In the months following Pearl Harbor, the U.S. government incarcerated more than 110,000 people of Japanese ancestry in ten remote concentration camps without due process of any kind (Fig. 1). When the camps closed, the War Relocation Authority (WRA) issued a series of reports evaluating nearly every aspect of camp administration and management. The authors described such noteworthy features as "careful advance planning" and responses to problems that "may have far-reaching significance for other agencies engaged in similar tasks." The WRA analysts used mortality and reportable-illness statistics to compare the incarcerated people of Japanese ancestry with the U.S. population at large, noting that the imprisoned had better overall survivorship. The implication of this finding was that the health-care delivery system in these camps was excellent. Until now no one has reviewed the deficiencies of the WRA health-care system and challenged their favorable self-assessment.

The WRA analysis of their health-care delivery system was flawed for several reasons. First, comparing people of Japanese heritage with residents of the rest of the United States, the majority of whom were of Euro-American heritage, was not valid: genetics, culture, lifestyle, and behavioral and health-risk factors are major confounders between the two populations. Instead, they could have painted a more accurate picture by comparing imprisoned Japanese Americans with those of Japanese descent who had not been detained.

Second, while the WRA required all camps to complete the same monthly public health forms covering hospitalizations, communicable diseases, vital statistics, and general commentary, this semblance of organization and intracamp standardization of records was an illusion. They did not require forms to be completed by the same counterpart in each camp, raising the prospect of inconsistency. Further, each camp's chief medical officer (CMO) decided arbitrarily which communicable diseases to report, and the selection varied from camp to camp; in some cases it appeared that the severity of the presenting illness, more than the specific disease itself, was the defining element for inclusion in the monthly report. Thus, comparison between the camps, much less with the population at large or any other population subgroup, is not possible because of the internal inconsistency of reporting. Yet in spite of the vagaries of the record-keeping system, a picture of health problems in each camp arises from other sources of information, such as WRA documents stored at the National Archives. For this study, I collected thirty-six life history interviews from formerly detained people and, for comparison, twenty-two testimonies from Japanese Americans who were not confined.

Conditions in the Camps and Their Effects
A number of factors compromised health care in the concentration camps: **poor planning and design, adverse environmental conditions, the contamination of food and water, overcrowding, inadequate staffing, and racism.** In the rush to incarcerate, the army transported tens of thousands to camps that were unfinished and poorly designed to meet the needs of the population. Interviewee Henry Kanegae reported that he and his family arrived at Poston in the Arizona desert to find the buildings and infrastructure incomplete. His sister fell into an open, unmarked water-main trench, which caused her to miscarry her first pregnancy. ²

In constructing the camps, the War Department appropriated the design of an army field base meant for young male recruits. There were no substantive provisions for families, young children, the elderly, or the invalid. The typical camp covered more than 640 acres of barren desert, high plains, or swamp (depending upon individual location). In preparation for the structures, **the land was stripped of native vegetation—a practice that led to subsequent problems with dust control.** Almost overnight, the centers became instant towns, ranging in population from 7,318 at Amache in Colorado to 18,789 at Tule Lake in northern California. ³ At their peak population, two sites even exceeded their official capacity. ⁴

Housing was in hastily built barracks that were divided into four to six individual "apartments" of which the largest was 24 by 20 feet and the smallest, 16 by 20 feet. ⁵ The green wood used for construction warped [End Page 604] [Begin Page 606] and shrank, leaving knotholes and cracks—depriving people of personal privacy, and allowing dust and sand to fly in unfettered during the rousing dust storms that were common to most sites. **The barracks, usually covered with tar paper, had no water taps, no toilets, and no cooking facilities.** The smallest room, designed to hold four, commonly housed a family of seven. Many people were required to share small living quarters with complete strangers. This overcrowding had the potential to affect public health.

The entire camp was laid out geometrically in a series of thirty-six blocks, like a giant chessboard. Within each block there were twelve to fourteen barracks, a mess hall, men's and women's latrines and showers, a laundry room, and a recreation hall. **This camp layout dictated communal dining, communal bathing, communal life at all levels.** There were lines for meals, lines for toilets and showers, even lines for leisure activities. ⁶ Institutionalizing the division between staff and imprisoned and accentuating a hierarchy predicated on race, **WRA personnel had separate and more luxurious housing and dining facilities.**

Besides residential quarters, there were administration offices and buildings, warehouses, and a hospital. The hospital facilities were generally described as adequate, "a full-service hospital" typical of what one would see in the army (Fig. 2). ⁷ Dr. Kikuo Taira described the Jerome facility in Arkansas as "a long building with the wards sticking out from a common hallway [with] . . . a morgue, . . . pharmacy, administration office, nurses station, [and] doctors lounge." ⁸

**Inadequate Medical Facilities**
Unfortunately, the lack of strategic planning meant that thousands of internees were transported to locations that lacked the requisite medical facilities and equipment, which compromised diagnosis and treatment in the initial stage of incarceration. By August 1942, all centers had basic hospital facilities except Gila River, in a remote southern Arizona location, which had to make do with a twenty-bed hospital and First Aid [End Page 606] Station that CMO Jack C. Sleath described as woefully inadequate. He expressed concern about providing care in the event of a contagious disease, which, given the crowded camp conditions, threatened all the camps. 9 He wrote again on 20 September 1942 that "we are considerably handicapped right now due to lack of X-ray facilities. Although the X-ray room is built, the lead lining is still on order and has not arrived at the job yet." 10 In fact, it was not until four months after internees began to arrive at Gila River, in November 1942, that the hospital building was finally completed. 11

