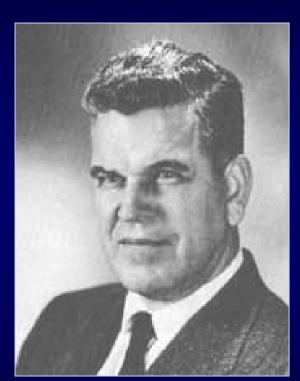
National Library of Medicine circa late 1940s

John R. Heller

Served as Dr. Vonderlehr's assistant in charge of on-site medical operations in the Tuskegee Study for many years before he succeeded him as director of the venereal disease section of PHS (1943-48).

Heller's leadership coincides with the years when penicillin was introduced as routine treatment for syphilis in PHS clinics, and when the Nuremberg Code to protect the rights of research subjects was formulated.

Heller was alive when the study was brought to public attention in 1972; he stoutly defended the ethics of the study and claimed that he saw no association whatever between the unethical experiments performed by the Nazis and the Tuskegee Syphilis Study.



Ongoing efforts to prevent infected Tuskegee participants from receiving treatment

During World War II, about 50 of the study subjects were ordered by their draft boards to undergo treatment for syphilis.

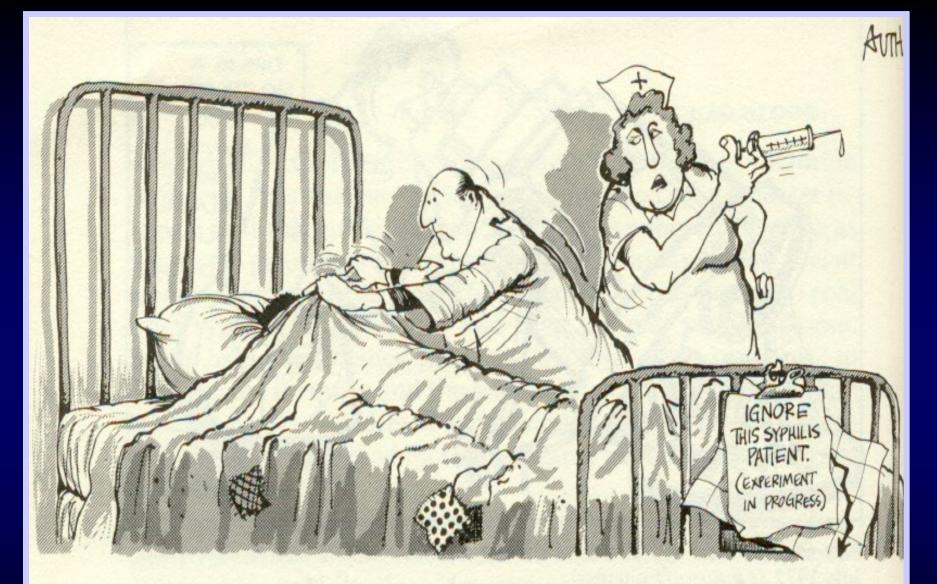
The USPHS requested that the draft boards exclude study subjects from the requirement for treatment.

The draft boards agreed to exclude the men.

In 1943, the PHS began to administer penicillin to patients with syphilis. Study subjects were excluded from the treatment.

Beginning in 1952, the PHS began utilizing local health departments to track study participants who had left Macon County.

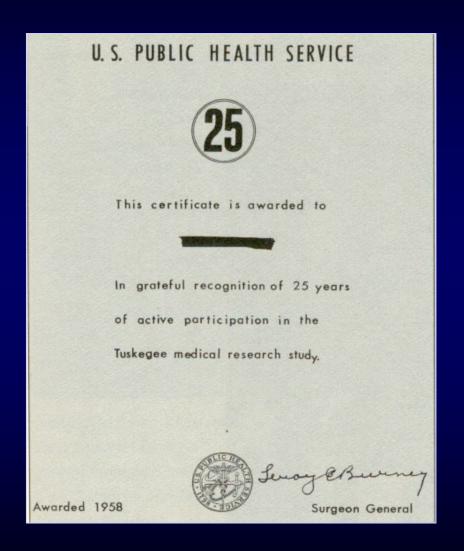
Until the termination of the study in the 1970s, local health departments worked with the USPHS to keep the study subjects from receiving treatment.



