

Driving *Miss Evers' Boys* to the Historical Tuskegee Study of Untreated Syphilis

Robert M. White, M.D., F.A.C.P.

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Abstract: The Tuskegee Study of Untreated Syphilis (TSUS) intersects racial and research ethics discourse in medicine and public health. *Miss Evers' Boys* is a fictionalized play of the 40-year TSUS. In 2016, the Cultural Programs of the National Academy of Sciences and the Shakespeare Theatre Company in Washington, DC co-sponsored a reading of the play at the National Academy of Sciences Auditorium. Ethics instructors and students, who may use the play for research training and professional development, may lack awareness of a pattern of deviations from the TSUS historical record. This may compromise what instructors and students teach and learn, respectively.

Historical analysis revealed that the playbill—handed to play patrons—had challenges in the core arguments about the TSUS, particularly the notion of “bad blood.” A broad collection of documents from a variety of sources—documents concurrent with the TSUS—illustrated how the term, “bad blood” was used. Bad blood was syphilis and syphilis was bad blood. “Bad blood as syphilis,” in post-hoc reviews, was suppressed and nullified. In another area, the focus on the denial of penicillin at the Birmingham Rapid Treatment Center (RTC)—an important scene in the play and the history of the TSUS—exposed conflicts with the historical record. The origin and the devices that developed this image also were disclosed. The article specifically exposed, unraveled, analyzed, and challenged other misinformation and paradigm-defining misconduct.

The TSUS narrative requires correction by the responsible historical and ethical communities, changing what is taught about the TSUS and *Miss Evers' Boys*. This is critically important in academic research training and professional development. If left unchallenged, the faulty TSUS scholarship—coupled with *Miss Evers' Boys*—fuels and reinforces the incorrect standard narratives of the TSUS and their impact on the history of the TSUS. This is especially true regarding what the TSUS men were told about their diagnosis—bad blood and not syphilis—and the denial of “a hip shot of that penicillin” at the RTC.

Keywords: *Miss Evers' Boys* ■ Tuskegee Study ■ Untreated syphilis ■ Bad blood ■ Rapid treatment center ■ Denial of penicillin

which assessed the presence or absence of syphilis-related damage. It ended in scandal in 1972, as reported in the media.^{1–3} The TSUS was not just a government study, i.e., US Public Health Service (USPHS), Alabama State, and Macon County. There was collaboration and coordination with Tuskegee Institute, the John A. Andrew Memorial Hospital, and the Veterans Administration Hospital—all black-run institutions in Tuskegee, AL. The study received important funding or “insurance” to pay for the study-related autopsies and burial expenses from the Milbank Memorial Fund, a New York City philanthropic organization. Tuskegee Institute administered the funds locally.^{2,3}

Miss Evers' Boys, a play, is a playwright's interpretation and fictionalized storytelling of a historian's review of a medical and public health event—the TSUS—as well as, derived from “Senate testimony, medical articles and field interviews conducted in Alabama in the 1930s.”^{4,5} Although the play is seemingly from a true event, it is a dramatization drawn from standard narratives about the TSUS that are laced with fabrications, distortions, and exclusions—seemingly cleverly and strategically contrived to fulfill an apparent undisclosed agenda.^{1,6} Questions can be raised about what was fiction in the play or what was the playwright's artistic license where facts are blended in and blurred with fiction. The play fictionalizes a caricature of Miss Eunice Rivers, the public health nurse in the TSUS—the only woman, generally and publicly, associated with the TSUS.^{7,8}

The Cultural Programs of the National Academy of Sciences (NAS) and the Shakespeare Theatre Company in Washington, DC co-sponsored a reading of *Miss Evers' Boys* in June 2016. Patrons of the play did not receive appropriate prior information that may have helped them to understand and separate fiction from fact, namely, what is consistent with the historical record. In research and ethics training, instructors, trainers, and educators, who may use *Miss Evers' Boys* as a tool, may lack awareness of deviations from the historical record and teach erroneous information. Students' learning may become challenged and jeopardized—where this becomes a part of the problem and not the intended solution from this training. The sponsors and planners of the event at the NAS may have believed that they were educating

Author affiliation: Robert M. White, 12054 Eaglewood Ct., Silver Spring, MD 20902, USA

Correspondence: email: rmwhite@wesleyan.edu

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PROLOGUE

The Tuskegee Study of Untreated Syphilis (TSUS) was the 1932–1972 study of approximately 600 black men—400 with active syphilis and 200 presumably without syphilis—in rural Macon County, AL. The study evolved from a one-evaluation data-point to a longitudinal study with detailed case histories and autopsies,

the public. However, unintended consequences in patrons' understanding of health matters and research, unfortunately, may have resulted.