Medical officers sent complaints to the Wartime Civil Control Administration (WCCA) regarding problems the government had created at all of the centers, but especially at Gila River, by not having it ready for occupancy: "There is a shortage or lack of ambulances at most WRA Projects. Gila River, for example, today reports no ambulances. With the hospital facilities as they are with the camps separated and 11,000 people at hand, ambulances become much more of a necessity than if hospital facilities were complete on the project." 12 As late as December 1942 at Gila River, needed equipment was still not in place: "It is especially noted that the need for x-ray services as Gila River will be one of the heaviest of all the Projects because it is one of the three largest and also because it is one of the three Projects plans [sic] to give special attention to tuberculosis." 13 On 9 July 1942 at Tule Lake, the patients themselves "suggested that they take up a collection to buy a standard pneumothorax apparatus such as the Davidson or McKesson." 14

Interviewee Paul Nakahara, M.D., related his own personal tragedy: while interned, his mother became quite ill. Since he was on staff at the camp hospital, he went to the CMO and asked him to send his mother to the nearest town hospital for an X-ray diagnostic procedure, as the camp had no X-ray equipment. The CMO turned down his request, saying that [End Page 607] the equipment was on order and that his mother would just have to wait until it arrived; when it finally did, her condition had worsened. Dr. Nakahara spent the next year watching his mother die. 15 No one will know whether earlier diagnosis and treatment would have prolonged her life, but the sheer callousness of the CMO is beyond comprehension. This CMO's attitude and medical incompetence finally caused the WRA to dismiss him.

People were lied to when told what supplies and equipment to expect when they arrived at the permanent detention facilities. For example, Alexander Leighton, a psychiatrist and head of the "Bureau of Sociological Research" at Poston, indicated some of the reasons for the Poston "Disturbance" that occurred in November 1942. He reported that "the Government made a number of commitments to the evacuees which it has not been able to fulfill": the WRA specified that there would be special food available for babies, small children, nursing mothers, and "patients under the care of a physician"; however, as Leighton continued, "no
such provisions were made until the project had been under operation for about 4 months. The community felt that many babies, mothers, and invalids suffered severely as a result of this." 16 In addition, the detainees were told they could expect "basic hospital facilities"--but, according to Leighton, "it was 3 months before basic hospital supplies arrived. It was impossible for evacuees and their physician to obtain many essential medicines. They believe that people died as a result of the inadequate equipment and great anxiety concerning health was manifest in the community through the summer." 17

At Heart Mountain, Community Analysis documents state, "the general expectation of the Japanese upon their arrival at the relocation center was that [the hospital] would be ready for them, but instead they had to work some months with an improvised surgery table, without linens, and with an inadequately trained staff of aids [sic]." 18 In a lengthy description of the conditions that led to a walkout of detainee medical staff at Heart Mountain hospital, there is ample evidence of the poor provisioning:

On November 24, 1942 [more than three months after the first detainee walked through the gates], . . . 60 percent of the 100 bed unit and 75 per cent of the 50 and 25 bed units had arrived. A number of items had been back-ordered, but important items such as sterilizers for each ward and the obstetrical delivery room had not yet arrived. . . . one of the two Caucasian nurses explained that: "We were giving baths in fire buckets. The beds consisted of army cot sans sheets and pillow cases. We had no towels, wash cloths, or soap. . . . We had no sterilizers but we had an electric stove. The water was terrible because of the rusted and oiled pipes, and it really was not fit to use. The water was hauled. There were two or three barrels in which the drinking water was kept. As for bath water, we would run the faucets all night and clean out the pipes. . . . The last important item which seemed difficult to procure was a microscope. . . . The laboratory had found possible to use two instruments of pre-medical students who had been evacuated. Since these two students had left the center, the hospital was without an instrument." . . . At the time . . . population of the Center was 10,400 people. 19

Harsh Climates

Adverse environmental conditions contributed to health problems and could not have been further from what the internees were used to. Arid desert and high plains regions were selected for Manzanar, Poston, Topaz, Gila River, Amache, Minidoka, and Heart Mountain. Tule Lake was in the center of a dry lake bed. The remaining two, Rohwer and Jerome, were located on Arkansas swamp land that had severe drainage problems. 20 Jerome librarian Eleanor P. Moore wrote: "We had rain . . . [the] whole block was flooded to the door sills. The boardwalks which are some eight inches off the ground were submerged in spots. It was like living on a house-boat. . . . it was just one vast lake." 21

The minimal shelter provided by the barracks offered little relief from either the heat or the cold. Southern detainment centers suffered more from the intense heat, and northern locations had little protection from the bitter cold. At Gila River, Community Analyst G. Gordon
Brown wrote: "In the summer, the only climate I have so far seen, it is extremely hot. The highest recorded temperature since I have been here was 120 degrees in the shade. If it gets below 100 degrees, the inhabitants say it is cool." 22 [End Page 609]

One of the major health consequences resulting from the excessive heat was increased infant mortality. Death within the first year of life was the third-largest source of mortality in the camp system. According to the WRA's 1946 final report, there were 98 stillborn and 133 neonatal deaths (to six weeks of age). At least some of these deaths were preventable. Of the two centers located in the hottest regions, Gila River and Poston had the highest number of stillborn deaths, 18 and 11 respectively. 23 Interviewee Dorothy Shimazu, who had been imprisoned in Poston, related how women on either side of her in the obstetrics ward had lost their babies due to dehydration because of excessive heat in the hospital. 24 Her testimony echoed WRA files at the National Archives. Leighton wrote in September 1942: "During the summer a number of babies died in the hospital. It was believed by most of the evacuee doctors and the greater part of the community that they died from dehydration and that this could have been avoided had coolers been placed in the children's ward." 25