'NOW can we give him penicillin?'

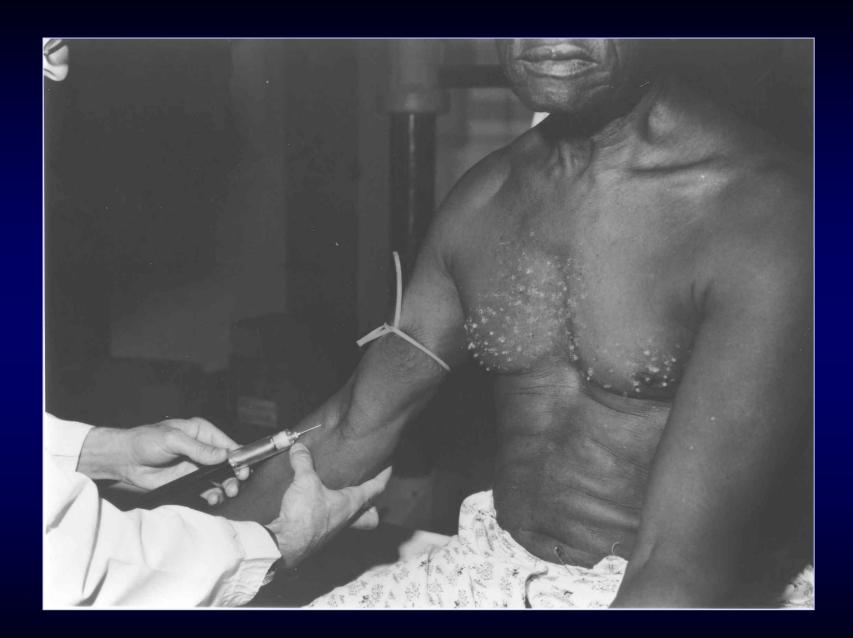
Editorial cartoon by Tony Auth, Philadelphia Inquirer, July 1972. (Courtesy Tony Auth)

Twenty-five year participation certificate



USPHS physicians and Nurse Rivers





Timeline of Tuskegee study: 1932-1972

1933	Dr. Raymond Vonderlehr becomes director of PHS Division of Venereal Diseases; continues study
1934	Health effects of untreated syphilis first noted, reported
early 1940's	Efforts made to hinder treatment through draft board
1943	PCN used widely Dr. John Heller becomes director of PHS Division of Venereal Diseases
1952	Full-scale review of study done, no changes made; PCN is standard of care for all stages of syphilis
1936-1964	12 articles published in peer review journals
1964	Description of 30th year of follow up published in <i>Archives of Internal Medicine</i>

The Tuskegee Study of Untreated Syphilis

The 30th Year of Observation

DONALD H. ROCKWELL, MD; ANNE ROOF YOBS, MD; AND M. BRITTAIN MOORE, JR., MD, ATLANTA

The year 1963 marks the 30th year of the long-term evaluation of the effect of untreated syphilis in the male Negro conducted by the Venereal Disease Branch, Communicablé Disease Center, United States Public Health Service. This paper summarizes the information obtained in this study—well known as the "Tuskegee Study"—from earlier publications, 1-11 reviews the status of the original study group, and reports the clinical and laboratory findings on those remaining participants who were examined in the 1963 evaluation.

In the late 1920's and early 1930's, surveys 7.12 in rural areas of the South revealed a high incidence of syphilis among the Negro population, and it was determined that many of those infected remained untreated. Because of the lack of knowledge of the pathogenesis of syphilis, a long-term study of untreated syphilis was desirable in establishing a more knowledgeable syphilis control program.

A prospective study was begun late in 1932 in Macon County, Alabama, a rural area with a static population and a high rate of untreated syphilis. An untreated popula-

Read before the 14th Annual Symposium on Recent Advances in the Study of Venereal Diseases, Houston, Jan 24-25, 1964.

