Diabetes and RACE

A Historical Perspective

Arleen Marcia Tuchman, PhD

Today, US government sources inform us that Native Americans, Blacks, and Hispanics/Latinos run the greatest risk of developing type 2 diabetes. One hundred years ago, however, Jews were thought to be the population most likely to develop this disease. I evaluated the evidence that the medical and public health communities provided to support the purported link between diabetes and Jews. Diabetes was conceptualized as a Jewish disease not necessarily because its prevalence was high among this population, but because medicine, science, and culture reinforced each other, helping to construct narratives that made sense at the time. Contemporary narratives are as problematic as the erstwhile depiction of diabetes as a disease of Jews. (*Am J Public Health*. 2011;101(1):24–33. doi:10.2105/AJPH.2010.202564)

"THERE IS NO RACE, WHICH is so subject to diabetes as the Jews," wrote W.H. Thomas in 1904 in the eugenically obsessed language of his day.[1] Thomas, a New York physician, was voicing an almost universally held belief in the United States that of all the "races," Jews had the greatest likelihood of developing diabetes. At the same time, most members of the medical community considered the prevalence of diabetes among Blacks to be unusually low. In the words of a Johns Hopkins physician in 1898, "Diabetes is a rare disease in the colored race."[2]

Such beliefs have long since disappeared. Today, Blacks, American Indians, and Hispanics/Latinos are believed to have the highest risk of developing type 2 diabetes, which makes up 90% to 95% of all diabetes cases. The National Institute of Diabetes and Digestive and Kidney Diseases estimates that roughly 15.1% of American Indians and Alaska Natives have diabetes, compared with 8.7% of non-Hispanic Whites. Non-Hispanic Blacks (13.3%) and Hispanics/Latinos (9.5%) are also disproportionately represented.[3]

Why did the medical community once believe that Jews were a race and, as such, at high risk for diabetes, and why is that no longer the case? The response to these questions has much to do with understandings of race at the beginning of the 20th century. At the time when diabetes was so closely associated with Jews, Jews were considered to be one of hundreds of races populating the planet, and race itself was viewed as a combination of biological, linguistic, and cultural traits that distinguished particular groups of people—in sickness as in health—from other peoples of the world.[4]

The idea of race first came under serious attack in the years between World War I and World War II, when Franz Boas and his students challenged the validity of the alleged biological evidence.[5] However, the idea has by no means been put to rest, and significant research continues to be committed to the search for genetic variants that might explain health disparities between purported racial groups. Advocates of this research insist that race is a strong predictor of health outcomes, and that a better understanding of race-specific susceptibilities will increase the chances of reducing health disparities.[6] Opponents counter that

the focus on race ignores genetic diversity within groups; diverts attention from nongenetic explanations for group differences, which may better explain differential prevalence rates; contributes to racial stereotyping; and risks constraining diagnostic and treatment options in ways that can do harm.[7]

The historical example provided here is intended as a contribution to this critical literature. Highlighting the problems associated with race-based medicine, the story of Jews and diabetes reveals how stereotypes about an alleged racial group can shape the way medical communities define at-risk populations and the interventions they pursue. After presenting and evaluating the evidence physicians provided in the first half of the 20th century to support the link between diabetes and Jews, I briefly discuss the narratives about race and diabetes being constructed today. Our contemporary picture of diabetes is, in important ways, as problematic as the depiction of diabetes that flourished 100 years ago.

JUDENKRANKHEIT

Around the turn of the 20th century, medical and public health communities began to grow concerned about the steady increase in the diabetes rate among the middle-aged and elderly populations.[8] Most recognized that this increase was occurring in part because people were living longer, but few were satisfied that this was the only cause.[9] A robust debate thus took place in which a host of factors were considered, including rising obesity rates, increased sugar consumption, and the greater stress of modern civilization. But one explanation drew near consensus: almost all agreed that Jews were particularly at risk and that the proportion of Jews in the population was increasing.

The link between Jews and diabetes had its origins in the European medical literature and particularly in the writings of Joseph Seegen of Vienna, Austria.[10] After Seegen noted in 1870 that roughly one quarter of his 140 diabetes patients were Jewish, other studies started appearing alleging that Jews died of diabetes at a rate between two and six times higher than the rest of the population. In the German literature, diabetes even came to be known as the *Judenkrankheit*, or "Jewish disease."[11]

Such views crossed the Atlantic and influenced the American medical community. William Osler, perhaps the most famous clinician in early 20th-century America, remarked that "Hebrews seem especially prone to [diabetes]."[12] The New York City physician Heinrich Stern agreed, commenting that "[t]he Hebrews, no doubt, are more commonly afflicted with chronic glycosuria than natives of the nation among whom they dwell."[13] And when J.G. Wilson, a physician with the US Public Health Service, tried to understand why the diabetes mortality rate in New York City had tripled between 1889 and 1910, he compared the rapid growth in the city's Jewish population with the rise in the diabetes mortality rate. For Wilson, the correlation between these two sets of data was sufficient to demonstrate causation.[14]

To explain why Jews experienced such a high rate of diabetes, Wilson turned to racial traits, claiming that "some hereditary defect" made the Jews more prone to develop the disease.[15] He did not elaborate on the nature of the "defect," but others pointed to the supposedly sensitive nervous system of the Jews. For Osler, it was the Jews' particularly "neurotic temperament"; for the author of an article in the widely read *Collier's Magazine*, it was the Jews' "racial tendency to corpulence."[16] These racial traits were then exacerbated—or so many believed—by the Jews' preference for "consanguineous marriages," or the marrying of blood relatives.[17]

> *"Highlighting the problems associated with race-based medicine, the story of Jews and diabetes reveals how stereotypes about an alleged racial group can shape the way medical communities define at-risk populations and the interventions they pursue."*

Not all agreed that the Jews had an inherited tendency to develop diabetes. Robert Saundby, a London physician, insisted that "modern life is in itself a cause of diabetes." According to Saundby, the Jew, especially the well-to-do Jew, suffered from diabetes not because he was Jewish but because he lived in the city, where he ate too much, exercised too little, and strained his nervous system "in the pursuit of knowledge, business or pleasure."[18] Elliott Joslin, the most famous American diabetes specialist in the first half of the century, was more succinct. "The Jew," he proclaimed, "is not prone to diabetes because he is a Jew, but rather because he is fat."[19]

The explanations that circulated in the early 20th century to elucidate the Jews' alleged propensity for diabetes were an eclectic set, including racial stereotypes, cultural practices, and

lifestyle issues. Why, though, would anyone have believed these theories? Of course, it is possible that Jews suffered disproportionately from diabetes at the time. But most of the articles published on this topic did not include statistics, and those that did drew primarily on experiences with very select populations. Perhaps most importantly, populations that had little contact with the formal medical community were not recorded.

