

The Tularosa Basin Downwinders Consortium (TBDC) is a grassroots organization that was founded in 2005. Our purpose is to bring attention to the negative health effects suffered by the people living adjacent to the Trinity test site subsequent to their overexposure to high levels of ionizing radiation that occurred after the atomic bomb test at the Trinity Site on July 16, 1945. For more information about our organization, please go to: www.trinitydownwinders.com

DID YOU KNOW?

- 1) There were families living as close as 12 miles to the Trinity test site in 1945 and there were thousands of families, children, women and men living in a 50 mile radius. We now know as a matter of fact that there were close to 500,000 people living within a 150 mile radius to the site. The Site is often described as remote and uninhabited but obviously this is not true.
- 2) The bomb was a plutonium based bomb and it was packed with 13 pounds of weapons grade plutonium but only 3 pounds of the plutonium fissioned. The remaining 10 pounds of plutonium was joined with the soil, sand, animal and plant life and incinerated. The resultant fireball exceeded the atmosphere and penetrated the stratosphere traveling more than 7 miles high.
- 3) Plutonium has a half life of more than 24,000 years or 7000 generations. Once the radioactive ash fell from the sky as fallout it settled on everything - on the soil, in the water and on the skin of every living thing both human and animal.
- 4) In 1945 most if not all the small villages adjacent to the Trinity Site had no running water. The water sources at the time were cisterns, holding ponds or ditches. As a result of the fallout, the water sources were highly contaminated.
- 5) In 1945 there were no grocery stores in the small villages surrounding the Trinity site. All the meat, dairy and produce people consumed was either raised, harvested or grown by them. It too was contaminated.

(Continued on back)

- 6) Since 1990 the US Government has been compensating "Downwinders" who lived close to the Nevada Test Site. The fund set up to pay partial restitution and medical care is called the Radiation Exposure Compensation Act (RECA). The Downwinders in New Mexico have never been included or paid restitution although they were the first people to be exposed to radiation any place in the world.
- 7) The fund has paid out more than 2.5 billion dollars in claims and provided much needed health care coverage to some that qualify.
- 8) The TBDC is fighting for the same partial restitution and health care coverage.
- 9) On June 27, 2018, the TBDC testified before the U.S. Senate Judiciary Committee about the need to amend RECA in order to compensate the New Mexico Downwinders. The testimony is available at: <https://www.judiciary.senate.gov/meetings/examining-the-eligibility-requirements-for-the-radiation-exposure-compensation-program-to-ensure-all-downwinders-receive-coverage>. The hearing begins at 20 minutes. Tina Cordova, co-founder of TBDC, begins her testimony at 1:02:20 minutes.
- 10) The TBDC is working to make certain the amendments to RECA introduced in both the U.S. House and Senate will move out of the committees and onto the floor of both the House and Senate for a vote. Call or email your US House and Senate members and ask them to support House Bill #H.R. 5338 and Senate Bill #S.2798. Both bills have bipartisan support.
www.house.gov/representatives/find-your-representative
www.senate.gov/senators

To help the TBDC, please sign-up to receive email alerts at www.trinitydownwinders.com Please support the TBDC with your financial contribution. Send checks made out to the TBDC care of Tina Cordova, TBDC, 7518 2nd St. NW Albuquerque, NM 87107



Tularosa Basin Downwinders Consortium (TBDC)

FACT SHEET: THE ECONOMIC IMPACT OF THE RADIATION EXPOSURE COMPENSATION ACT (RECA)

For the complete report: www.trinitydownwinders.com

RECA COMPENSATION* WILL BE INCREASED TO \$150,000:

RECA will be transformative for families and their communities:
DO THE MATH: 100 people x \$150,000 = approximately \$15 million available to families that will be invested in local communities.

ACCESS TO CANCER TREATMENT FOR NATIVE AMERICANS:

Those who depend upon Indian Health Service (IHS) will finally have access to any health care facility they choose for cancer treatment **currently NOT provided by IHS.** No more waiting for a referral or copayments, coinsurance, deductibles, etc.