Surgeon, USPHS(R) (Dr. Rockwell), and Chief (Dr. Yobs), Medical Research, Venereal Disease Research Laboratory; Director, Venereal Disease Research Laboratory (Dr. Moore).

From the Venereal Disease Research Laboratory, Communicable Disease Center, Public Health Service, Department of Health, Education and Welfare.

tion such as this offered an unusual opportunity to follow and study the disease over a long period of time. In 1932, a total of 26% of the male population tested, who were 25 years of age or older, were serologically reactive for syphilis by at least two tests, usually on two occasions (Table 1). The original study group was composed of 412 of these men who had received no therapy and who gave historical and laboratory evidence of syphilis which had progressed beyond the infectious stages. A total of 204 men comparable in age and environment and judged by serology, history, and physical examination to be free of syphilis were selected to be the control group.

The first published findings in 1936 by Vonderlehr et al ¹ showed that after infection of 15 years' duration only one fourth of the untreated syphilitics were normal and that most of the abnormal findings were in the cardiovascular system. Morbidity was noted to be approximately fourfold greater in the cardiovascular, central nervous and bone and joint systems of untreated syphilitics under age 40 than in the controls of the same age.

In the first complete reevaluation of these patients in 1938-1939, it was found that many had received some therapy, usually only several injections of arsenic or mercury; however, a few, especially in the younger age group, had received more. Fourteen young, untreated syphilitics were added to the study to compensate for this. At this time it was also discovered that 12 of the controls either had had syphilis or had acquired it during

The Tuskegee study of untreated syphilis: The 30th year of observation

Current Status of Tuskegee Study Group of Original 412 Syphilitics and 192 Controls

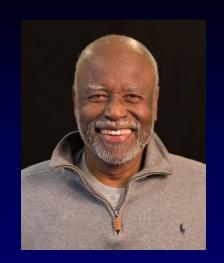
	Dead	Alive	Unknown
	No. (%)	No. (%)	No. (%)
Syphilitics	242 (59)	85 (21)	85 (21)
Controls	87 (45)	66 (34)	39 (20)

Tertiary syphilis in the Tuskegee study

Tertiary Syphilis in the Tuskegee Study			
	Syphilitic Study Group		
	20-year follow-up	30-year follow-up	
Туре	(N=159)	(N=90)	
Benign late syphilis	6 (4%)	1 (1%)	
Cardiovascular syphilis Aneurysm Aortic insufficiency Aneurysm and aortic insufficiency	10 (6%) 3 5 2	7 (8%)	
Neurological syphilis Paresis Tabes Optic atrophy Tabes and optic atrophy Tabes, optic atrophy, and aneurysi	7 (4%) 1 1 2 2 m 1	3 (3%)	
Total	23 (14%)	11 (12%)	
		J Chronic Dis 1956 Arch Int Med 1964	

Whistle-blower attempt: Bill Carter Jenkins 1945-2019

One of the first black officers in the USPHS.



Newly minted statistician in 1968 – just 22 years old.

Was troubled by the Tuskegee study

With a group of colleagues, he wrote a report and sent press releases to local papers. But nothing happened

Then ...he later learned his supporter was working on the Tuskegee project!

Another whistleblower

Very few people saw anything wrong with the study

The study continued without question for 40 years



In 1966, 27 year old Peter Buxtun was hired as a venereal disease investigator for the USPHS.

Alarmed by what he saw, he filed an official protest, comparing the Tuskegee study to the Nazi experimenter's crimes revealed during the Nuremberg trials.

Buxton's report was first scorned, then ignored

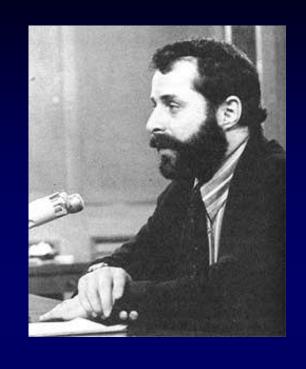
Response of his supervisor: "I'll send your report up the line, but remember I have a wife and kids. Please forget my name when they ask you why you did this."

Buxtun persists

Buxtun left for law school in 1968

But he continued to challenge the USPHS, writing that the men were "quite ignorant of the effects of untreated syphilis".