A letter of 3 March 1943 to WRA Headquarters from Gila River stated: "Temporary hospital facilities were set up in the late summer of 1942 providing for emergency work only for the first movement of people to this area. Two infant deaths in the nursery were reported, however, at that time as due to heat." 26 This was still a problem at Rohwer as late as 6 April 1944, when Acting CMO T. B. Cracroft wrote C. B. McGowan of the Procurement Office:

Air conditioning in the Nursery may save infant lives. Last summer in the extremely hot weather this situation [sic] became very acute. Several expedients were resorted to save infant lives. Dispite [sic] these desperate efforts the temperature in the nursery for hours at a time was above 104°. Such a continuous temperature is a definite hazzard [sic] to infant life. The hospital management will continue to do every thing possible to help the babies live this summer but it cannot assume responsibility for infant mortality from this preventable cause. 27

It was not only infants who were at risk. Interviewee Toko Hamasaki described how his son came down with German measles and ran a high fever of 104°. The child's febrile condition was exacerbated by the excessive heat and resulted in permanent hearing loss in one ear: "[We] rushed him to the hospital, but there weren't too many doctors there. That night the lights weren't on in the hospital and no water. My son was real sick. So my wife stayed with him all night and kept trying to cool him down. . . . Because of that he can hardly hear in one ear." 28

The cold also took its toll on the inhabitants of the detention centers. The first winter of occupation was the worst, as little in the way of winterization had been done to the draft-ridden barracks. The lightweight California clothing of the newly arrived detainees aggravated this situation. Interviewee Dick Fujioka described Heart Mountain in northwestern Wyoming:
The first winter we spent there, the temperature was thirty degrees below zero. From southern California to up there. And then with the housing as it was, just the tar-paper barracks, and the only heat we got was one pot-bellied stove that we used to keep filled with coal to keep the room warm. . . . I remember the nail heads on the ceiling where moisture would gather and form into ice. 29

A 1944 Tule Lake report described the climate's effect on health: "The advent of colder weather brought about an increase in surgical outpatients." 30 Project Director (PD) Paul Taylor described the emotional impact of the onslaught of cold weather at Jerome: "The wood supply is still critical, however, and as soon as it turns cold again people will get panicky." 31

Dust and Disease Vectors

Dust was a major problem at most of the camps. In the spring of 1943 James G. Lindley, PD for Amache, complained: "Dust arising in the center during periods of moderate and high winds, has become a recognized hazard to health here, and block managers are asking that some kind of sprinkling system be installed in order to reduce the amount of soil carried by the wind." 32 The community analyst took up the call in June 1944, indicating that the problem still had not been resolved: "The Amache residents experience dust storms, three or four times a month for eight months out of a year. The only adequate protection from the dust storm is planting of vegetations [sic] and trees. The water shortage is one of the major problems of Amache." 33 Poston was another of the camps that suffered tremendously from the dust storms.

However, of all the detainment locations, Gila River had the most dangerous dust problem, because coccidioidomycosis was endemic to the region. Correspondence directed to WRA headquarters stated that the countryside is extremely dusty and subject to daily strong winds necessitating closing of hospital windows and doors or the hazard of quantities of dust throughout the buildings. Many of the more critical areas in the hospital, for example, the surgery building, the obstetrical delivery rooms and the new-born nursery have required sealing of all windows, doors, ceiling vents and wall, ceiling and floor cracks, in order to avoid the dust hazard in these critical places This area is a recognized (coccidiodomyosis [sic]) valley [sic] fever, endemic area, the causative agent being dust born. Cooling, therefore, is essential. 34

The WRA final report listed only thirty cases of coccidioidomycosis--all from Gila River; however, Michelle Gutierrez has reported that Poston had cases as well. 35

Dr. George Baba described his experience with the disease at Gila River:

The barracks were so poorly constructed that every time any wind came up, the dust would come up through the cracks and they'd inhale it and come down with cocci . . . they'd come down with what sounded like the flu, and some would get better, but some wouldn't. At Gila, we seemed to have had all the cocci manifestations every [sic] written up. They would get skin
conditions called erythema nodosum... cocci meningitis, cocci arthritis, cocci pneumonia, and cocci flu... we were sending sputum and blood to Dr. Smith, a public health doctor at Stanford, who became an authority on coccidioidomycosis... I think we got to be fairly expert on cocci, too, but there was nothing you could do, except make the diagnosis. 36

It is clear from Dr. Baba’s comments that coccidioidomycosis was far more prevalent than the thirty cases officially recognized by the WRA—an example of the inaccurate record-keeping. One informant described how her sister had contracted the chronic form of the disease at Gila, and indicated that she has continued to suffer disability from it to the present day. 37

**Asthma was another illness that haunted the detained.** Interviewee Dr. Mary S. Oda described the death of her older sister from asthma that she contracted from the dust storms at Manzanar in eastern California (the etiology of asthma pinpoints allergens, such as dust or pollen, inhaled in the air). Dr. Oda’s sister entered Manzanar with no previous history of the illness and was dead within seven months of leaving camp after a severe asthmatic attack—a not-so-indirect consequence of incarceration. 38 The increased incidence of asthma throughout the WRA camp system was noted in an August 1944 report that indicated that Amache was receiving many transfers for health reasons, and for asthma in particular, because the Colorado climate was thought to be beneficial: "The Chief Medical Officer reports a marked increase this year in the number of virilance [sic] of hay fever and asthma cases. Persons who never were afflicted before are now suffering severely." 39