HEALTH CARE SERVICES AND CLINICS WILL BE EXPANDED:

Radiation Exposure and Screening Education Program (RESEP) Clinics provide access to annual **no cost cancer screening for anyone seeking it.** People are afforded early detection and a better prognosis if diagnosed with cancer. Plus, these clinics create jobs.

RECA CAPS LEGAL FEES FOR PROCESSING APPLICATION:

While legal services may be helpful for processing RECA applications **legal fees are capped at 3%** (\$4,500 for \$150,000) to protect clients from being over-charged. RECA provides more work for qualified attorneys.

THE ECONOMIC IMPACT OF RECA?

THINK: Capital to invest in a small business, ranches or farm, college tuition, down payment on a home, retirement income, funds for child care, health care, all now possible using RECA funds paid to victims and their families. RECA is transformative for Downwinder families and their local and state economies.

*In 1990, President George H. W. Bush signed RECA into law. He christened the compensation: "Compassionate Payments".

WILL RECA COST TOO MUCH?

FACT:

Congress approved a defense budget that allocates approximately **\$50 billion per year to maintain our current nuclear arsenal**. Or, **\$50 billion per year to put our nuclear weapons "to bed" each night!**

FACT:

Over the past 31 years, RECA has paid out approximately \$2.5 billion. Of that amount just \$1.2 billion was paid out to Downwinders. **RECA would be less than 1% of the DOD budget.**

<https://www.justice.gov/civil/awards-date-03042022>

FACT:

The United States is committed to its nuclear arsenal. Therefore, our government must take responsibility for the innocent children, women and men who have been or will be harmed in the process of development, testing and maintenance of that nuclear arsenal.

FACT:

Many of the ethical provisions of international codes such as the **Geneva Conventions stipulate the responsibility of governments to protect people who are negatively impacted by wars and national security including civilians, medics, aid workers.**

UNITED NATIONS HUMAN RIGHTS: Treatment of Victims

IV.10. Victims should be treated with humanity and respect for their dignity and human rights, and appropriate measures should be taken to ensure their safety, physical and psychological well-being and privacy, as well as those of their families. The State should ensure that its domestic laws, to the extent possible, provide that a victim who has suffered violence or trauma should benefit from special consideration and care to avoid his or her re-traumatization in the course of legal and administrative procedures designed to provide justice and reparation.

JOIN OUR EFFORT TO EXTEND AND EXPAND RECA

- ✓ The current congressional bills to amend and extend RECA are **House bill 5338** and **Senate bill 2798**.
- ✓ Both bills have bipartisan support and, if passed as currently written, will, **for the first time, include the Downwinders from New Mexico, Idaho, Montana, Colorado, Guam, parts of Nevada, Utah and Arizona, all previously excluded.**
- ✓ **HB 5338** and **SB 2798** will also, **for the first time, add the Post '71 Uranium Miners/Workers.**

To view the full Economic Impact Report and/or to join the TBDC:
www.trinitydownwinders.com