Even if reliable statistics existed, they would not help us understand the stories that circulated to explain why Jews were so vulnerable. The vast majority of Jews in the United States in the early 20th century were poor immigrants from Eastern Europe, yet the "Jew" most often portrayed in the diabetes literature was the affluent Jewish urbanite.[20] Indeed, by and large, diabetes was considered a disease of wealth, referred to by physicians such as Osler as a "disease of the higher classes."[21]

At the very least, then, a considerable gap existed between the image of diabetes as a disease of affluence and the actual circumstances of the vast majority of Jewish immigrants. We can thus learn much about why diabetes was considered a *Judenkrankheit* by examining cultural assumptions and stereotypes.

JEWS, RACE, AND STEREOTYPES

Around 1900, few questioned the scientific and cultural legitimacy of the concept of race. As the sociologist Elazar Barkin has commented, "race was perceived to be a biological category" and racial differences were "regarded as matters of fact, not of prejudice."[22] Some Jews advanced this belief as well, writing of "Hebrew blood" and of the "Jewish race."[23] Still, exactly what characterized the "Jewish race," or any race for that matter, engendered heated debates, revealing the high stakes in theories that were embedded in a logic of racial superiority and inferiority. Racial hierarchies situated Caucasians at the top and Ethiopians at the bottom, and many of the debates focused on where, exactly, a particular race belonged.[24]

A powerful example of this is the 1910 report by the Dillingham Commission, a US Congressional Committee set up to study immigration. Volume five of the report, entitled *Dictionary of Races or Peoples*, drew upon established anthropological works to compile listings of as many as 600 "branches or divisions of the human family"; the commission counted 45 races among the US immigrant population alone. The latter included, in addition to the Jews (or Hebrews), Celtics, Alpines, Letics, Teutonics, Mediterraneans, and Slavonics, among others.[25] To distinguish these populations, anthropologists relied on a combination of biological, linguistic, and cultural characteristics, including facial features, body type, language, customs, geography, religion, and history. But the most salient feature was skin color, which was considered a marker of a race's level of "civilization": the darker the skin, the closer a race remained allegedly to an earlier, "savage" stage of human development; the whiter the skin, the more "civilized" they were."[26] For this reason, one of the more contentious battles around the turn of the century was over the degree of "whiteness" of the recent immigrant groups.[27] And one of the more controversial populations was the Jews.

In the 19th century, the United States Bureau of Immigration had classified Jews as "Slavonic," a subgroup of the elite Aryan stock. However, the Dillingham Commission took issue with this, insisting that linguistic and physical criteria, including the "Jew's nose," placed them among the Semites, lower down on the Caucasian ladder.[28] Why this should have mattered becomes clear in the context of the commission's recommendation in 1911 that the government enact a restrictive immigration law.[29] The *Dictionary of Races or Peoples* was intended, in other words, to guide the government as it tried to distinguish "desirable" from "undesirable" races, thus determining which immigrant groups would be permitted entry and which would be turned away.[30]

The link between racial classifications, racial status, and immigration politics is even more evident in the writings of a group of extreme nativists, who were determined to end the influx of eastern European Jews into the United States. Referring to the Jews' physical stature, moral traits, and origins as a nomadic tribe, they insisted that the Jews not be classified as Caucasian at all, but as "thoroughbred Asiatics." One author could not hide his disdain for the "primitive, tribal, Oriental" character of the Jews. Yet another wrote disparagingly of the "Mongoloid traits" of the Jews, which he attributed to the blood of the Mongolian Khazars allegedly coursing through the Jews' veins.[31] Given that the Chinese Exclusion Act of 1882 all but forbade Asians from entering the United States, had Jews been redefined as "Orientals," they

would probably have been excluded as well.[32]

Anti-Semitic attitudes thus fueled many of the claims about the Jews' racial traits. Significantly, though, those who challenged the negative stereotypes rarely questioned the validity of the concept of race. Instead, they argued that a different, more positive set of racial traits better characterized the Jews. This literature thus emphasized the Jews' native "genius," their diligence and creativity, and their "unselfish service to nation and the world."[33] They were cast as major contributors to the arts and sciences, to medicine and the law, to politics and sports—in short, to all aspects of modern "civilization." As the Jewish composer Gdal Saleski commented, "the bloodstream of the Jew courses through the spiritual veins of every major art that modern civilization has risen to honor."[34]

Discussions about Jews and diabetes took place against this backdrop. Those writing on this subject assumed that Jews made up a distinct race. There, however, any consensus ended. Indeed, the picture of diabetes as a Jewish disease flourished in part because the explanations were diverse enough to appeal both to those who viewed Jews as "racial aliens" and to those who were members of the Jewish community.[35]

DIABETES NARRATIVES

The diabetes literature in the early 20th century did not include many references to the Jews' orientalism. Still, the image of the Jew that often appeared had disturbing elements. Haven Emerson, professor of preventive medicine at Columbia's College of Physicians and Surgeons, linked Jews to what he called "this great luxury disease." In "Sweetness Is Death," published in 1924, Emerson attributed the rise in the diabetes rate to the fact that Americans were "the grossest feeders among the nations . . . bulging with the money bags of the world, fairly oozing with wealth, eating every day much more than any of our allies or opponents of the war . . . and, as it were, dying of overeating."[36] Emerson did not mention Jews explicitly in these lines, but just a few paragraphs later he informed his readers that Jews had the highest rate of diabetes, and that in Europe the disease was even known as the *Judenkrankheit*. Thus, without being explicit, he left his readers with an image of the rich Jew, hoarding his wealth and indulging himself while the rest of the world struggled with hunger.[37]