THE PLAYBILL

The *Miss Evers' Boys* playbill, distributed to patrons at the National Academy of Sciences Auditorium, provided incomplete, unsubstantiated, and untrue core arguments about the TSUS. Some examples included:

- The "U.S. Public Health Service" conducted the TSUS
- "... none were treated, even after penicillin became the proven treatment for the disease in 1947"
- "Victims of the study included numerous men, their wives, and children born with congenital syphilis"
- "None of the infected men were ever told they had the disease ..."

The responsibility for the TSUS, in brief, included government, academia, and philanthropy. As described above, there was cooperation and collaboration between federal, state, and county governments and three black-run institutions in Tuskegee—an academic center, a private hospital, and a veterans hospital. A philanthropic organization paid for autopsy-related expenses, which the academic center disbursed.^{2,3} The community of Macon County was not in jeopardy because of the TSUS.⁹ Despite an ongoing untreated study in its midst, in the black community, there was a ~75% reduction in the syphilis prevalence rate—from ~40% in the Rosenwald study (~1930) to ~11% in the early 1940s.⁶ Women and children had access to and benefited from ongoing syphilis control programs in Macon County. Tables in two of the TSUS articles documented the treatment of some of the TSUS men—including treatment with penicillin—refuting the "none were treated" pronouncement.^{3,10}

There was an issue related to informing TSUS men that they had "bad blood." "Bad blood" was a proxy for syphilis during the time of the TSUS and was not the anathema created in the book, *Bad Blood*. The book—a core standard narrative about the TSUS—seemed cleverly and strategically contrived to position and disconnect "bad blood" from syphilis with:

" 'Bad blood' meant different things to different people among rural blacks, and usually more than one thing to all of them. It was a catch all phrase that referred to many different ailments."⁴

This narrative supported the subsequent thinking, and often reported, that "None of the infected men were ever

told they had the disease ..." *Bad Blood* surmised, based on sociologists' interviews/oral history recorded "coincidentally with the inception of" the TSUS,^{11,12} "The health of black people in Macon County was so poor that practically everyone suffered from some illness. They attributed most ailments to 'bad blood.'"⁴ In fact, this was a problem of relief- and/or treatment-seeking individuals, who had complaints but a nonreactive blood serologic test for syphilis (STS). Although many individuals had a variety of health complaints and ailments, it was interviewees' oral history—decades later interpreted by *Bad Blood*—that suppressed and nullified "bad blood" as syphilis. Medical history, physical examination, and reactive STS results were not a factor in the reinvention of "bad blood." Many of these nonreactive STS individuals knew that their blood was "good." Importantly, they were not told that they had bad blood.

After the initial blood survey in the Rosenwald study,^{1,13,14} doctors and public health workers based the next patient communication on a reactive STS. A second, confirmatory reactive STS and a satisfactory physical examination determined treatment decisions; they were syphilitic. Later, in sociologists' interviews, individuals with a nonreactive STS or "different people among rural blacks," who complained of a variety of ailments and who claimed "bad blood" status, also demanded treatment; they were presumably nonsyphilitic. Personal discussions and community observations of others (who may have received treatment due to a reactive STS and improving) prompted the complainers' claims—despite not being called back for further medical evaluation. *Shadow of the Plantation—Bad Blood's* source for the sociologists' oral histories—documented this scenario with "Good effects observed prompted many to continue treatment and others to seek examination and treatment."¹¹

The future US Surgeon General, who signed the 1958 25-year award certificate for the TSUS men,¹⁵ described a similar situation in Georgia with¹⁶:

"Many are disappointed if their blood is good and want treatment, regardless. They all have a misery some place. They blame this on the bad blood."

However, in the Georgia article, bad blood remained connected to syphilis.

Table has a sample of syphilis as bad blood and bad blood as syphilis—appropriate and correct medical terminology for 40 years of the TSUS. The sample was inclusive with various disciplines represented. The geographic origin and distribution of the sample was diverse. The target populations of interest included blacks, Spanish-Americans, Jamaican school children, the uneducated, women, high school, and not specified.

The instruments in Table documented examples of what medical students, trainees, practicing physicians, and public health workers and educators had available to facilitate patient communication and discourse related to syphilis. If bad blood did not directly connect to syphilis, there were words associated with syphilis that made the connection, such as: 606, shots, hip shots, needle treatments, positive Wassermann blood test, and blood tests.