Bernice Gutierrez list of affected family members

Presumably from overexposure to radiation from the Trinity Test July 16, 1945

NAME Type of Cancer/Tumors

Maternal Relatives

1. Florencio Mireles, grandfather to Eugenia Stomach (deceased)
2. Eugenia L. Rogers, mother Thyroid, breast, skin
3. Gilbert Perea, her son Thyroid
4. Ursula Perea, Gil's daughter Thyroid, breast
5. Therese Perea, her daughter Thyroid, pre-cancerous cells in uterus; benign tumor left ovary, thyroid cancer – 3 recurrences
Prostrate
6. Frank Perea, her son Thyroid disease
7. Robert Perea, her son benign tumor in lung
8. Tony Perea, Therese's dad Thyroidectomy, non-cancerous
9. Bernice Gutierrez, her daughter Thyroid, tumor in ovary, miscarriage
10. Eugenia Gutierrez, Bernice's daughter Myelodysplastic Dysplasia Syndromes (Pre-leukemia)
11. Jose Toby Gutierrez, Jr. Bernice's son (deceased) breast – each side
12. Cecelia Sanchez, sister Thyroidectomy, non-cancerous
13. Peggy Chavez, niece/Cecilia's daughter Adenocarcinoma, skin
14. Rita Prudencio (sister) Brain tumor
15. Mary Frances Otero, niece/Rita's daughter Pancreatic, brain aneurysm (deceased)
16. Michael Prudencio, MF Otero's brother Bone (deceased)
17. Esther Pino, sister Thyroid
18. Margaret Pino, niece (Esther's daughter) Brain Tumor
19. Carmen Chavez (Esther's daughter) Stomach (deceased)
20. Gregorio Pino, nephew (Esther's son) Thyroid disease, skin
21. Crystal Archuleta (Esther's granddaughter) Thyroid disease
22. Adriana Archuleta (Esther's great-granddau.) Thyroid disease
23. Carmel Lopez (sister) leukemia (deceased)
24. Lorraine Lucero, niece (sister Carmel's daughter) prostate cancer
25. Danny Lucero, nephew (Carmel's son) Skin
26. Elaine Campbell, niece (Carmel's daughter) Thyroid disease, Celiac Disease
27. Sally Salazar Cass, niece Celiac Disease
28. Henry Phillip Salazar, nephew Thyroidectomy, non-cancerous
29. Tim Lopez, nephew

30. Bernadette Vigil

Thyroid, Monitored lump in throat

31. Lalo Diaz, brother-in-law

Stomach (deceased)

Paternal relatives: Bonifacio M. Zamora, Father

32. Carlota Martinez, Sister

cervical, thyroid disease (deceased)

33. Candido Martinez, nephew

esophageal

34. Robert Martinez, nephew

brain aneurism (deceased)

35. Gertrude Roybal, cousin

Thyroid, breast (deceased)

36. Jose Roybal, Gertrude's husband

Lung (deceased)

37. Pete Roybal, Gertrude's son

Colon (deceased)

38. Joe Fuentes, Gertrude's son-in-law

Stomach, liver, lung, bone,

Brain, (deceased)

Son-in-law's family history

39. Jose Toby Gutierrez

Colon

40. Gloria Gutierrez, sister

Lung (deceased)

41. Ruth Gutierrez Lopez, sister

Autoimmune disease – Lupus

42. Carmen Gutierrez Garcia, sister

Thyroid

43. Albert Gutierrez, brother

prostate, thyroid disease

44. Gilbert Jerry Gutierrez, brother

thyroid disease (deceased)

Red denotes family member who have survived or died from cancer.

Black denotes those who have survived radiation exposure illnesses

Maternal

Total: 31

22 – cancer

9 - Radiation exposure related diseases

Paternal

Total: 7

7 – cancer

Son-in-Law

Total: 6

5 – cancer

1 – Radiation exposure related diseases

National Geographic: U.S. lawmakers move urgently to recognize survivors of the first atomic bomb test

By Leslie M.M. Blume

September 21, 2021

Barbara Kent joined Carmadean's dance camp in the desert near Ruidoso, New Mexico, in the summer of 1945. During the day, she and nine other girls learned tap and ballet. At night, they slept in a cabin by a river. Early in the morning on July 16, 1945, Kent says that she—then 13—and the other campers were jolted out of their bunk beds by what felt like an enormous explosion nearby. Their dance instructor rushed the girls outside, worried that a heater on the premises might have burst.

"We were all just shocked ... and then, all of a sudden, there was this big cloud overhead, and lights in the sky," Kent recalls. "It even hurt our eyes when we looked up. The whole sky turned strange. It was as if the sun came out tremendous."

A few hours later, she says, white flakes began to fall from above. Excited, the girls put on their bathing suits and, amid the flurries, began playing in the river. "We were grabbing all of this white, which we thought was snow, and we were putting it all over our faces," Kent says. "But the strange thing, instead of being cold like snow, it was hot. And we all thought, 'Well, the reason it's hot is because it's summer.' We were just 13 years old."