Wilson, the US Public Health Service physician, painted a similarly harsh picture of the Jews, describing them once as "a highly inbred and psychopathically inclined race."[38] His insistence that Jews suffered from diabetes because of a hereditary defect was made while he was stationed at Ellis Island, the port of entry of most eastern European Jews. Wilson's sense of discomfort with this group of individuals, whose clothing, language, and mannerisms seemed so alien to him, manifested itself in two ways: in the speed with which he assumed that a correlation between the rising mortality rate from diabetes and the increase in the Jewish population meant that Jews were the cause of the increased mortality, and in the measures he proposed for reducing the diabetes rate.[39] Whereas other physicians argued that Jews simply needed to eat less and exercise more, Wilson countered that the Jews' high rate of diabetes had deep cultural and biological roots: "the practice of inbreeding which obtains among them," he wrote with evident disgust, had much to do with the Jews' high rate of diabetes. Thus, to reduce this rate, "the methods of right breeding" had to take precedence over those "of right living."[40]

The image of the Jews as a diabetic race fit, moreover, into a long history of depicting Jews as a particularly diseased people, dating back at least to the Middle Ages, when they were persecuted for allegedly spreading plague throughout Europe. Casting the Jews as syphilitic or tubercular, as they often were, or as diabetic all reinforced the image of the Jew as inherently sickly.[41] Certainly, for anyone who wished to stem the tide of Jewish immigrants from eastern Europe, the picture of Jews as a diseased race was particularly useful. Still, anti-Semitism alone cannot account for the widespread belief that Jews suffered disproportionately from diabetes, since Jewish physicians themselves believed diabetes posed a particular problem for those of Jewish descent.[42]

"Statistics prove conclusively that the disease occurs among Jews from two to six times as frequently as it does among non Jews," wrote the anthropologist Joseph Jacobs and the physician-anthropologist Maurice Fishberg in an article on diabetes they coauthored for the *Jewish Encyclopedia*, published between 1901 and 1906.[43] Hyman Morrison, a Boston, Massachusetts, practitioner, held this view as well, commenting that "[t]he testimony of observers, both in America and in Europe, goes to show that diabetes mellitus occurs more frequently among Jews than

among their neighbors."[44] Yet Jewish physicians differed from many in the medical community in insisting that although diabetes may be heritable it was not a racial disease, if racial meant having been part of the Jews' biological makeup since biblical times.[45]

By and large, Jewish physicians turned to the Lamarckian theory of the inheritance of acquired characteristics to explain the evolution of diabetes among Jews.[46] The particular trait Jews were believed to have acquired over the centuries was not diabetes per se, but rather "an unstable nervous constitution," which predisposed Jews to the disease. The association between the nervous system and diabetes drew strength from experimental studies showing that the stimulation of nerves innervating the internal organs led to a release of adrenalin, which in turn caused the liver to break glycogen down into sugar and produce a mild glycosuria.[47] According to the Philadelphia, Pennsylvania, physician Solomon Solis-Cohen, nervous derangements developed in response to the "cruel persecution" Jews had experienced over the centuries, which had "affected profoundly their autonomic nerve system; and autonomic-endocrine imbalance."[48] In a similar fashion, Jacobs and Fishberg blamed the high rate of diabetes among Jews on their "extreme nervousness, the Jews being known as the most nervous of civilized peoples."[49]

"Diabetes enjoyed popularity as a "Jewish" disease because science, medicine, and culture all worked together to produce believable narratives. For some, diabetes revealed the Jews' greediness and neuroses; for others, it marked the centuries of suffering they had endured; for yet others, it was a sign of the Jews' modernity."

The quotation from Jacobs and Fishberg suggests another, compelling, reason why Jewish physicians may have willingly embraced a picture of diabetes as a Jewish disease: the traits associated with the disease had some positive connotations. To a certain extent, this was because diabetes was associated with wealth, but note as well the link Jacobs and Fishberg made between diabetes, nervous diseases, and civilization. They were drawing upon a widespread understanding of the relationship between disease and civilization, which held that as one moved up the evolutionary ladder from "primitive" to "civilized" races, the nervous system grew more complex. Such complexity permitted the development of the "higher faculties," such as aesthetics and morality, but it also made the "civilized" races more susceptible to nervous ailments.[50]

Indeed, physicians frequently commented on the high incidence of diabetes where "wealth and culture" abounded, on its prevalence among "civilized humanity," and on the way it increased "with the intensity of life."[51] Diabetes may have marked Jews as sickly, but it also symbolized their place among the cultured elite. It was the price they paid for having devoted themselves to a life of the intellect, of mental exertion, and of nonphysical activities and entertainments.[52] There was little reason for dismay, however. Given that diabetes was an acquired and not a racial disease, exposure to different environmental conditions would lead eventually—or so Jewish physicians hoped—to the elimination of this trait from the population.

Diabetes enjoyed popularity as a "Jewish" disease because science, medicine, and culture all worked together to produce believable narratives. For some, diabetes revealed the Jews' greediness and neuroses; for others, it marked the centuries of suffering they had endured; for yet others, it was a sign of the Jews' modernity. But all were in agreement that the Jews differed biologically, whether they viewed that difference as anciently racial or recently acquired, and that biological differences correlated with disease patterns. That agreement did not last.

RACE AND DIABETES TRANSFORMED

In the 1930s, articles began appearing that questioned the link between Jews and diabetes. Some challenged the reliability of the statistics; others insisted that Jews simply visited their doctors more often, so their diseases were more often recorded; yet others attacked head on the biological validity of the concept of race. Still, articles that linked Jews and diabetes continued to appear for a few more decades. Then, in the mid-1950s, they basically stopped. What happened over this 20-year period?