By today's standards, we would label the USPHS and other public health professionals culturally sensitive in their interactions with the populations surveyed, managed, and served.^{33–35} This was because the public health workers' goals were testing for, treating, and eradicating syphilis but not a variety of ailments. That "the infected men were ... told they had the disease" as "bad blood" was appropriate, culturally sensitive terminology in patient-health worker interactions.

Despite the examples in Table, from a variety of medical and public health sources, contemporaneously with the TSUS, *Bad Blood's* doctored version of the definition of "bad blood" prevailed and influenced the public's belief. This was the denial that bad blood was syphilis in the TSUS literature after 1981. The following was an egregious example of the effort to suppress that bad blood was syphilis. *Tuskegee's Truths*—an edited TSUS standard narrative of over 600 pages—reprinted *Science's* "THE USES AND ABUSES OF TUSKEGEE." The reprinted article had "'bad blood'—a generic term that referred to a variety of ailments—rather than syphilis."³⁶ However, about a year earlier, the original *Science* article did not have the insertion of "—rather than syphilis."³⁷ The insertion of a phrase, which emphasized the nullification and dissociation of "bad blood" as syphilis stealthily, tainted TSUS information and discourse. At least two sources represented the reprinted article as *Science's* "Uses and Abuses of Tuskegee."^{38,39} There were other gross differences in the two versions of the *Science* article—unknown to the permission-granting original journal, book reviewers, academics, and the reading public.

Interestingly, *Bad Blood's* rendition of "bad blood"—a variety of ailments—may have appeared in the literature concurrent with the TSUS but as a perpetration of charlatans, quacks, and fraud. A 1940 *Journal of Social Hygiene* article reported on a "syphilis cure" for a variety of ailments.⁴⁰ "The treatment was promoted for bad blood resulting from syphilis, anemia, malaria, pellagra, gonorrhea, tuberculosis and some other conditions"—a variety of ailments. In this case, "bad blood" was contrived to label and promote it as the result of a variety of ailments—rather than only syphilis. This appeared fraudulent because, as one of the defendants in a case before the Federal Trade Commission admitted, "there is no blood

disease for which their product could be considered a satisfactory remedy."

Table consistently and conclusively showed that bad blood did not mean a variety of ailments to doctors, public health workers, and other syphilis control stakeholders. Syphilis—the great imitator⁴¹—was known by a variety of terms; one of these terms was "bad blood." It was understandable that the medically naïve with a nonreactive STS could confuse their ailments with bad blood. They may not have understood that bad blood as syphilis can imitate many of their variety of ailments, including what ailed their syphilitic neighbor, who was receiving treatment and getting better. In the management of their STS-reactive patients, USPHS doctors and public health workers told them something that they could understand, acting with today's cultural sensitivity. These STS-reactive patients required treatment for their variety of ailments that were believed due to syphilis. However, the variety of ailments in STS-nonreactive individuals' claim—a post hoc invention to nullify bad blood as syphilis and syphilis as bad blood—only became popular after publication of *Bad Blood*. A book review of *Bad Blood* suggested that this may be true. Before the publication of *Bad Blood*, the reviewer wrote a specific definition of bad blood as syphilis, which was similar to meanings in Table.⁹ But then as a book reviewer, later, adopted a diverse, nonspecific definition of bad blood as "a number of maladies."⁴² *Bad Blood* created acrimony within TSUS discourse where there was none—at the time of the TSUS.

However, *Bad Blood's* problem was not limited to the use of the oral history of STS-nonreactive individuals to dissociate bad blood from syphilis or the lack of knowledge of the compelling evidence in Table. The problem included: (a) the exclusion, in part, of the oral history of the STS-reactive individuals—"Good effects observed prompted many to continue treatment and others to seek examination and treatment"¹¹; (b) the false claim that "the only participant who had 'bad blood' was the woman 'with the enormous sores on her breast and arm'⁴; and (c) the distortion associated with the "total confusion" oral history of a woman,⁴ "who thought that the treatment caused women to have babies." There was no indication in *Shadow of the Plantation* that the woman with the breast and arm boils had bad blood, was treated for bad blood, or mentioned bad blood. The other woman's oral history—"You reckon them shots make you have babies? I sho' don't want no more and if they do I rather have bad blood"—was not confused about what she observed. She actually gave accurate observations of the effect of antisyphilitic treatment on syphilis-related community infertility.^{11,14,43,44} She observed previously barren women "poking out" with babies after receiving a

Table. A chronology: **bad blood**^a was syphilis; syphilis was **bad blood**.