The flakes were fallout from the Manhattan Project's Trinity test, the world's first atomic bomb detonation. It took place at 5:29 a.m. local time atop a hundred-foot steel tower 40 miles away at the Alamogordo Bombing and Gunnery Range, in Jornada del Muerto valley.

The site had been selected in part for its supposed isolation. In reality, thousands of people were within a 40-mile radius, some as close as 12 miles away. Yet all those living near the bomb site weren't warned that the test would take place. Nor were they evacuated beforehand or afterward, even as radioactive fallout continued to drop for days.

In 1990, the U.S. Congress passed the Radiation Exposure Compensation Act (RECA), which has since dispensed over two billion dollars to more than 45,000 nuclear workers and "downwinders"—a term describing people who have lived near nuclear test sites conducted since World War II and may have been exposed to deadly radioactive fallout.

Trinity test fallout

When the first nuclear bomb was tested at the Trinity site, on July 16, 1945, no civilians in the surrounding areas were evacuated beforehand or afterward. But radioactive fallout, detected as far away as New York, sickened some living immediately downwind and fell on area crops, game animals, and sources of water.

After the Trinity test, the Manhattan Project's chief medical officer advised that future nuclear tests not take place within 150 miles of populated areas. Yet nearly half a million people were living within a 150-mile radius of the detonation, some as close as 12 miles away.

But those exposed during the Trinity test and its aftermath have never been eligible.

For years, Senator Ben Ray Lujan, a Democrat from New Mexico, and other members of Congress have attempted to amend RECA, due to expire on July 11, 2022. Now, in light of this looming deadline, Lujan, along with a bipartisan group of co-sponsors, has crafted a bill to extend RECA and expand it to make those in the estimated Trinity fallout zone eligible, as well as other downwinder communities in Colorado, Idaho, and Montana. The bill, scheduled to be introduced in the Senate on Wednesday, would also expand eligibility for people who have worked in uranium mines and mills or transported uranium ore. A similar bill will be introduced in the House of Representatives.

"The fact that there had not been a recognition of the impact of the very first atomic detonation in New Mexico was really simply wrong," says Representative Teresa Leger Fernandez, a Democrat from New Mexico and co-sponsor of the House bill. "We hear their voices, we see their pain, and we must act."

This is an especially urgent and consequential moment for those living in Trinity's estimated fallout zone—some of whom have been waiting 76 years to be acknowledged. "We have been denied justice long enough," says Bernice Gutierrez, who was a newborn when the bomb exploded. Her family lived in Carrizozo, about 50 miles from the blast site. "It's not like we haven't given our all to our country. What more can you give?"

'A very serious hazard'

The blast from the plutonium implosion device, nicknamed the Gadget, produced heat 10,000 times greater than the surface of the sun and was significantly more powerful than its creators had expected. It carried aloft hundreds of tons of irradiated soil and sent a mushroom cloud up to 70,000 feet in the sky. In this experimental atomic detonation, only three of the 13 pounds of plutonium at the bomb's center underwent fission. The rest dispersed in the fallout cloud.

A tiny fraction of that three pounds of plutonium—about the weight of a raisin—was enough to release "three times the destructive force of the largest conventional bomb used in World War II," says Robert Alvarez, associate fellow at the Institute of Policy Studies and former senior policy advisor to the U.S. Secretary of Energy. (The Gadget released an explosive force equivalent to about 21,000 tons of TNT.)

Right after detonation, the cloud divided into three parts. One part drifted east, another to the west and northwest, and the rest to the northeast, across a region a hundred miles long and 30 miles wide, "dropping its trail of fission products" the entire way, according to a 2010 report by the Centers for Disease Control and Prevention (CDC). The fallout

eventually spread over thousands of square miles and was detected as far away as Rochester, New York.

Nineteen counties in New Mexico were in the downwind area, including 78 towns and cities, and dozens of ranches and pueblos. Radiation levels near homes in some “hot spots” reached levels “almost 10,000 times what is currently allowed in public areas,” according to the CDC.

“There is still a tremendous quantity of radioactive dust floating in the air,” wrote Stafford Warren to U.S. Army General Leslie R. Groves, head of the Manhattan Project, five days after the blast. Warren, the project’s chief medical officer, added that “a very serious [radiation] hazard” existed within a 2,700-square-mile area downwind of the test.