We cannot ignore the possibility that changing diets and socioeconomic status contributed to a decline in the diabetes rate among Jews. However, no articles have been found that addressed this possibility. Instead, silence descended upon this topic, suggesting that changing understandings of race may have played a more important role. Between World War I and World War II, anthropologists such as Boas

began a sustained attack on the concept of race, raising questions about the validity of the biological evidence that purportedly distinguished races from one another. Whether the evidence came from physical anthropology, craniometric measurements, or genetics, Boas and his school insisted that supposed divisions between the races on biological grounds were unsustainable. Any differences that remained were, rather, best studied through cultural analysis.[53]

Further challenges to traditional understandings of race occurred in these decades. As Matthew Jacobson has shown, debates about the relative whiteness of Jews, Celtics, Teutonics, and others, which had flourished in the early decades of the 20th century, gradually disappeared as these groups came to be viewed simply as "Caucasian." As Jim Crowism continued its spread of terror throughout the South, and as the mass migration of Blacks to the North and West resulted in increased racial tensions and hostilities throughout the nation, race came to be seen in this country largely in terms of Black and White.[54]

During this time, the Jews "became white folks," to quote the anthropologist Karen Brodkin.[55] This transformation was helped along in the years following World War II by the Jews' access to such federal economic and social programs as the GI Bill and Veterans Administration mortgages, which eased their entry into the White middle class. And as Jews lost their status as a separate race, the idea that they had a special proclivity for diabetes also abated.

To be sure, research exploring the link between Jews and particular diseases did not totally disappear. For example, Tay-Sachs disease is still linked to Jews. But as early as the 1930s, researchers recognized that although Tay-Sachs was prevalent among Ashkenazi Jews, its rate among Sephardic Jews was no different than in the rest of the population.[56] Moreover, in subsequent decades, French Canadians and the Pennsylvania Dutch were shown to have high prevalence rates of Tay-Sachs as well. Thus, the presence of this disease in a population was no longer considered a racial trait but rather the result of a genetic defect that established itself in a population experiencing relative reproductive isolation.[57]

A focus on genetic frequencies and particular populations is a far cry from the characterological associations that flourished early in the 20th century. Diabetes had been considered a Jewish disease as long as Jews were considered a separate and particularly nervous "race." As these ideas came under attack, fewer and fewer articles claimed that diabetes was a Jewish disease. But the near disappearance of discussions about Jews and diabetes did not take place until after World War II, as people learned with horror about the extremes to which the Nazis had taken racial notions of disease and degeneracy. To the Nazis, Jews had been little more than vermin, an inherently diseased race that threatened the purity of Aryan blood. As Robert J. Lifton's interviews with Nazi doctors have revealed, many conceived of Auschwitz as a public health venture, designed to eradicate Jewish biological contamination at its source. In the wake of news reports about Nazi racial hygiene and the atrocities of the concentration camps, talk of Jews, race, and disease, and, with it, of Jews and diabetes, quietly slipped away.[58]

Talk about race and diabetes did not, however, disappear. For as talk about Jews and diabetes declined, articles began surfacing that drew attention, sometimes with alarm, to the prevalence of diabetes in the Black population. In 1951, for example, the Georgia Department of Public Health showed that among women aged 50 years or older, almost 8% of "colored females" had an abnormal blood sugar level compared with only about 4% of White females. The results, the authors claimed, were "completely unanticipated by us."[59] Twenty years later, the authors of a report from the US Public Health Service recorded with concern that a 44% increase in morbidity from diabetes had taken place among "the color groups" between 1950 and 1967 compared with a 5% increase for Whites.[60]

What was going on? Was diabetes increasing in the Black community? A small group of physicians certainly thought so, and they had been trying to draw attention to the problem since the 1920s. I.I. Lemann, for example, a medical school faculty member at Tulane University, published an article in the *Journal of the American Medical Association* as early as 1927 analyzing admissions data at the Charity Hospital in New Orleans. Between 1898 and 1926, he reported, the percentage of diabetes admissions increased eightfold among Blacks and only four-fold among Whites.[61] In the 1930s, physicians at Johns Hopkins and Emory University were finding similar increases, leading them to conclude that "diabetes in negroes is not different in any way from the disease

as found among white people."[62] To justify their conclusion, they turned to a host of factors, including the increased migration of Blacks from rural to urban areas; increasing rates of obesity, especially among women; and the greater number of Blacks living to old age, when diabetes is more likely to develop.[63]

These studies, however, had little impact in the 1930s and 1940s. Diabetes may very well have been ignored—by Black and White physicians alike—because other health problems afflicting Black communities were attracting more attention. Tuberculosis and syphilis, for example, registered morbidity and mortality rates that far surpassed those of Whites. Maternal and infant mortality rates were also disturbingly high. And among the new chronic diseases that were claiming an increasing number of lives, heart and kidney disease took center stage. Indeed, a 1937 article on the 21 leading causes of death among southern Blacks did not include diabetes.[64]

It is also possible that cultural images surrounding diabetes—as a disease of wealth, girth, and a high-tension nervous system—contributed to the relative invisibility of diabetes in the Black community. Drawing on the racist discourse that claimed "primitive" peoples had less developed nervous systems, physicians, anthropologists, and evolutionists in the early decades of the 20th century contended that the nervous system of Blacks was different from that of Whites. Thus, in the infamous Tuskegee Syphilis Study, Black men were subjected to painful spinal taps to test whether their allegedly less evolved nervous system would explain why syphilis appeared to manifest differently in their bodies than in those of Whites.[65] Angina was also believed to occur "usually in the sensitive, nervous type, as the Jew, or in the tense, efficient American, rather than in the dull, happy negro or the calm, accepting Chinaman."[66] In the same way, physicians who studied diabetes struggled to understand how the average "negro," who was "happy-go-lucky" and lacking "nervous strain, intense application to business, mental shock and worry," could possibly suffer from the disease.[67] The "negro's" more "carefree" nature was, in other words, believed to confer some measure of immunity to the disease.[68]

In 1942, the Black pathologist Julian Herman Lewis voiced his frustration that physicians continued to assert that Blacks had "a relative immunity" to diabetes, despite the absence of any evidence. Lewis, who was familiar with the work of Lemann and others who had been documenting the increased rate of diabetes in the Black community since the 1920s, had no idea whether the data signaled an actual increase in the diabetes rate among Blacks or whether it captured "a more accurate investigation of the real conditions," rendering visible a problem that had been there all along. But whatever the explanation, Lewis insisted that no immunity protected against it and that diabetes in the Black community could no longer be ignored.[69]