Year discipline place ^b	Examples
1933 syphilis control New Orleans	"... prevalent is the pernicious belief that 'six shots of 606 will make your bad blood pure.' In the past histories of more than fifty of our records during the past year the patient, in answer to whether he or she has ever had syphilis has answered, 'yes, but I am cured. I had a positive Wassermann blood test, was given six 'shots' and cured.'" ¹⁷
1936 social work Philadelphia	"The colored patients seem to have accepted syphilis, or ' bad blood ,' as an inevitable weakness of the flesh, mercifully free from stigma or disgrace. In fact, the idea that minor illnesses of all sorts are dependent on blood disease is becoming so increasingly prevalent among the clinic type of colored patient that little restraint is needed in opening with them a discussion of their disease. But from the white people one learns the vacillation, suspicion and resentment that syphilis breeds." ¹⁸
1937 syphilis control epidemiology New Mexico	"There seems to be some peculiar fascination for the average rural Spanish-American in the idea of ' bad blood ' as syphilis is popularly known among them. They feel no particular shame in having it and I have seen them appear pleased when they received a positive Wassermann report." ¹⁹
1938 film (USPHS), public health Georgia	Abstract: "The film also shows the promotional literature using the phrase ' bad blood ' as a substitute for syphilis ..." Promotional literature: Flyer. "Colored people, do you have bad blood ? Free blood tests, free treatment ... You may feel well and still have bad blood ." "How bad blood makes people sick, how it destroys heart and brains, how it makes babies die, how the blood test finds it, and how the treatment if taken long enough is certain cure." Treatment: "Arsphenamine injected into the blood kills the germ of syphilis and the patient can no longer transmit the disease to others" and "Bismuth prevents the tragic relapses of heart and brain." ²⁰
1942 social service, epidemiology Nashville	"It is important to give medical instruction in language easily understood by the patient to relate the new knowledge to something with which he is already familiar ..." "... surprisingly few patients know of syphilis by that name, but are familiar with the <i>same disease</i> known as 'the pox,' 'the syph,' ' bad blood ,' or 'the bad disease'" (<i>italics added for emphasis</i>). "A few days ago we had a patient with catching syphilis or bad blood who gave us your name." ²¹
1943 syphilology textbook	With regard to a history of a chancre: "The terms used among the uneducated to designate syphilis vary with sections of the country, but may be 'syph,' ' bad blood ,' 'the pox,' 'hair-cut,' 'hard chancre,' or merely 'a sore.'" "The patient should be informed of the diagnosis, and in doing so one must, depending upon the patient's educational level, use such terms as can be understood—as 'syphilis,' 'the pox,' 'syph,' and ' bad blood .'" ²²
~ 1943 military antivenereal disease campaign	"The names of the common venereal diseases themselves were often unknown. Unless the problem was discussed with soldiers in the more familiar slang terms, lectures on the dangers of syphilis and gonorrhea often made little impression. The sufferer from " bad blood " did not always connect his disorder with that which the lecturer was discussing." ²³

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Year discipline place ^b	Examples
1945 high school education Hawaii	SYPHILIS "Syphilis is a very serious disease which from the time it is contracted is contagious for approximately five years through intimate personal contact unless properly treated ... It is also known in slang terms, as 'siff,' ' bad blood ,' and 'lues.'" ²⁴
1946 newspaper Chicago	The title of article: "Battling ' Bad Blood '" "I have known for a long time that the Negro as (sic) been well aware of the high incidence of ' bad blood ' in the Negro group: that is, syphilis." ²⁵
1948 patient education at the Birmingham Rapid Treatment Center, sociology Alabama	"Syphilis is the same thing as ' bad blood ,' 'pox,' 'lues,' or 'syph.' Syphilis or ' bad blood ' is caused by a tiny little germ that looks like a corkscrew ..." "The other way to catch syphilis and get ' bad blood ' is through intercourse or "messaging around" ... ²⁶
1949 colorful comic book, curricula in venereal disease education	Doctor's explanation to newly diagnosed patient, who did not know about syphilis: "SYPHILIS IS THE SAME AS THE POX AND THE BAD BLOOD ." ²⁷
1951 clinical case histories New York	Re: reinfection after rapid therapy of early syphilis "In the present series there are some 20 additional patients who insisted that they were originally treated only because of ' bad blood ' and we had no means of knowing the duration of syphilis when the original treatment was started. It is possible that some of these patients were originally treated because of biologic false-positive tests." ²⁸
1959 patient history Arizona ^c	"In many cases it is wise not to mention syphilis in questioning patients, but to ask about tests for ' bad blood ' and 'needle treatments' or 'hip shots.'" ²⁹
1961 medicine	SYPHILIS. Symptoms, Signs and Diagnosis. "Patients always should be questioned about previous 'blood tests,' and treatment, or tests for ' bad blood ' and whether they have received 'arm and hip shots.'" ³⁰
1965 medicine, epidemiology Jamaica	"Although primary syphilitic lesions are commonly diagnosed in Jamaica—mainly in the towns—many of the rural population suffer from the stigma of ' bad blood ' with its implication of syphilis whereas, in fact, they were infected with yaws in their youth. Considerable inconvenience and distress has been caused, because immigrants into the United States and applicants for employment as farm labourers there were formerly refused if their sera were reactive. Some patients visited a series of doctors for treatment as a result of these positive tests, and suffered much disappointment and expense." ³¹
1973 the author's physical diagnosis textbook	" ' bad blood ' (another equivalent for syphilis)" ³²