He also advised that future atomic tests be done only where there were no people within a radius of 150 miles. (Nearly half a million people in New Mexico, Texas, and Mexico lived within a 150-mile radius of the Trinity test.)

“We didn’t know what the hell we were doing,” Louis Hempelmann—the director of the Los Alamos Health Group, a team tasked with managing radiation within the Manhattan Project—reflected in a 1986 interview uncovered in the recent book *Atomic Doctors*. “Nobody had had any experience like this before, and we were just hoping that the situation wouldn’t get terribly sticky.”

The leaders of the Manhattan Project knew that civilians had been “probably overexposed,” Hempelmann said. “But they couldn’t prove it and we couldn’t prove it. So we just assumed that we got away with it.”

Many civilians living within the estimated fallout zone were unwittingly exposed and sickened. According to Alvarez, even minute quantities of plutonium can inflict disease. “Particles of plutonium less than a few microns in diameter can penetrate deep in the lungs and lymph nodes and can also be deposited via the bloodstream in the liver, on bone surfaces, and in other organs,” he says. “If inhaled, extremely small amounts can lead to cancer.”

How is it, asks Senator Lujan, that RECA covered people living downwind of the Nevada Test Site but left out “the community where the first nuclear bomb was tested on American soil? There’s not been a good answer given to me nor to the downwinders in New Mexico. There’s no question of the exposure that resulted from the Trinity test.”

Something felt terribly awry

Several people living near the test site later reported that they thought they were experiencing the end of the world. The strange, snowlike substance that fell from the sky for days coated everything: orchards, gardens, livestock, as well as cisterns, ponds, and rivers—the main sources of drinking water because local groundwater was “unsuitable for human consumption,” according to the 2010 CDC report.

One family in Oscuro, New Mexico, about 45 miles from the site, hung wet bedsheets in their windows against the fallout. They felt that something was terribly awry when their chickens and their dog died. Thirty miles away from ground zero, along Chupadera Mesa, burns appeared on the hides of cattle, whose fur eventually grew back gray and white in the burned patches.

A health care provider in Roswell, a hundred miles away, noted a surge in infant deaths there—35 in August 1945 alone. When she wrote to Warren, stating her concerns, his medical assistant replied that there were no “pertinent data” and assured her that “the safety and health of the people at large is not in any way endangered.”

For General Groves, getting the bomb ready—in secrecy—for wartime use had trumped all other considerations, including public safety.

Yet he realized that a blast whose flash was seen in at least three states and two countries could not be wholly concealed. He ordered the commanding officer of the Alamogordo Air Base to feed a cover story to the Associated Press that “a remotely located ammunition magazine containing a considerable amount of high explosives and pyrotechnics exploded.” There had been, the report went on, “no loss of life or injury.” Local newspapers reprinted the announcement without challenge.

Barbara Kent recalls that the day after the explosion, her camp’s dance instructor took the girls into Ruidoso, where government officials were to make an announcement about the source of the blast.

“It was so crowded downtown—everyone was shoulder to shoulder,” Kent says. “What they told us—there was an explosion at a dump. They said, ‘No one worry about anything, everything’s fine, just go along with your own business.’ Everyone was confused. Some people believed it, but some people thought they couldn’t imagine that a dump explosion would do this.” She continues: “They lied to us. I didn’t learn the truth until years later.”

As time passed, Kent says she began to hear disturbing reports that her fellow campers were falling ill. By the time she turned 30, she says, “I was the only survivor of all the girls at that camp.” She adds that she has suffered from lifelong illnesses: She had to have her thyroid removed and has survived several forms of cancer, including endometrial cancer and “all kinds of skin cancers.”

Tina Cordova is a fifth-generation resident of Tularosa, about 40 miles from the blast site. Thanks to an extensive ditch system in the area, the town was an oasis in the desert, and Cordova’s family’s home, like many others, had an orchard and garden.