But it continued to be ignored. In 1947, five years after Lewis's complaint, the US Public Health Service set out to gather information about the estimated two million Americans living with diabetes. Fearing the consequences of inaction, it decided to conduct a survey that would provide an accurate picture of the threat diabetes posed to the American populace. The town chosen for the survey was the largely White town of Oxford, Massachusetts, which speaks volumes about the assumptions still prevalent at midcentury both about the disease and the populations most likely to be at risk. According to Hugh Wilkerson, who conducted the survey, Oxford was selected because it was representative of small towns in the United States.[70] No wonder state and federal health departments later expressed alarm at the rapidly rising rate of diabetes among Blacks. The total lack of attention to a more diverse population was still evident in the 1960s, when public health educators produced a film, *Diabetics Unknown*, that targeted anyone who was not only "fat, forty, [and] familied" but also "fair."[71] The current diabetes "epidemic," which appears to be affecting disproportionately people who would not be defined as "fair," may stem at least in part from our country's failure to recognize the problem of diabetes in non-White communities—and thus to intervene—until it was too late.

CONCLUSIONS

In the 21st century, the role of race in medicine remains contentious. The question is not whether one's genetic makeup shapes one's disease experience, but whether race provides a meaningful way of explaining the variations in human genotypes that influence the human experience of disease.[72] Following Boas's critical writings on race, most social scientists have abandoned the idea that biological race is a valid construct. As the molecular anthropologist

Jonathan Marks has pointed out, "All human groups, however constituted, have particular medical risks. Blacks, Ashkenazi Jews, Afrikaners and Japanese, poor people, rich people, chimney sweeps, prostitutes, choreographers, and the Pima Indians all have their particular health risks." The question is why this is so. According to Marks, whatever our answer may be, "race is not the cause of it, in fact, race will positively obscure it."[73]

The history of diabetes brings to light many of the pitfalls of race-based medicine. It demonstrates how the conviction that Jews made up a separate race led to gross anti-Semitic stereotyping, a glossing over of intergroup differences, a search for racial and characterological traits that could explain the allegedly high prevalence of the disease among Jews, and the failure to recognize the disease in other populations. In diabetes research today, one finds a far more sophisticated understanding of race than in the past, one that eschews characterological assessments and seeks to identify genetic markers that might explain differences in susceptibility. Nevertheless, the conviction that differences in population prevalence reflect racial differences persists, stemming in no small measure from studies that assume that after such variables as income, insurance coverage, and education level are controlled for, residual effects can be assigned to genetic differences between the races.[74]

Once again, diabetes has a "racial profile," but Jews have now been replaced by Native Americans, Blacks, and Hispanics/Latinos. The new image of diabetes is, moreover, reinforced by the US government's policy of collecting information about race and ethnicity, but not about other confounding factors such as class.[75] Thus, government Web sites, like that of the National Institute of Diabetes and Digestive and Kidney Diseases, draw attention to the high prevalence of diabetes among certain racial and ethnic groups, but include nothing about the situation in parts of Appalachia, where the predominantly White population has a prevalence rate that is higher than that for Hispanics/Latinos and just below that for non-Hispanic Blacks.[76] The picture, in other words, that is being reproduced in the professional and popular literature of at-risk populations reflects the kind of data that are being collected, not necessarily the actual distribution of the disease.[77]

This is not to say that race is unimportant. A disproportionate number of people live in poverty and are denied opportunities because of their skin color, and these factors increase their chances of developing a host of different diseases. Race, in other words, remains a powerful social category, intimately connected to health.[78] However, as the history of Jews and diabetes brings home, the stories we produce to explain such connections often tell us more about the cultural beliefs of those producing them than they do about the populations believed to be afflicted by the disease. ■

About the Author

Arleen Marcia Tuchman is with the Department of History, Vanderbilt University, Nashville, TN.

Correspondence should be sent to Professor Arleen Marcia Tuchman, Vanderbilt University, History Department, Box 1802-B, Nashville, TN 37235 (e-mail: arleen.m.tuchman@vanderbilt.edu). Reprints can be ordered at http://www.ajph.org by clicking the "Reprints/Eprints" link.

This article was accepted July 15, 2010.

Acknowledgments

I am grateful to the American Council of Learned Societies and Vanderbilt University for their generous support of my research.

This article has benefited from the comments of David L. Boyd, Tony Brown, Janet Golden, Pablo F. Gomez, David Schlundt, David Zolensky, and anonymous reviewers. I extend special thanks to Ted Brown for his careful reading of the article.

Endnotes

1. W.H. Thomas, "Medical Treatment of Diabetes," *Albany Medical Annals* 25, no. 4 (1904): 358. This article was abstracted in the *Journal of the American Medical Association* 42 (May 28, 1904): 1451.

2. O.B. Pancoast, "Diabetes in the Negro," *Johns Hopkins Hospital Bulletin* 9 (1898): 40–41.

3. National Institute of Diabetes and Digestive and Kidney Diseases, "National Diabetes Statistics, 2007," available at http://diabetes.niddk.nih.gov/dm/pubs/statistics/#10 (accessed May 25, 2010). See also the poster "Diabetes Favors Minorities," available at http://wwwihm.nlm.nih.gov/cgi-bin/gw_44_3/chameleon (accessed May 25, 2010).

4. G. Stocking, "The Turn-of-the-Century Concept of Race," *Modernism/Modernity* 1 (1994): 4–16; Matthew Frye Jacobson, *Whiteness of a Different Color: European Immigrants and the Alchemy of Race* (Cambridge, MA: Harvard University Press, 1998); Karen Brodkin, *How the Jews Became White Folks and What That Says About Race in America* (New Brunswick, NJ: Rutgers University Press, 1988); John M. Efron, *Defenders of the Race: Jewish Doctors and Race Science in Fin-de-Siècle Europe* (New Haven, CT: Yale University Press, 1994); Sander Gilman, *The Jew's Body* (New York: Routledge, 1991).