**The mosquito situation proved hazardous in Arkansas, where malaria was endemic to the local area.** Jerome had twelve of the fourteen reported cases of malaria, most of which occurred in 1943. 40 On 10 April 1943 Robert P. Lowe, acting sanitary engineer for the WRA, described the "serious problem concerning malaria control at Arkansas Centers" and recommended having all facilities screened to control the mosquitoes. 41 Efforts to drain the swamp land and spray mosquito breeding grounds must have worked, for on 12 August 1943 Jack Sleath, acting CMO at Jerome, reported that the "malaria control report [was] very good." 42

**Poor Sanitation and Diet**

Probably the single largest source of illness in the camps—certainly, the one that affected the most people—was the poor state of sanitation; [End Page 613] **water, food, and milk sources were seriously contaminated.** This was a problem in all camps initially, and in some cases the problems continued throughout the incarceration. The last date of a report filed on contamination was August 1945 at Gila River.

One primary cause of water contamination was the use of shoddy construction materials. As Colorado State Board of Health Sanitation Officer Jack W. Davis reported on 13 January 1943, early difficulties were encountered in the sterilization of water mains due to the use of various types of reclaimed steel pipe having been formerly used in oil wells and gas lines.
supplies. These lines are thoroughly coated with rust and emitted gassy odors whenever hydrants were open. However, due to constant flushing with strong chlorine solutions, the rust, gassy odors and bacteria count have now been removed and a residual chlorine is evident at all parts of the camp. 43

Water contamination continued to plague Jerome as late as 5 November 1942, when D. W. Boardman, acting CMO, wrote: "Cases of gastroenteritis (diarrhoea) continue to occur. It seems likely that this is caused by the water supply, which is, and will be, exposed to contamination while new plumbing is being laid and opened. . . . The kitchens have been asked to supply boiled drinking water wherever possible." 44

Both Arkansas centers continued to experience problems with their water supply. They found potable water difficult to maintain, while nearby towns experienced no difficulty using the same water supply. The Arkansas State Board of Health inspectors found "coliform contamination" in various locations around Jerome on 11 January 1943. 45 At Rohwer, the story was the same. On 1 February 1943, G. D. Carlyle Thompson, WRA CMO, wrote an urgent letter to the local administration: "Arkansas State Board of Health report . . . shows coliform contamination in the water system. Urge immediate closing of drinking fountains on project and use only boiled water for human consumption until proper sterilization [sic] of water . . . is obtained." 46 Then again on 27 August 1943, when things should have been well under control at Jerome, Assistant PD W. O. Melton wrote: "To date chlorine solution has not been applied to water in sufficient quantities to meet health requirements." 47 [End Page 614]

Manzanar had problems early on. Dr. Yoshiye Togasaki, a specialist in public health interned at Manzanar, described her repeated efforts to obtain a clean water supply:

I was worried over the water supply that was coming straight from the mountains . . . there was no filtering, no chemical treatment. . . . they said this was pure melted snow water so I didn’t have to worry. I said, "[W]hat about the cattle and sheep that are crossing the water[?] . . . [W]hat about the campers that use the streams[?]" . . . "[W]e don’t need it," he said. So, I had the people collect anything that they thought was abnormal in their water and put it into little jars, and they took these to the administration office and asked, "[H]ow do you get rid of this in the water?" . . . they put in a filtration and chlorination system, and not only that, I understand all of the camps got it for their drinking water eventually. . . . I also protested about the sewage, because they didn’t have a sewage system yet, but being military, they knew about such things and quickly contained the open sewage. 48

Contrast Dr. Togasaki’s testimony with the report that Manzanar’s sanitation engineer wrote on 22 June 1942: "It was noted for some time after May 11th the Manzanar water system was badly contaminated, but chlorination has gradually improved it until most of the contamination has cleared up." 49
The food supply was a source of illness, as well as a continued source of controversy in the camps. Communal kitchens with cooks who generally had no prior experience or training, and the lack of proper equipment, all contributed to problems. People stood in line for their food and ate at picnic-like tables; more than any other camp activity, interviewees described how this eating arrangement broke down the family social order. The social cost was not the only problem: inmates complained about inadequate quantity, poor quality, the lack of a balanced meal, and the lack of Japanese foods. They felt they were being indoctrinated into a dietary "American way of life."

Leighton filed this report on the November 1942 protest by Poston inmates:

During July, August, and early September there was great dissatisfaction with the food and much worry about health on account of it. The people could not understand why they didn't get the same rations as the army. The indications [End Page 615] are that the food was inadequate in both quantity and quality, but the [daily] allowance per person has been raised since from 35 cents to 45 cents.

Even in 1942 dollars, 12 cents a meal was barely adequate. It was not until after the Poston protest that the administration raised the budget for food allowance. G. Gordon Brown, community analyst for Gila River, wrote about the food budget on 25 August 1943: "The cost per day per person is 40 cents. I leave to your imagination the kind of meals that can be provided at 13 cents per meal." The problem was not confined to just Poston or Gila River: Mine Okubo wrote about Topaz in central Utah that "the allowance for food varied from 31 cents to 45 cents a day per person. Often a meal consisted of rice, bread, and macaroni, or beans, bread, and spaghetti."