“You could literally go out into your yard in the summer and eat peaches, apricots, cherries, figs, dates, pecans, walnuts—everything you could think of,” she says. Local people harvested and canned their fruit and collected rainwater for drinking from rooftop cisterns. Milk came from local dairies. People made their own butter and

butchered farmyard animals or hunted wild animals for meat, including deer, quail, rabbit, and pheasant.

“Everything that people were consuming in 1945 was contaminated,” Cordova says. “But they didn’t know [the fallout was] dangerous. They went about their lives.”

After the test, she says, health problems began to plague her family, all of whom lived in and around Tularosa. According to Cordova, two of her great-grandfathers died of stomach cancer, and both of her grandmothers developed cancer. Two aunts had breast cancer, and one died from it. A cousin developed a brain tumor. Her mother had mouth cancer, and her sister has skin cancer. Her father, who was four at the time of the blast, suffered from various cancers, including prostate cancer and tongue cancer. Doctors had to remove part of his tongue and his lymph nodes. The cancer eventually spread to his neck and became inoperable. Cordova says he weighed about 125 pounds at his death in 2013 at the age of 71. She says that she herself was diagnosed with thyroid cancer in 1997, when she was 39.

‘When are they going to hold our government accountable?’

After the U.S. leveled Hiroshima with a uranium bomb on August 6, 1945, the secret history of the creation of atomic weapons was released and widely publicized. Many New Mexicans now realized that the blast that had shattered their windows and blanketed their homes in warm ash was not, after all, an ammunition dump explosion. Although they still hadn't been informed by the government about the nature of that ash or monitored for adverse health effects, they were encouraged to be proud of the part they'd unknowingly played in bringing about the dramatic new atomic age.

“When I was a child, the government fed us propaganda about how much pride we should take in the part we played in ending World War Two,” Cordova says. “We still did not know what that meant from a health consequence perspective. Our mom actually took us to the [Trinity] site for a picnic. We brought home as much Trinitite as we could and played with it.” (The Trinity Site is now a National Historic Landmark, open to visitors twice a year, and anyone can go online and buy radioactive fragments of Trinitite—a green glass created from sand and other materials that melted in the immediate blast zone.)

In 2004, Cordova read a letter from another Tularosa resident, Fred Tyler, to the editor of a local newspaper. She says that the letter changed her life. “He said, ‘When are they going to hold our government accountable for the damage they did to us?’ ” Cordova says. “I called him and said, ‘I feel the same way you do. It’s time to start an organization to more fully push the government about this issue.’ ”

In 2005, Cordova and Tyler founded the Tularosa Basin Downwinders Consortium (TBDC) as an advocacy organization for Trinity test downwinders.

At that time, she recalls, they weren’t aware that the Radiation Exposure Compensation Act had been in place for 15 years and already had provided onetime, \$50,000

compensation to other downwinders who “may have developed cancer or other specified diseases after being exposed to radiation from atomic weapons testing or uranium mining, milling, or transporting.” Downwinder eligibility initially was limited to those within specified areas around the Nevada Test Site, 65 miles north of Las Vegas, where a hundred aboveground tests were conducted before a moratorium on atomic testing took effect in 1992.

In 2000, an amendment to RECA expanded eligibility to include some uranium miners and millers in New Mexico. Military and government workers who were “on-site participants” in the Trinity test were also eligible for compensation, but civilian downwinders remained ineligible.

Cordova, like Senator Lujan, says she has “never been able to get a straight answer” about why civilian downwinders were excluded from the legislation: “Even from people who were serving in Congress at the time, I’ve been told, ‘Well, no one was connecting the dots that anybody was harmed.’ ”

Bill Richardson—a Democrat who served as New Mexico’s governor from 2003 to 2011 and was a representative for the state’s Third Congressional District in 1990 when RECA was enacted—says, “I don’t think there was opposition [to their inclusion], just perhaps a lack of awareness. I didn’t know about their claims until I started reading about it when I was governor, and I was sympathetic.”