5. E. Barkin, *The Retreat of Scientific Racism: Changing Concepts of Race in Britain and the United States Between the World Wars* (Cambridge: Cambridge University Press, 1992); Richard H. King, *Race, Culture, and the Intellectuals, 1940–1970* (Washington, DC: Woodrow Wilson Center Press, 2004); Mitchell B. Hart, *Social Science and the Politics of Modern Jewish Identity* (Stanford, CA: Stanford University Press, 2000).

6. See, for example, E.G. Burchard, E. Ziv, N. Coyle, et al., "The Importance of Race and Ethnic Background in Biomedical Research and Clinical Practice," *New England Journal of Medicine* 348, no. 12 (2003): 1170–1175. For a particularly cogent description of the arguments for and against research

on genetics and health disparities, see Michael J. Fine, Said A. Ibrahim, and Stephen B. Thomas, "Editorial. The Role of Race and Genetics in Health Disparities Research," *American Journal of Public Health* 95, no. 12 (2005): 2125–2128. See also Andrew John Karter, "Race and Ethnicity: Vital Constructs for Diabetes Research [commentary]," *Diabetes Care* 26, no. 7 (2003): 2189–2193.

7. M. Gregg Bloche, "Race-Based Therapeutics," *New England Journal of Medicine* 351, no. 20 (2004): 2035–2037; Stephen Epstein, *Inclusion: The Politics of Difference in Medical Research* (Chicago: University of Chicago Press, 2007); David R. Williams, "Race and Health: Basic Questions, Emerging Directions," *Annals of Epidemiology* 5 (1997): 322–333.

8. Physicians did not yet distinguish between type 1 and type 2, but they recognized that the disease progressed differently in the young, where the telltale symptoms of polydipsia, polyuria, and glycosuria developed quickly and with great severity. Their concern about the rapid increase in diabetes was, however, restricted to the more chronic form that was much more common among the middle-aged and elderly.

9. See, for example, J.G. Wilson, "Increase in the Death Rate From Diabetes Mellitus—A Possible Explanation," *Medical Record* 82 (1912): 6662–6663; Elliott P. Joslin, "The Prevention of Diabetes Mellitus," *The Journal of the American Medical Association* 76 (1921): 79–84; "War on Diabetes," *Time* (April 21, 1923): 21, available at http://www.time.com/time/magazine/article/0,9171,845911,00.html (accessed May 25, 2010).

10. W. Sternberg, *Die Judenkrankenheit, die Zuckerkrankheit, eine Folge der rituellen Küche und orthodoxen Lebensweise der Juden?* (Mainz: Joh. Wirth'sche Hofbuchdruckerei, 1903), 10. See also John M. Efron, *Medicine and the German Jews: A History* (New Haven, CT: Yale University Press, 2001), 133.

11. Albert A. Epstein, "Diabetes Among Jews; Its Cause and Prevention," *Modern Medicine* 1 (1919): 269–275, 270.

12. W. Osler, *The Principles and Practice of Medicine*, 1st ed. (New York: D. Appleton & Company, 1892), 275.

13. Heinrich Stern, "The Mortality From Diabetes Mellitus in the City of New York (Manhattan and the Bronx) in 1899. Classified According to the Month, Sex, and Age; Also an Expose as to Nationality, Duration of Residence in the United States, Occupation, Direct Causes of Death, and Accompanying Diseases," *Medical Record* 58 (1900): 766–774, 766.

14. Wilson, "Increase in the Death Rate From Diabetes."

15. Ibid, 663.

16. Osler, *Principles and Practice of Medicine*, 275.

17. Wilson, "Increase in the Death Rate From Diabetes," 663; Heinrich Stern, "The Mortality From Diabetes Mellitus in the City of New York (Manhattan and the Bronx) in 1899. Classified According to the Month, Sex, and Age; Also an Expose as to Nationality, Duration of Residence in the United States, Occupation, Direct Causes of Death, and Accompanying Diseases," *Medical Record* 58 (1900): 766–774, 767.

18. R. Saundby, "Diabetes Mellitus," in *A System of Medicine*, ed. Thomas Clifford Albutt (London: Macmillan, 1897), 167–212, cited in Sander L. Gilman, "Fat as Disability: The Case of the Jews," *Literature and Medicine* 23 (2004): 46–60, 51.

19. Elliott P. Joslin, "The Diabetic Problem of Today," *Journal of the American Medical Association* 83 (1924); 727–729, 727.

20. I. Howe, *World of Our Fathers* (New York: Harcourt Brace Jovanovich, 1976).

21. Osler, *Principles and Practice of Medicine*, 295. See also H.C. Riggs, "On the Treatment of Diabetes Mellitus," *Journal of the American Medical Association* 18 (1892): 674–677, 675.

22. Barkin, *Retreat of Scientific Racism*, 2.

23. E.L. Goldstein, *The Price of Whiteness: Jews, Race, and American Identity* (Princeton, NJ: Princeton University Press, 2006), 1.

24. Jacobson, *Whiteness of a Different Color.*

25. 61st Congress, 3rd Session, document no. 662, *Reports of the Immigration Commission, Dictionary of Races or Peoples* (Washington, DC: Government Printing Office, 1911), 1–5.

26. Stocking, "The Turn-of-the-Century Concept of Race"; Jacobson, *Whiteness of a Different Color*, 78; Brodkin, *How the Jews Became White Folks*; Barkin, *Retreat of Scientific Racism*, 2, 19.

27. Jacobson, *Whiteness of a Different Color.*

28. *Dictionary of Race or Peoples*, 74.

29. 61st Congress, 3rd Session, document no. 764, *Statements and Recommendations Submitted by Societies and Organizations Interested in Immigration* (Washington, DC: Government Printing Office, 1911), 48.

30. E.L. Goldstein, "Contesting the Categories: Jews and Government Racial Classification in the United States," *Jewish History* 19 (2005): 79–107. For an outstanding discussion of the political nature of current racial categories, see Stephen Epstein, *Inclusion: The Politics of Difference in Medical Research* (Chicago: University of Chicago Press, 2007), 148 ff.