^a**bad blood** in bold.^bPlaces not indicated were textbooks, manuals, pamphlets, or military.^cThe author was from New York; the article was published for an Arizona audience.

series of "them shots"—a Macon County community clinical benefit. Clearly, there were women in Macon County, who knew their bodies, and from a medical/obstetrical history perspective, understood an effect that treatment of bad blood had on their future childbearing potential.

The distributed playbill stated, "*Miss Evers' Boys* is based on the true story of the events surrounding the Tuskegee Syphilis Study ..." Although the arguments may not be a part of the artistic performance, the patrons received the playbill as they entered at the National Academy of Sciences Auditorium. These

arguments, intentionally or unintentionally, were portrayed as true. This may have possible influences on patrons in their future thinking and actions about health matters. An understanding of what was true was needed to better interpret the play—and separate fact from fiction.

SCENE: THE RAPID TREATMENT CENTER

The remaining focus of this article, in part, seeks to highlight a provocative scene in the play, which exemplifies a major deviation from the true history of the TSUS and the artistic license used in the play. A key issue in discourse about the TSUS is denial of penicillin at the Rapid Treatment Center (RTC) in Birmingham—a scene in the play. Dispelling this scene, as myth, is important because it contributes to perpetuating misinformation, confusion, and biases surrounding the TSUS and the history of medicine and public health during the time of the study.

In *Miss Evers' Boys*, a TSUS man in line at the Birmingham RTC was interrupted from receiving treatment.⁵ The interruption occurred promptly before he received “a hip shot of that penicillin.”

ACT TWO. Scene 2: 1946. Birmingham rapid treatment center. Caleb and Willie are waiting in line ...

Evers. Is there a patient here named, Willie Johnson? Is there a patient in this treatment center named Caleb Humphries?

Willie. Yes, I'm here. Over here. Behind you, Nurse Evers ...

Evers. What you doin' here, Willie Johnson?

Caleb. We're here to get a hip shot of that penicillin, Nurse Evers.

Evers. No sir. No sir, you're not. You're government patients. You're not supposed to be here. Now come on over here so we're not disturbing all these people.

Willie. The doctor sent us to come.

Evers. What doctor? That doctor didn't know you were a United States Government patient. If that doctor knew that, he wouldn't have sent you. Now you get on that bus and go on back to Tuskegee. Penicillin ain't for you ...

The origin of the denial of penicillin scene in *Miss Evers' Boys* was, in part, the product of testimony presented at the 1973 Senator Edward Kennedy hearings. The testimony did not cast blame on Miss Eunice Rivers. Two subsequent books repeated similar testimony.^{45,46}

At the 1973 Senator Kennedy hearings—Quality of Health Care—Human Experimentation—one TSUS man testified that in the late 1940s, he was transported to Birmingham, fed supper, put to bed, and fed breakfast the next morning. He then testified that “a nurse” was worried

all night that someone with his name was not supposed to be there. He stood up, identified himself, and was then bused home. This trip home may have been to an adjoining county across the Macon County border.⁴⁷ Thus, it was “a nurse”—not Rivers—and it was an in-patient facility—not a clinic. And home was an adjoining county to Macon County—not Tuskegee. In response to Kennedy querying him whether he was “being cured” and whether his medical needs were attended “during this period” of the TSUS, he responded, “I have never had any treatment whatever.”