The low food budget undoubtedly contributed to the poorly balanced diet and affected the health of the internees. In a diary entry of 29 September 1942, a Poston woman wrote:

We went to the clinic and I sure am relieved to know it isn't too serious about my daughter's eye [bloodshot eye]. Its [sic] a lack of Vitamin [sic] A in her diet. I must begin giving her cod liver oil every day the year around from now on through the duration. The Doctor says in Poston the children aren't able to get the vitamins [sic] thru daily diet. Man what a place. No proper food for children.

While the quality of food improved once the inmates were allowed to grow crops, the problem recurred when resettlement depleted the camps of people able to plant and harvest the crops.

Many of the illnesses that arose from the food supply were linked to unsanitary food handling practices, lack of proper equipment, and inadequate refrigeration. Of the 199 official cases of acute food poisoning reported in 1942, all were from Minidoka in Idaho and occurred between September and October; they were found to be from the salmonella group. Acting CMO J. F. West wrote, regarding Poston: "I am attaching a summary of communicable diseases
occurring in Camp I in May [End Page 616] 1944. There were six cases of diarrhea during May. Eradication of flies in mess halls, daily cleaning of ice boxes and thorough washing and sterilization of dishes will help to reduce greatly the number of cases of diarrhea." 55

The WRA final report indicated only fifty-seven cases of dysentery. With the considerable variation in reporting diseases from center to center, this does not appear to reflect the actual incidence of dysentery for all the camps. Eight deaths were attributed to diarrhea, enteritis, and ulceration of the intestines. CMO D. R. Collier indicated that diarrheal epidemics may have been more than occasional when he requested more medicine for treatment: "In Topaz we have had a number of minor epidemics of diarrhea--both among the residents and the appointed staff." 56 These episodes were so frequent in Manzanar that interviewee Dr. Oda reported that the hospital staff would say "The twins are visiting again, Dia and Rhea." In Jerome, dysentery was so common it was called "Jerome disease."

The most serious consequence of the dietary inadequacies was for the diabetics, who endured a poor selection of appropriate foods and no other option but to starve. Diabetes claimed thirty-nine lives between 1942 and 1945. Interviewee Mabel Ota poignantly described how her father died from the lack of a proper diet and inadequate medical care. He had been able to control his diabetes through diet until he was incarcerated. Ota stated that she once counted five starches on their plates--an inappropriate meal for a diabetic. 57 R. N. Crawford, supervisor of public health nursing at Poston Camp II, wrote:

We now have 15 diabetic patients. One patient died this month but 2 were diagnosed during the month. It is fairly simple to teach the patients how to take their own insulin and examine their own urine. The problem that presents itself daily is the control of the diet. The patient, the nutrition aide, the physician, the chef, and all concerned are willing to do as much as they can but are limited by circumstance to do a good job. 58

Lack of supplies also hampered the adequate care of diabetics at Tule Lake. On 9 July 1942, A. B. Carson complained: "The deficiency list [End Page 617] which is enclosed is simply a preliminary one. . . . Some of these items can well wait. We do not have, however, any facilities for blood chemistry, including blood sugars, and, as you well know, we have many diabetics." 59

A contaminated milk supply hits one of the most vulnerable of all populations: the young. Poston had problems obtaining milk that was not contaminated with bacteria. A February 1944 report stated: "The milk problem consisted of receipt of unlabeled bottles containing milk which tested in the Health Section laboratory as high as 278,000 bacteria content. Grade A limit is 30,000, and anything over 50,000 is not supposed to be safe." 60 Jerome and Rohwer also had milk safety problems. E. coli contaminated the supply, and defective pasteurization was thought to be the cause. Jack Sleath sent a teletype to Washington on 12 August 1943, reporting that the "Sanitation Report [for] Jerome shows five plate counts on milk all over 1,000,000. Four out of thirty water samples positive E-Coli." 61 Less than two weeks later, CMO Joseph L. McSparran wrote regarding Jerome and Rohwer: "From intensive
study of the bacterial count of the milk we find that the best showing thus to date . . . is sixty
times greater than the standard laid down by the United States Army." 62

Heart Mountain, on the other hand, seemed to have a more responsible milk supplier,
as noted in a report that the "bacterial count in the milk obtained from Cody Dairy was high for
a few days, but within a few days the count was brought down to within the normal range so
the milk is now perfectly safe." 63 By far the worst documented record on milk safety was held
by Gila River. Sanitary Engineer Lowe wrote on 28 August 1945 that "the milk supply has been
very unsatisfactory. . . . Bacterial standards of the milk have very seldom been met. In fact, this
supply is consistently the unsafest of all War Relocation Authority fresh milk sources." 64 [End
Page 618]

The Specter of Epidemic Disease

Another serious environmental hazard was the crowded conditions in the centers.
Commonly, seven people occupied a mere five hundred square feet of living space. In a memo
to Lowe on 8 January 1943, the situation at Tule Lake was described as follows: "collectively the
housing conditions are satisfactory. However, there are numerous complaints of the
inadequacy of space--five to seven persons occupying rooms only large enough to properly
house three to four persons." 65 This, coupled with the fact that nearly three hundred people
shared the same public restrooms, the same eating facility, and the same laundry, created a
situation that simmered like a pot of old stew. The potential for disaster and massive
epidemics was a constant threat of which the captive population of the various camps was only
too well aware. Communicable diseases were barely held at bay. At Poston, Acting CMO J. F.
West wrote: "I am attaching a summary of communicable diseases occurring in Camp I in May
1944. There were 13 new cases of athlete's foot which indicates that more attention needs to
be given to daily cleaning and disinfecting of shower rooms. This is the only way to prevent
further spread of this disease." 66 However, the real cause for concern was the transmission of
life-threatening diseases.