31. Quotations are from Mary Clark Barnes and Lemuel Call Barnes, *The New America: A Study in Immigration* (New York: Fleming H. Revell Co, 1913); Burton J. Hendrick, *The Jews in America* (Garden City, NY: Doubleday, Page & Company, 1923); and Lothrop Stoddard, *Racial Realities in Europe* (New York, 1924); all cited in Robert Singerman, "The Jew as Racial Alien: The Genetic Component of American Anti-Semitism," in *Anti-Semitism in American History*, ed. David A. Gerber (Urbana: University of Illinois Press, 1986), 103–129, 110, 117. See also Jacobson, *Whiteness of a Different Color*, 103, 180; Gilman, *The Jew's Body*, 174.

32. Goldstein, *The Price of Whiteness.* 102–108.

33. Ibid, 170–177.

34. Ibid, 172.

35. On the notion of Jews as racial aliens, see Singerman, "The Jew as Racial Alien."

36. H. Emerson, "Sweetness Is Death," *The Survey* 53 (1924): 23–25, 24. For biographical information on Emerson, see Charles Bolduan, "Haven Emerson—The Public Health Statesman," *American Journal of Public Health and the Nation's Health* 40, no. 1 (1950): 1–4. Emerson served a term as president of the American Public Health Association in 1934; see "APHA Past Presidents," available at http://www.apha.org/about/aphapastpresidents.html (accessed May 25, 2010).

37. This image of the Jew had a long history. See Gilman, "Fat as Disability."

38. J.G. Wilson, "A Study in Jewish Psychopathology," *Popular Science Monthly* 82 (1913): 264–271, 265.

39. Wilson was criticized for this at the time. See Hyman Morrison, "A Statistical Study of the Mortality From Diabetes Mellitus in Boston From 1895 to 1913, With Special Reference to Its Occurrence Among Jews," *Boston Medical and Surgical Journal* 175 (1916): 54–57, 55.

40. Wilson, "Increase in the Death Rate From Diabetes," 663.

41. Gilman, *The Jew's Body*; Efron, *Medicine and the German Jews*; Efron, *Defenders of the Race.*

42. On the Jewish medical community's general acceptance of Jewish diseases, see Mitchell B. Hart, "Racial Science, Social Science, and the Politics of Jewish Assimilation," *Isis* 90 (1999): 268–297; Efron, *Medicine and the German Jews*; Efron, *Defenders of the Race.*

43. J. Jacobs and M. Fishberg, "Diabetes Mellitus," Jewish Encyclopedia, available at http://www.jewishencyclopedia.com/view.jsp?artid=321&letter=D&search=diabetes%20mellitus (accessed May 25, 2010).

44. Morrison, "Statistical Study of the Mortality From Diabetes Mellitus," 54.

45. Epstein, "Diabetes Among Jews."

46. Ibid, 274. On Lamarckian notions of race in the early 20th century, see Stocking, "The Turn-of-the-Century Concept of Race."

47. G. Graham, *The Pathology and Treatment of Diabetes Mellitus* (London: Henry Frowde and Hodder & Stoughton, 1923), 34–35, 82.

48. S. Solis-Cohen, "Society Proceedings. Adiposity and Other Etiologic Factors in Diabetes Mellitus," *Journal of the American Medical Association* 84 (1925): 1775–1776, 1776.

49. Jacobs and Fishberg, "Diabetes Mellitus."

50. C.E. Rosenberg, "George M. Beard and American Nervousness," in *No Other Gods: On Science and American Social Thought* (Baltimore: Johns Hopkins University Press, 1997), 98–108; Barbara Sicherman, "The Uses of a Diagnosis: Doctors, Patients, and Neurasthenia," *Journal of the History of Medicine and Allied Sciences* 32, no. 1 (1977): 33–54.

51. Carl H. von Noorden, "Diabetes Mellitus," in *Twentieth Century Practice: An International Encyclopedia of Modern Medical Science*, ed. Thomas H. Stedman, 21 vol. (New York: William Wood and Company, 1895–1903), vol. 2: *Nutritive Disorders* (1895), 64; Emil Kleen, *On Diabetes Mellitus and Glycosuria* (Philadelphia: P. Blakiston's Son & Co, 1900), 15. See also Morrison, "A Statistical Study of the Mortality From Diabetes Mellitus," 56.

52. Kleen, *On Diabetes Mellitus and Glycosuria*, 17.

53. Barkin, *Retreat of Scientific Racism*; King, *Race, Culture, and the Intellectuals*; Hart, *Social Science and the Politics of Modern Jewish Identity.*

54. Jacobson, *Whiteness of a Different Color*; Nicholas Lemann, *The Promised Land: The Great Black Migration and How It Changed America* (New York: Vintage Books, 1992); James R. Grossman, *Land of Hope: Chicago, Black Southerners, and the*

Great Migration (Chicago: University of Chicago Press, 1989).

55. Brodkin, *How the Jews Became White Folks.*

56. K. Wailoo and S. Pemberton, *The Troubled Dream of Genetic Medicine: Ethnicity and Innovation in Tay-Sachs, Cystic Fibrosis, and Sickle Cell Disease* (Baltimore: The Johns Hopkins University Press, 2006).

57. Ibid, chap. 1.

58. R.J. Lifton, *The Nazi Doctors: Medical Killing and the Psychology of Genocide* (New York: Basic Books, 1986); Robert Proctor, *Racial Hygiene: Medicine Under the Nazis* (Cambridge, MA: Harvard University Press, 1988); Paul Weindling, *Health, Race, and German Politics Between National Unification and Nazism, 1870–1945* (Cambridge: Cambridge University Press, 1989); Wailoo and Pemberton, *Troubled Dream of Genetic Medicine*, 7.

59. Christopher McLoughlin, Lester M. Petrie, and Richard H. Fetz, "Diabetes Detection in Georgia," *Journal of the Medical Association of Georgia* 40 (1951): 285–286, 286.

60. Data from the National Vital Statistics System, "Series 20. Number 10: Diabetes Mellitus Mortality in the United States, 1950–1967" (July 1971), 6, available at http://www.cdc.gov/nchs/data/series/sr 20/sr20 010.pdf (accessed February 11, 2008).

61. I.I. Lemann, "Diabetic Gangrene in the South," *Journal of the American Medical Association* 89, no. 9 (1927): 659–662, 660.