While this scenario existed, an archived TSUS roster listed this “penicillin-denied” man's disposition as “Treated for syphilis at RTC”⁴⁸—a possible two-fold contradiction of his post hoc testimony before Senator Kennedy. The roster also contradicted the Centers for Disease Control and Prevention's Tuskegee Timeline for 1947. It stated that “USPHS establishes ‘Rapid Treatment Centers’ to treat syphilis; men in study are not treated, but syphilis declines.”⁴⁹ *Examining Tuskegee*—a 2009 book about the TSUS—did not corroborate that the “penicillin-denied” man received treatment at the Birmingham RTC. *Examining Tuskegee* documented that other TSUS men received treatment at the RTC⁵⁰—further refuting the “none were treated” pronouncement in the playbill.

EPILOGUE

Miss Evers' Boys concludes with regrets and laments from characters Miss Evers and Mr. Willie Johnson about actions at the Birmingham RTC in 1946, their outcome, and the effect on the rest of the TSUS men.⁵ Selective excerpts are below.

1972, Outside the Possom Hollow Schoolhouse ... The sign reads: “United States Senate Testimony Site.”

Evers (As testimony) ... Mr. Willie Johnson left Macon County for Tipton County, Tennessee, in 1956. He got that hip shot of penicillin in Tipton and that's why he can use a cane now instead of crutches ... The men were set apart from the thousands that were treated with penicillin and the study continued. “The Tuskegee Study of Untreated Syphilis in the Negro Male” had acquired a life of its own ...

Willie. ... That penicillin would have made it so I could walk without pain and maybe even Jackspring. And they didn't give that to me in Birmingham because you pulled me out of that line so I could be a part of Miss Evers' Boys and Burial Society ...

Scientific institutions, such as, the National Academy of Sciences have a mission to vet and disseminate trustworthy scientific information to the public. The standard narratives of the TSUS shape what many people may believe and may have tainted the playwriting of *Miss Evers' Boys*.

Fig. 1. *Miss Evers' Boys* influenced footnote #71. Tuskegee's *Truths* changed the footnote in the reprinted article from the original article in *Nursing History Review*.⁵⁸ Key: a) ~~strike through~~ and [brackets] = deleted from original article; and b) underscore and **bold** = added to book chapter.⁵⁹ Fig. 1 is reprinted with permission from the National Medical Association.⁶⁰

71. Rivers'[s] time sense here and her views are at odds with Jones's reading of Dr. Reginald G. James's comments from a *New York Times* interview published on 27 July 1972, the day after the Tuskegee story broke. Jones writes: "Between 1939 and 1941 he had been involved with public health work in Macon County--specifically with the diagnosis and treatment of syphilis." In his interviews James claims it was Rivers who kept him from treating some of the men in the study and that this left him "distraught and disturbed." He claims to have treated a man who never returned, presumably fearful over the loss of his benefits[?] (Jones, *Bad Blood*, p. 6). I do not have the evidence to evaluate these differing claims [at this time]. ~~[David Feldshuh, the author of *Miss Evers' Boys*, has lent me his interviews with two of the survivors, Herman Shaw and Charles Pollard. In both of these interviews, the men claim Nurse Rivers actively kept them from treatment, even pulling them out of the line at a clinic in Birmingham. However, since both of the men saw Feldshuh's play several times before they were interviewed, and actually viewed a video of the play while being interviewed, it is difficult to ascertain what actually happened. What is important is that both men have stated that she was actively involved in keeping them from treatment.]~~ Several survivors have stated she **actively kept them from treatment.**

Thus, the problem may not have been the artistic performance. The major problem is twofold. First, some audience members may possibly exit the performance believing information in the playbill (i.e., entity responsible for TSUS, men's non-treatment, victimization of the community, and men's information about their health). Second, the play may represent, among some patrons, the truth about what happened in the TSUS. Indeed, it is quite the quixotic path for these audience members. This is particularly the case, when they, in all likelihood, do not understand that the standard narratives of the TSUS have many deficits in public health and medical history, women's studies, and black medical history.^{1,6}

The evidenced-based data in this article posits a sample of true elements of the TSUS. It raises questions about the paradigm that has been used to describe the TSUS, specifically, the nondisclosure of the disease to the men and the portrayal of racism, classism, government maleficence, and denial of penicillin. The robustness and reliability of the paradigm is further challenged because of the infusion of misconduct and vacillating reports in telling the TSUS story. This article may be, in fact, a start toward better dialogue, concerning health for self and society.

The Senator Kennedy hearings may have inspired thinking responsible for misrepresentations in two of the TSUS standard historical works and in *Miss Evers' Boys*. Focusing on the denial of penicillin testimony and scene may cause or contribute to continuous, misplaced angst against the TSUS. Evidence of the adverse impact of this denial of penicillin scene on the dialogue about the TSUS is exemplified in three ways.