He urged informing the men of the truth and compensating them, rather than "await the quiet demise of the survivors and hope that will end the matter".



In frustration, Buxtun finally gave the story to a reporter with the Washington Star where it appeared on July 25, 1972.

The following day, the New York Times put it on the from page of that paper.

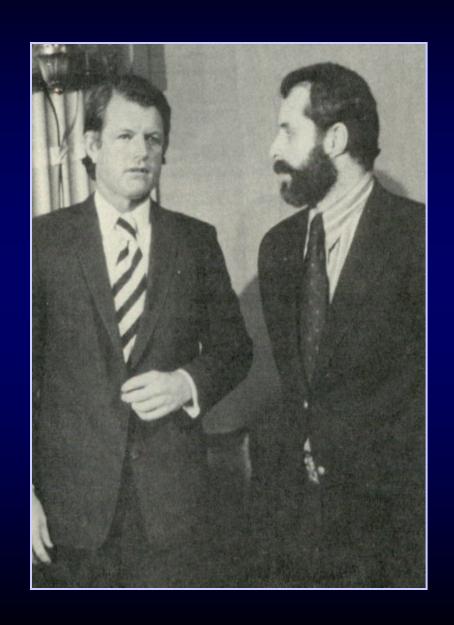
Outcomes of Tuskegee participants in 1972

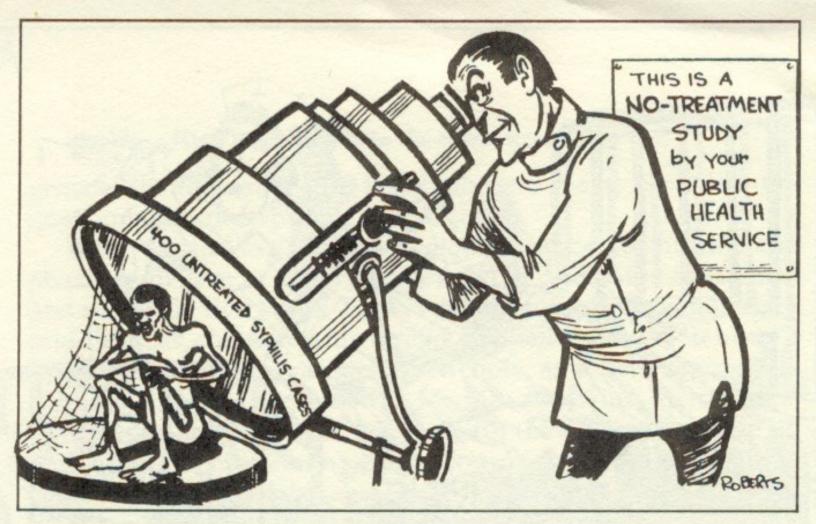
- •74 infected subjects still alive
- •28 men died due to direct sequelae of untreated syphilis
- •100 men died due to related complications
- •50 wives had been infected
- •19 children were born with congenital syphilis
- Health of the entire community jeopardized

Timeline of human experimentation ethics: 1932-1972

1932	 No formalized system of ethics in human experimentation at time of study initiation
1947	•Nuremberg Code issued in response to atrocities of WWII
1964	•Declaration of Helsinki issued
1966	•PHS issues its own guidelines
1966	•Peter Buxton first expresses his moral concerns about the study in Nov

Senator Edward Kennedy and Peter Buxton, 1973





Editorial cartoon by "Roberts," Rocky Mountain News, Denver, Colorado, July 1972. (Library of Congress)

Tuskegee Syphilis Study Ad Hoc Advisory Panel

- •Formed in August 1972, represented medicine, law, religion, labor, education, health administration, and public affairs
- •Three charges to determine whether:
 - •1-A the study was justified in 1932
 - •1-B the study should have been continued when PCN became available
 - •2 the study should be continued at this point in time
 - •3 existing policies to protect the rights of patients participating in health research supported by Department of Health, Education, and Welfare (DHEW) are adequate and effective