Tuberculosis was arguably the single largest public health threat facing the interned
population. On 29 September 1942 the WRA anticipated sixteen hundred tuberculosis patients,
or about 1.5 percent of the incarcerated population. In what sounded like desperation, E. M.
Rowalt, then acting regional director of the WRA, wrote to Colonel Karl R. Bendetsen,
mastermind of the "evacuation," and head of the WCCA: 67

The problem of caring for tuberculosis discovered among the evacuees at the Assembly
Centers and relocation centers is rapidly becoming increasingly serious. . . . With the type of
living facilities in the assembly centers and the projects, the need for isolating discovered cases
of tuberculosis is of even greater necessity than in the normal community." 68 [End Page 619]

He indicated that patients would require "continued medical observation," and requested that
"the war department provide additional hospital facilities to accommodate at least 600 bed
Hospital facilities at the various Relocation centers have been provided by the U.S. Engineers. These facilities, when completed, will discharge the obligation of this headquarters insofar as the memorandum agreement referred to is concerned. This agreement is predicated on the provision of the minimum essential of living, viz., shelter, hospital, etc. In view of this agreement, it is not possible for favorable action to be taken on the instant request.

This underscores the government’s response to such a major public health problem. First, there was a significant need for medical facilities; and second, the Army and WCCA were averse to providing these essential services. Instead, it seems clear that their intent all along was to create a concentration camp, not a "colony" or a "relocation center."

Although no one knew the exact etiology of tuberculosis in the early 1940s, even the interned populace could see the problems facing them with the crowded conditions in camp. In February 1943 at Topaz, this concern was acknowledged: "A source of worry among the people has been the increase in the number of tuberculosis cases since their arrival at Topaz. We realize the lack of supplies and equipment in the Topaz Hospital but we recommend that tuberculosis tests be made available to the residents so that tubercular cases may be diagnosed before they are too advanced." Complicating matters further, the Superintending Nurse at Minidoka indicated that uprooting people from their homes and transporting them to the camps had "stirred up otherwise passive T.B.'s into active T.B.'s." 

Medical personnel faced a conundrum at each camp: not only were the crowded conditions breeding potential new cases, but Japanese culture stigmatized tuberculosis. Julie Sumie Kikuchi states that because of the cultural stigma, there was a "quiet legacy" of tuberculosis in the internment camps, as people hesitated to seek treatment for fear of [social ostracism]. Also, it was difficult to find volunteers to work as nurses or nurse's aides. In an interview at Gila River, two health-care workers put it this way: "Our race have extraordinary fear for TB patients and have tendency for trying to avoid them. There are only 12 helpers where we need 30." Since Gila River was one of the locations selected for a tuberculosis unit, the problem of caring for patients was much greater there. The staff situation was described thus:

The hospital problem is to care adequately for the 57 tubercular patients. Not enough evacuees can be found willing to undertake the task and a number of nurses' aides have resigned rather than be assigned to the tuberculosis wards. The result is that the patients are not too well cared for and must do much for themselves what should be done by others.
Eventually, the WRA instituted an education program to encourage family members to assist and reassure nurse's aides. This helped to alleviate the staffing problem at some of the centers. 

Fortunately, a TB epidemic never developed in the detention centers. However, excluding deaths prior to one year of age, tuberculosis was the third leading cause of death in the camps, accounting for 206 deaths, of which 145 were men (illustrating the variability of reporting, 153 cases were reported from Poston, while Tule Lake reported only 10). TB presented a complicated social and political dilemma, which was solved partly through public health education and partly through the response of the detainees themselves.

A second major disease that had the potential to affect hundreds in the overcrowded conditions of the camps was polio, about which little was known at the time. Three camps--Gila River, Amache, and Poston--had a total of nineteen cases of poliomyelitis, and Poston reported one fatality from the disease. (This is in contrast to the final report put out by the WRA in 1946, which listed no deaths from polio--another discrepancy in record-keeping.) On 20 March 1943 Ralph Gelvin, Poston acting PD, wrote a concerned letter to Washington: "Some four weeks ago two cases of anterior poliomyelitis were diagnosed and one fatality occurred just about the same time, which was also diagnosed poliomyelitis of [End Page 621] bulbar type. At the present time we have in isolation four cases of poliomyelitis with varying degrees of muscle weakness." W. McD. Hammon, M.D., an assistant professor of epidemiology, reported:

It would seem probable that to date there have been six cases of poliomyelitis, one fatal and two with almost complete recovery. There have probably been a number of undiagnosed abortive cases. With the crowded conditions, the intimate contact between large groups and the unrestricted travel between camps, it is quite likely that as the season becomes warmer more cases will develop.