First, *Bad Blood* shifted the blame from "a nurse" to Miss Rivers in the provocative scene at the Birmingham RTC: "Because of Nurse Rivers, they were prevented from receiving medical care at the rapid-schedule treatment clinics."⁴ Although *Bad Blood* documented having access to the 1973 Senator Kennedy hearings, the book appeared to cite its own oral history from the "penicillin-denied" man for this incident.⁴ Obviously, there may be a conflict between the evidence from the hearings and *Bad Blood's* oral history about this incident.

Second, the *Miss Evers' Boys* production staged the blame, in all its theatrics, toward Miss Evers. She arrived at the Birmingham RTC (over 100 miles from Tuskegee), denied the man waiting in line the "hip shot of that penicillin," and sent him on the bus back to Tuskegee.⁵

Fig. 2. Origin of TSUS discord from Testimony from Quality of Health Care—Human Experimentation hearings, March 8, 1973.⁶⁴ Senator Edward Kennedy heard this testimony. Insertions into quote from Miss Eunice Rivers' TSUS article⁶³ are indicated by: underline and **bold**.

“Because of the lower educational status of a majority of the patients, such as farmers and day laborers, it was impossible to appeal to them from a purely scientific approach. Therefore, various methods were used to maintain and stimulate their interest: free medicine, except penicillin; burial assistance or insurance, the project being referred to as “Miss Rivers’ Lodge”; free hot meals on the day of the examination by Public Health Service physicians periodically, transportation to and from the hospital and an opportunity to stop in town on the return trip to shop or visit with friends.”

Third, *Tuskegee's Truths* serially compounded the confusion surrounding the denial of penicillin scene testimony as cited in the Senator Kennedy hearings, as well as, in the play. In the book, a historical public health photo had a fabricated title—“U.S. Public Health Service Rapid Treatment Penicillin Clinic, ca. late 1940s.”⁵¹ In the photo, there were two white male health professionals who were attending to white male patients seated at a table, receiving an intravenous infusion. Black male patients stood behind the white men apparently waiting to be treated next. Both groups of men were fully clothed. Perhaps, there was belief that the photo and its fabricated title may conjure the deplorable imagery in the play. Source documents, including the NLM catalogue, did not support the mislabeling in place, time, and treatment^{6,51–53}. Actually, the photo was from USPHS Venereal Disease clinic in Hot Springs, AR in the 1920s and treatment was intravenous arsphenamine.⁵³ In the late 1940s, the RTC program, in general, and the Birmingham RTC were in-patient facilities with penicillin administered intramuscularly—e.g., injections every 2 or 3 hours—around-the-clock for ≥ 70 shots spread over several days to over a week.^{54–56} The “penicillin-denied” man was not one shot of penicillin away from being treated or cured. In fact, despite the artistic license used in the play, “a hip shot of that penicillin” was insufficient treatment in 1946. Again, it was ≥ 70 shots. Even today “a hip shot of that penicillin” or “a

single injection” are insufficient for late latent syphilis⁵⁷—the disease stage of the TSUS men.

Also, a reprinted article in *Tuskegee's Truths* had a key footnote (#71) altered from its original publication (Fig. 1). There was revision of the meaning from: (a) two men were influenced by viewings of *Miss Evers' Boys*, casting doubt on Rivers keeping men from treatment at the RTC⁵⁸ to (b) Rivers definitely kept several men from treatment at the RTC.⁵⁹ The problem with this disparity is two-fold. One discussant may argue an issue based on the original article. Another discussant may argue based on the reprinted article in the book. Although citing the “same article,” discussants may never agree.⁶⁰ This conflict, interestingly, may have already occurred in the literature relating to the RTC. *Medical Apartheid* reported that “a list of their names had preceded them and most were physically removed” from “the PHS’s ‘fast track’ VD-treatment clinics”⁶¹—a scenario that occurred in the altered *Tuskegee's Truths* reprinted article. A book review of *Medical Apartheid* contradicted this with a reversion to “Only two of the men have stated that they were turned away”⁶²—the stance of the original article. *Medical Apartheid* had access to *Tuskegee's Truths* as reported in the book’s citations.