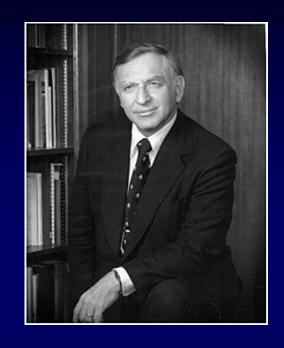
Tuskegee Syphilis Study Ad Hoc Advisory Panel: Findings

- •Three charges:
 - •1-A The study was ethically unjustified in 1932
 - •1-B PCN should have been made available in 1952, and arsenicals should have been given earlier
 - •2 Study terminated immediately
 - •3 Existing protections for the human subjects of experiments were not effective

Gene H. Stollerman, MD., former chair of Medicine, University of Tennessee College of Medicine

While attending a meeting of the ACIP at the CDC in 1969, he was invited to participate in this blueribbon panel convened by the CDC

Dr Stollerman had no real knowledge of the study prior to his participation on the advisory panel.



He later wrote in his memoir, "I came to the meeting astounded that the CDC had tolerated continuing the study so long".

Of the 6 members of the panel, Stollerman was the only one who recommended discontinuing the study and treating each patient on an individual basis.

After effects of the Tuskegee study

- National Research Act of 1974
 - National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research
 - The Belmont Report
 - •respect for persons, beneficence, and justice
- •Federally-funded studies require informed consent, IRB approval, and protections for vulnerable populations
- Ethics Advisory Board formed in late 1970s
- National Bioethics Advisory Commission formed in 1995 by President Clinton, funded and led by Department of Health and Human Resources

BELMONT REPORT

Ethical Principles and Guidelines for the Protection of Human Subjects of Research

The Belmont Report was written by the National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research. The Commission, created as a result of the National Research Act of 1974, was charged with identifying the basic ethical principles that should underlie the conduct of biomedical and behavioral research involving human subjects and developing guidelines to assure that such research is conducted in accordance with those principles. Informed by monthly discussions that spanned nearly four years and an intensive four days of deliberation in 1976, the Commission published the Belmont Report, which identifies basic ethical principles and guidelines that address ethical issues arising from the conduct of research with human subjects.

Tuskegee University National Center for Bioethics in Research and Health Care

Established in January 1999 to transform the negative legacy





Restitution for Tuskegee study participants

- Class-action lawsuit awarded \$10 million dollars Dec 1974
- Congressionally mandated lifetime health care for participants and family members (last participant died in Jan 2004, last widow died in Jan 2009, 13 children and 2 grandchildren receiving benefits as of June 2011)
- Formal public apology by President Clinton May 16, 1997

Questions of the Tuskegee study: Could it have been done differently?

- •Justified at time of inception?
- •Why no informed consent?
- •Why was treatment withheld?
- Target population with few civil liberties
 - Racism
 - Poverty and ignorance
- Scientific bureaucracy and personal accountability
- Failure of peer review and control
 - Scientific merits
 - Ethics

"In retrospect, the Tuskegee study revealed more about the pathology of racism than it did about the pathology of syphilis; more about the nature of scientific inquiry than the nature of the disease process.

The need for greater vigilance in assessing the specific ways in which social values and attitudes affect professional behavior is clearly indicated."

Allan Brandt Hastings Center Magazine 1978

Herman Shaw and President Clinton





Susan M. Reverby: Women's Studies professor at Wellesley College.

While researching the Tuskegee study, uncovered another USPHS study, The Guatemala Syphilis Experiment.

The Guatemala Syphilis Experiment, 1946-1948

Funded and conducted by the NIH, USPHS, with cooperation of the Guatemalan government.

In this experiment, 1308 people were *intentionally infected* with syphilis, gonorrhea, and chancroid.