62. Eugene J. Leopold, "Diabetes in the Negro Race," *Annals of Internal Medicine* 5 (1931): 285–293, 292. See also Harold Bowcock, "The Diabetic Negro," *Diabetes* 1, no. 4 (1933): 109–110, 118.

63. Leopold, "Diabetes in the Negro Race"; Bowcock, "The Diabetic Negro"; John Herman Lewis, *The Biology of the Negro* (Chicago: Chicago University Press, 1942); Louis I. Dublin, "The Problem of Negro Health as Revealed by Vital Statistics," *Journal of Negro Education* 6, no. 3 (1937): 268–275, 274.

64. M. Gover, "Trend of Mortality Among Southern Negroes Since 1920," *Journal of Negro Education* 6 (1937): 276–288. Indeed, in the 1930s and 1940s, the *Journal of the National Medical Association*, the *National Negro Health News*, and the *Journal of Negro Medical Education* published relatively few articles on diabetes.

65. J.H. Jones, *Bad Blood: The Tuskegee Syphilis Experiment*, new and expanded edition (New York: Free Press, 1993); *Tuskegee's Truths: Rethinking the Tuskegee Syphilis Study*, ed. Susan M. Reverby (Chapel Hill: University of North Carolina Press, 2000); Susan M. Reverby, *Examining Tuskegee: The Infamous Syphilis Study and Its Legacy* (Chapel Hill: University of North Carolina, 2009).

66. Steward R. Roberts, "Nervous and Mental Influences in Angina Pectoris," *The American Heart Journal* 7 (1931): 21–35, 23.

67. I.I. Lemann, "Diabetes Mellitus in the Negro Race," *Southern Medical Journal* 14, no. 7 (1921): 522–525, 524.

68. L. Dublin, "The Problems of Negro Health as Revealed by Vital Statistics."

69. Lewis, *Biology of the Negro*, 283.

70. Hugh Wilkerson, "Problems of an Aging Population: Public Health Aspects of Diabetes," *American Journal of Public Health* 37 (1947): 177–188, 180. For the original study, see Hugh Wilkerson and Leo P. Krall, "Diabetes in a New England Town," *Journal of the American Medical Association* 135 (1947): 209–216.

71. *Diabetics Unknown* [motion picture] (1962), sponsored by the Public Affairs Committee, Inc. and the Conference of State and Territorial Directors of Public Health Education. Copy viewed at the National Library of Medicine (NLM Unique ID 8800470A).

72. See, for example, "Is Race 'Real?' a Web forum organized by the Social Science Research Council," available at http://raceandgenomics.ssrc.org (accessed May 25, 2010). See also Williams, "Race and Health," and Wailoo and Pemberton, *The Troubled Dream of Genetic Medicine.*

73. J. Marks, "The Realities of Races," in "Is Race 'Real?' "

74. N. Krieger, "If 'Race' Is the Answer, What Is the Question? On 'Race,' Racism and Health: A Social Epidemiologist's Perspective," in "Is Race 'Real?' "; Karter, "Race and Ethnicity"; Vivian Ota Wang and Stanley Sue, "In the Eye of the Storm: Race and Genomics in Research and Practice," *American Psychologist* 60 (2005): 37–45.

75. V. Navarro, "Race or Class Versus Race and Class: Mortality Differentials in the United States," *Lancet* 36 (1990): 1238–1240; Nancy Krieger, "Stormy Weather: Race, Gene Expression, and the Science of Health Disparities," *American Journal of Public Health* 95 (2005): 2155–2160.

76. For the National Institute of Diabetes and Digestive and Kidney Diseases, see "National Diabetes Statistics, 2007." For rates in Appalachia, see Centers for Disease Control and Prevention (CDC), "County Level Estimates of Diagnosed Diabetes," available at http://apps.nccd.cdc.gov/DDT_STRS2/NationalDiabetesPrevalenceEstimates.aspx (accessed July 7, 2010). This new Web site, released by the CDC in 2008, provides data about diabetes rates by region. According to this site, Logan County in West Virginia has the highest percentage of diagnosed diabetes—14.2% of the adult population—in the country. On Logan County, see Dan Hurley, *Diabetes Rising: How a Rare Disease Became a Modern Pandemic, and What to Do About It* (New York: Kaplan Publishing, 2010), 77. On other regions in Appalachia, see Meghan Holohan, "The Diabetes Dilemma," at the Diabetes Library at Ohio University, available at http://diabetes.boomja.com/index.php?ITEM= 81574; and "Diabetes in the Big Sandy Area Development District, 2005," available at http://chfs.ky.gov/NR/rdonlyres/D7D77EF6-FF86-4071-B566-BB7E1B694D54/0/BigSandy1.pdf (both accessed May 25, 2010).

77. For an excellent historical analysis of the way government data have created as much as recorded racial categorizations, see Melissa Nobles, "History Counts: A Comparative Analysis of Racial/Color Categorization in US and Brazilian Censuses," *American Journal of Public Health* 90, no. 11 (2000): 1738–1745. For a recent study that found that racial differences in the prevalence of diabetes disappeared when populations of similar socioeconomic status were compared, see L.B. Signorello, D.|G. Schlundt, S.S. Cohen, et al., "Comparing Diabetes Prevalence Between African Americans and Whites of Similar Socioeconomic Status," *American Journal of Public Health* 97, no. 12 (2007): 2260–2267. See also Claudia Chaufan, "Poverty Versus Genes: The Social Context of Type 2 Diabetes," *Diabetes Voice* 49 (2004): 35–37. For an example of an early 20th-century epidemiological study that linked class and disease but simultaneously rendered gender and race invisible, see Harry M. Marks, "Epidemiologists Explain Pellagra: Gender, Race, and Political Economy in the Work of Edgar Sydenstricker," *Journal of the History of Medicine and Allied Sciences* 58, no. 1 (2003): 34–55.

78. Krieger, "If 'Race' Is the Answer"; Williams, "Race and Health"; Audrey Smedley and Brian D. Smedley, "Race as Biology Is Fiction, Racism as Social Problem Is Real: Anthropological and Historical Perspectives on the Social Construction of Race," *American Psychologist* 60 (2005): 216–226.