These may be examples of circuitous thinking i.e., historical writing (*Bad Blood*) influencing the fictional playwriting of *Miss Evers' Boys* followed by the fictional play influencing subsequent historical writing (*Tuskegee's*

Truths). However, the pattern of misinformation and misconduct in the standard narratives may have been misplaced. Although the potent dramatic scene in *Miss Evers' Boys* may have provoked the clever and strategic re-writing of TSUS history, the denial of penicillin scene at the Birmingham RTC may not have actually happened. Archival evidence contradicted the “penicillin-denied” man’s testimony at the Senator Kennedy hearings with “Treated for syphilis at RTC.”⁴⁸

A final query should be raised: how were we led awry from what factually happened in the TSUS? The misinformation, confusion, and biases surrounding the TSUS also may have had their public origin and design in the introduction of the TSUS men at the 1973 Senator Kennedy hearings. Kennedy heard potent, compelling testimony from text in Miss Eunice Rivers’ first-authored article to support the case against the TSUS.^{63,64} However, Fig. 2 illustrates the blatant deviations in the testimony from Rivers’ article. The four insertions into Miss Rivers’ co-authored words were not typographical errors but were cleverly and strategically contrived, and inserted. Similar altered material appeared in two subsequent books.^{45,46} Importantly, delineation and analysis of the deviations were revealing. There was intentional insertion of a suffix and phrases in the text, such as, (a) lower educational status and farmers and day laborers, (b) except penicillin, and (c) Public Health Service physicians periodically. These insertions introduced elements of classism, denial of penicillin, government maleficence, and marginalization of black doctors as questionable and expendable co-research investigators.

In the beginning of the discourse about the TSUS post exposure in the media, this obvious and egregious misconduct had major consequences. It may have been the defining blueprint for the core arguments of the standard narratives in the case against the TSUS. Clearly, these deviations may be responsible for the transformation of the TSUS—an integral contributor to the structure, planning, and execution of the national venereal disease control program in its time⁶⁵—and thrusting it forward as a major civil rights issue. The TSUS was de-contextualized and connected to inflammatory racial and social class epitaphs for consumption by the US populace and other stakeholders. Senator Kennedy heard testimony that supported the assertions about the violation of rights of the TSUS men, as well as, defined the issues of race and racism in the TSUS with: “... the study was racially motivated and it discriminated against blacks in that no whites were selected to participate in the study and only those recruited were poor, uneducated, rural blacks.”⁶⁴ And Senator Kennedy had a long held opinion that the TSUS was “one of the worst abuses ever committed by the United States government against black Americans.”⁶⁶

Later after the Kennedy hearings, *Bad Blood* was first published in 1981.⁴ *Bad Blood* suppressed and nullified that bad blood—a clinical management and public health tool—was syphilis. This was an indictment against the USPHS’s practice of “cultural sensitivity toward the poor Black target population in Macon County.”⁶⁷ As documented in Table, during the 40-year TSUS, bad blood was syphilis and syphilis was bad blood in common medical and public health practice and education—even at the Birmingham RTC in the late 1940s. But moving forward from the publication of *Bad Blood*, bad blood was no longer syphilis. Coupled with the four insertions into the Rivers-quote (Fig. 2), the core TSUS paradigm, in part, emerged—TSUS men were not told their diagnosis, government maleficence, classism, racism, and denial of penicillin. Now new evidenced-based knowledge attenuates the alleged abuse model of the TSUS because the original paradigm was supported with fabrications, distortions, and exclusions.

To quote Miss Evers’ fictionalized Senate testimony in the Epilogue, in the aftermath of the TSUS exposure in the media, the study may have “acquired a life of its own.” This may be the case, in part, due to linking the TSUS to the confluence of major groundswell and media covered national events of that time, i.e., race, social class, and civil rights. As a result, the departure from the true history of the TSUS may have blurred and paved the way for the theatrical caricature and abuse of Miss Eunice Rivers as artistically staged in *Miss Evers' Boys*.

IMPLICATIONS

Based on research in medicine, public health, black medical history, and women studies, it is clear that the current paradigm about the Tuskegee Study of Untreated Syphilis (TSUS) is replete with incorrect and/or incomplete information based on flawed theoretical frameworks and research methodologies. Because of these deficiencies, there is an unmet need for responsible historical and ethical communities to correct what they teach stakeholders about the TSUS, particularly in academic research training and professional development. Revising the faulty scholarship may change the images and correct the paradigm of the TSUS, including its effects on diverse communities.

Furthermore, the standard narratives of the TSUS require additional exploration and analysis to correct the myths, misconduct, and manufactured malfeasance in reporting the TSUS data (i.e., the portrayal of racism, classism, government wrongdoing and conspiracies, nondisclosure of the disease to the men, and denial of penicillin). The current paradigm, cited in a plethora of standard narratives about the TSUS, is not the solution to reduce health disparities—it is the problem.⁶⁸

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