Study population orphans, prostitutes, leprosy patients, psychiatric patients, prisoners, and soldiers

The Guatemala Syphilis Experiment, 1946-1948

In 2010, US President Barack Obama apologized to Guatemalan President Alvaro Colom and the people affected

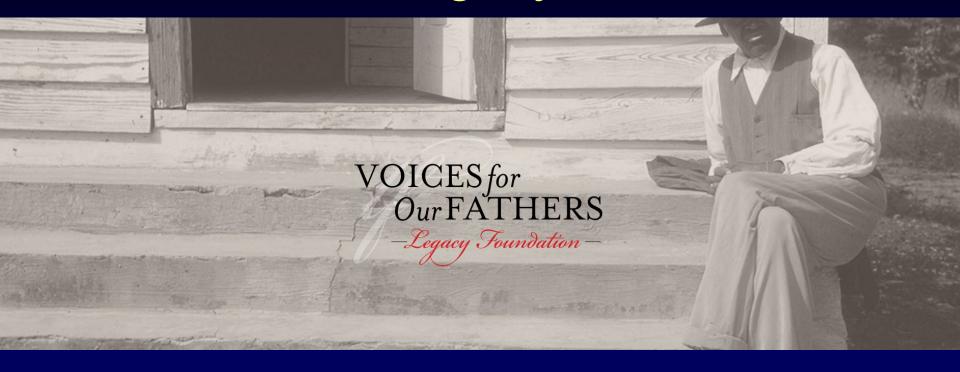
He expressed the United States' commitment to the ethical and legal conduct of contemporary human medical studies.

The US Presidential Commission for the Study of Bioethical Issues issued 2 reports:

"Ethically Impossible" STD Research in Guatemala from 1946–1948

Moral Science: Protecting Participants in Human Subjects Research

Our Father's Legacy Foundation



DEDICATED TO THE LEGACY OF THE 623 AFRICAN AMERICAN MEN VICTIMIZED AND UNETHICALLY TREATED IN THE UNITED STATES PUBLIC HEALTH SERVICE SYPHILIS STUDY IN TUSKEGEE / MACON COUNTY, ALABAMA, 1932-1972.

Members are descendants of the 623 men who were victimized in this study.

NPR News MARCH 23, 2021

Stop Blaming Tuskegee, Critics Say. It's Not An 'Excuse' For Current Medical Racism

by April Dembosky

The Tuskegee syphilis study is often cited as a reason why Black Americans might hesitate on the COVID-19 vaccine. But many say it's current racism in health care and Tuskegee is used as an excuse.

50 Years After the Tuskegee Revelations: Why Does the Mistrust Linger?

James H. Jones and Susan M. Reverby

American Journal of Public Health. November 2022 **112**, 1538-1540

In the half century since it ended, the Tuskegee Study has become our nation's most powerful symbol of scientific racism, moral blindness, and mind-numbing arrogance in the name of "science."

When the COVID-19 pandemic hit 23 years later, the Tuskegee Study seemingly once again complicated the government-sponsored vaccine rollout in many African American communities. Working to overcome misinformation, suspicions, and mistrust, frontline physicians and other health providers offered reassurances that the vaccine was safe and effective. Indeed, the leaders of the Voices for Our Fathers Legacy Foundation, the organization that represents the descendants of the men in the Tuskegee Study, made a public service announcement to explain why they were taking the vaccine and why others should as well. Is an observational study (observe outcomes, no treatment) ever ethical?

Under what circumstances?

If (as James Jones writes) the "syphilis men" of the PHS were among the more liberal thinkers of their day on racial matters, how did they come to begin a study which has had such a negative impact and long-lasting negative heritage for the very community they saw themselves as trying to serve?

Did their own knowledge of their high service ideals—trying to eliminate syphilis from the African-American community—actually make them *even* more dangerous to that community from an ethical standpoint?

Reflect and discuss how the class divide was in some ways even deeper than the racial divide. (e.g., their assumption that uneducated people simply could not understand science and medical research, so that any effort to disclose or explain the nature and goals of a study would be wasted effort and would, if anything, drive away subjects.)

Why didn't the public health leadership see that their world had changed after penicillin became available? (Why didn't they rethink the ethical and medical basis of the study?)

How would medical researchers have treated the *white* subjects of experiments during this same era? Today?

And what implications does this have on investigators and research subjects today?

Reflect on the role of Nurse Rivers – is she as equally morally culpable as the other health workers involved in the study?

Have we evolved since this study was conducted? Do you believe something like this could happen again?

What other unethical principles were espoused in the 1930s? (Eugenics, sterilization, etc..)