By August 1943, the annual General Sanitation Report for Poston Camp III summed up the situation, stating that there were two episodes of polio contagion in the camp: "There were four cases of poliomyelitis disease broke out in the month of February. . . . in May the second group was struck with poliomyelitis." A smaller outbreak at Amache resulted in a nearly complete quarantine of the camp. Interviewee Charlotte Yamaguchi had planned to visit her parents at Amache, but was turned away because of the quarantine. The September 1943 Summary of Monthly Reports stated:

With two cases of poliomyelitis in the center hospital, the Chief Medical Officer recommended that all possible precautions be taken to prevent the spread of the disease. Visitors to and from the center have been discouraged, and in most cases, prohibited. All public gatherings, except schools, were canceled. Residents were asked to take all precautions possible in order to protect themselves and their neighbors from any possible epidemic.
By the end of October, the emergency had abated at Amache. 84

Typhoid was a dreaded disease in the war years. Epidemics were avoided by vaccinating the population for typhoid, paratyphoid, and smallpox. A needle greeted those who had not been vaccinated before their arrival at the permanent camps; nevertheless, some people were missed, and a total of five deaths occurred from the disease. At Poston, Ralph Gelvin, acting PD, reported on 20 March 1943 the illness of "one [End Page 622] of the very few people who were not immunized against typhoid on arrival at this camp and unfortunately, he was working in one of the mess halls. This man died after a few days. After investigating the particular block and mess hall, we found one mess hall worker we have reason to believe is the carrier." 85 Minidoka reported a typhoid epidemic. 86 However, the WRA 1946 final report indicated just five cases and two deaths for the entire incarcerated population; if this number is to be believed, then the "epidemic" at Minidoka totaled only four cases. Whatever the true number of cases, it appears that typhoid vaccination prevented a minor public health crisis.

Staff Shortages and Racism

Many things contributed to poor medical care, including inadequate staffing. From the beginning, the WRA relied on the cooperation and expertise of imprisoned health-care professionals. The war effort had effectively drained the pool of available medical personnel, and the lack of trained staff echoed through the WRA camps. Caucasian physicians and nurses supervised imprisoned professionals who were sometimes more knowledgeable or experienced than their white counterparts. Sheer numbers paint the picture: at Heart Mountain during its peak employment, the medical staff included one white physician, eight physicians of Japanese heritage, five white RNs, and ten Japanese American RNs. Heart Mountain CMO Charles E. Irwin noted that "the plans for the Heart Mountain Hospital call for some eighteen to twenty Caucasian nurses. . . . At no time in the history of the project has their allotment been achieved." 87

Nurse's aides, all of Japanese descent, provided the bulk of patient care. Recruitment and retention proved difficult. For the year August 1942 to July 1943, Heart Mountain employed a total of 165 women whose average length of service was less than thirteen weeks. The community analyst who reported these statistics cited "a relatively low average age, . . . a problem of discipline, . . . the emotional problems of evacuation, and the inadequacies of hospital organization prior to June 30, 1943" as reasons for the high rate of turnover. 88 It is clear the detainees themselves provided most of the health care, and with no representative voice in [End Page 623] management or administration. Without their volunteered services, the WRA health-care system would have been an unmitigated disaster.

The adversities of camp life, institutionalized professional subordination, and vastly improved opportunities on the outside led some interned health-care workers to resettle as soon as they were able. In a statement of cultural solidarity, other dedicated professionals responded by remaining imprisoned and caring for their fellow internees when they could
easily have relocated elsewhere in the United States and earned substantially higher wages. The captive populace responded by taking up a collection of what little money they had to augment the health-care staff's meager camp earnings, in appreciation for their efforts and as an inducement to stay.

Varying degrees of paternalism and racism intensified the problems of retention of health-care professionals and proper patient care. The last paragraph of a report on a hospital strike at Heart Mountain stated that the Caucasian staff had difficulty getting along with "the Japanese members of the staff"—underscoring a pervasive tension present in all camps to one extent or another. How this underlying tone of racism affected health can be seen in the following excerpt of observations from Gila River:

June 26, 1944 Block 74, Age 56, Housewife, An Issei. We hear that a maternity case was not taken care of properly and fear is prevailing for young people who are going to deliver the child. . . . Dr. P-- has not good reputation. Such expression as "Don't care about Japs." "They are the race to live long anyway." May mean all right with Dr. P-- but spoils the feeling of the residents.

June 20, 1944 Block 3-- , Age 52, the Block Manager, Produce, An Issei. Dr. P--, is going on a vacation: perhaps he may not come back.

In an extensive account at Gila River, the community analyst indicated just how deep the racism ran:

The hospital has always been a focus of unrest and certain changes which have occurred there in the past three months have caused general concern. . . . The hospital staff, in general, felt that the Senior Medical Officer did not trust them, considered them as people of an inferior status and to quote one of many utterances treated them as "natives". . . . His distrust was shown by the close check he kept upon the issuing of certain supplies and his unspoken belief that evacuee doctors' right to prescribe would be abused if not persistently watched. . . . This attitude was felt to exist not only in the person of the Senior Medical Officer but in some of the senior Caucasian nurses. It was remarked that at least one of them . . . assumed the superior race attitude unconsciously and took it simply for granted. It was also resented that the Caucasian nurses were nearly always given supervisor's jobs regardless of their ability related to that of trained evacuee nurses. The dissatisfaction on the part of the medical staff was intensified by the attitude of the Chief Medical Officer of the W.R.A. [G. D. Carlyle Thompson]. He added to their resentment and, at the same time, increased the fear and insecurity on the part of evacuee physicians by indicating that they could be transferred from one center to another at will and that their assent to such transfers could be assumed. Accordingly a number of them indicated their intention of relocating or joining the armed forces. They felt that if they were to be moved about, they may as well put themselves in a better legal and economic situation.
It is believed, rightly or wrongly, that a majority of the Caucasian staff adopt, to some degree or other, the attitude of race superiority and consider that the evacuees must always be in an inferior position. This is implicit in all that is said; it is also frequently stated explicitly [sic]. 92

Marvin Opler reported a problem with the CMO at Tule Lake: Dr. Pedicord's management style was characterized as "autocratic." The situation was "not helped by a tendency, quickly reported and broadcast in the colony, to refer to Japanese-American physicians and patients as 'Japs'"; replacing Pedicord was "hailed by both resident doctors and colonists as the solution to the problem." 93 On one occasion, Thompson, the physician in charge of the entire WRA health-care system, spoke at a staff meeting in the summer of 1942. A detainee in attendance recounted how disturbed he was with Thompson's racist tone:

One of the things that I noticed . . . was his continual unconscious stress of separation between the two groups, Japanese and Caucasians. He constantly addressed the audience as "you and your group" and spoke again and again of the "Japanese group." These terms were used in contrast to the "we" which always seemed to include Dr. Thompson himself. The prominence of the division of the "we" group and "you" group in Dr. Thompson's talk indicated to me a considerable consciousness of racial separation. 94

This undercurrent of racism permeated the WRA medical establishment, and at times it broke into turbulent rapids. In a letter dated 2 November 1943, one Tule Lake internee described a riot that broke out after a meeting: "The only violence was the beating up of Dr. Pedicord, the head of the hospital. A bunch of kibei boys pulled him out of his office, kicked and badly injured the doctor. Two nurses carried him back into the hospital after he was unconscious." 95

The circulation of rumors was inevitable in a situation where the WRA administration repeatedly lied to detainees. Rumors about medical care illustrate the level of distrust the imprisoned population felt toward the Caucasian medical staff. It is not surprising that the detainees preferred treatment by the Issei and Nisei physicians. A fifty-eight-year-old Issei reported on 27 June 1944 that "we heard rumors that babies died in Gila on account of heat: that babies are in wash tubs with water on account of heat: that without cooler it is impossible to stand the heat." 96 At Gila River, this particular rumor was at least partially true: as discussed in the section on climate, several babies did die from dehydration.

A rumor that circulated at Poston showed how their sequestered situation worried detainees: "During the summer all kinds of wild rumors flew about; coyotes were said to be digging up the graves, and hearses were coming in the night to haul off the countless bodies of those who had died from the heat and inadequate diet of Poston." 97 Confidence in the medical care given by Caucasian staff was obviously not high, and this must have affected patient care.

Conclusion
The evidence supports the determination that the WRA health-care delivery system was mismanaged and poorly administered, a situation mitigated only by the contribution of detained health-care professionals. This directly affected the health status of incarcerated individuals, some of whom suffered more than others. While collectively many of the detained had greater access to health care than before the war, individually, the deficits of the system caused deaths and disability that could have been prevented. In comparison with members of the detained population, no Japanese American interviewee who remained at liberty suffered from repeated food and water contamination; none was exposed to coccidioidomycosis or malaria; none experienced problems with the control of diabetic conditions; none reported newborn mortality due to dehydration. The problems that the incarcerated encountered were a direct result of the internment and the deficiencies of the system.

The remote, unsuitable location of the camps sorely tested health care. Temperature extremes and dust storms plagued the inhospitable regions and contributed to a disease burden of coccidioidomycosis, malaria, and asthma. Structural solutions to mitigate the climate, such as cooling apparatus or insulation, occurred late in the existence of the camps, if at all. Appointed health-care personnel never approached the numbers mandated by the U.S. Public Health Service, due in part to the intolerable locations and substandard living conditions. Poor design dictated overcrowding and taxed the health-care system's control of contagious disease.

Problems arose first with the premature transit to unfinished facilities that were ill equipped to handle the influx of a large number of people, and in particular with incomplete hospital structures that lacked rudimentary medical supplies and equipment. The WRA, with its use of shoddy materials, inadequate attention to safe food and water supplies, and lack of training of food-preparation personnel, overlooked basic public health measures.

Systemic racism permeated the health-care system, resulting in a distrust of Caucasian health-care personnel and resentment and tension in the ranks of the detained health-care staff. This was compounded by individual racism on the part of Caucasian physicians and nurses, which erupted into violence and mass protest on occasions. In sheer numbers and level of trust, the detained health-care staff was the first line of defense for the incarcerated population and the primary reason that major public health problems were avoided in the centers.

In the beginning of this article, I cited WRA reports that documented its involvement in this dark period of American history. Its use of what have been shown to be inaccurate and inconsistent records for comparison with national statistics challenges its conclusions. Roger Daniels, Michi Weglyn, Frank Chuman, Arthur Hansen, Lane Ryo Hirabayashi, and others have reported in numerous publications on the financial, political, constitutional, and social consequences of Franklin Roosevelt's decision to uproot 120,000 people. It is hoped that this review of adverse health experiences will add to the body of evidence that has
accumulated to demonstrate the senselessness of such incarcerations, and to stimulate public policy discussions on analogous situations.

In his recent book, Chief Justice William Rehnquist warns that there is no reason to expect future wartime restraints on individual freedoms to be any different from that ordered by Roosevelt. But given the experience of Japanese Americans during World War II, he concludes on a hopeful note: "The laws will thus not be silent in times of war, but they will speak with a somewhat different voice." 101 The system failed Japanese Americans during World War II. Half a century later one health legacy is the trauma that can still be heard in detainees' voices and which, for some, echoes in the lives of their children. 102

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