To raise awareness, Cordova and her colleagues at the consortium began to gather testimonies from and distribute health surveys to downwinders who were alive at the time of the Trinity test, along with their descendants who have lived in areas surrounding the test site. To date, the consortium has collected more than 1,000 surveys, and Cordova says that 100 percent of those questioned describe adverse health conditions—from thyroid disease to brain cancer—that can result from radiation exposure. Often participants describe similar cancers that have ravaged many family members over several generations.

‘A now-or-never moment’

Cordova describes this effort to extend and expand RECA as a “now-or-never moment.” Senator Mike Crapo, an Idaho Republican and co-sponsor of the Senate bill, says there’s a “dire need for Congress to extend RECA ... [and] to include victims in states across the West.”

“It is beyond time for the federal government to right a past wrong that caused harm to countless innocent Americans,” he wrote in a letter on March 24, 2021, to the chairman and members of the House Judiciary Committee.

“When [RECA] was first introduced, no one considered the impact on the first downwinders,” Representative Fernandez says. “But we are in a place now where we recognize an injustice when we see it.” Her family lived in San Miguel and Guadalupe Counties in New Mexico, areas of potential exposure. She says her mother and sister—

both nonsmokers—died of lung cancer. Her father died of esophageal cancer, she says, and her grandmother, who grew up near the Trinity site, died of leukemia.

Fernandez and Lujan say they're also going to push for new epidemiological and environmental studies of the Trinity test's aftermath and possible long-term effects.

Assessing Trinity's exact "fingerprint" based on current fallout levels is "complicated and subject to large uncertainties," says health physicist Joseph Shonka, co-author of the 2010 CDC report. He notes that residents of New Mexico have higher positive plutonium levels in their tissues than residents of any other state but says that tracing those levels back specifically to Trinity fallout might be difficult.

New Mexicans also may have internalized plutonium from various additional sources, he says, including general global fallout, releases from New Mexico's Los Alamos plutonium operations, and fallout that drifted down from Nevada's Test Site. The CDC recommended prioritizing Trinity's aftermath for future studies.

Last year, the National Cancer Institute (NCI) released its findings from a nearly seven-year study of the Trinity nuclear test. The study's lead investigator, Steven Simon, calls it the "most comprehensive study conducted on the Trinity test and its possible ramifications for cancer risks in the estimated fallout area."

The researchers concluded that up to a thousand people may have developed cancer from the Trinity test fallout and that "only small geographic areas immediately downwind to the northeast received exposures of any significance." They also said that the "plutonium deposited as a result of the Trinity test was unlikely to have resulted in significant health risks to the downwind population."

The researchers also acknowledged their study's limitations. Calculating exposure for those alive at the time of the detonation is "complex and is subject to uncertainties," Simon explains, "because all of the needed data is not available. Since the Trinity test took place in 1945, i.e. some 65+ years earlier, it was impossible to identify the population exposed."

Shonka says the new NCI study "failed to address early fallout adequately." He says he questions some of the methodology and is preparing a counter-article addressing what he says are inconsistencies with previous findings. Other critics of the NCI study say it doesn't address ongoing family cancer clusters and the reported 1945 spike in infant deaths in the region, documented in a 2019 paper in the *Bulletin of the Atomic Scientists*, co-authored by Robert Alvarez.

The NCI responds that its researchers focused on exposures received among "New Mexico residents alive at the time of the test," and that they didn't investigate the infant mortality because it was "not a cancer effect."

Senator Lujan calls the NCI study "limited" and says that he wants to "make sure that there's accurate data that truly is looking at the exposure that families face."

“How can someone say that families in proximity to a nuclear blast were not exposed?” he asks. “It goes against everything that I’ve learned and data sets that I’ve seen from different parts of the world where this has happened, whether it’s been from meltdown of nuclear energy generation facilities or where weapons were deployed.”

Lujan continues, “People died as a result of the Trinity test—that’s a fact. People are still suffering—that’s a fact. The U.S. needs to come forward to address this liability, this wrong.”

Cordova says she and her community will be closely watching the RECA bills’ progress. The new legislation asks to expand compensation for individuals from \$50,000 to \$150,000. But beyond financial restitution, Cordova says, they’re also hoping simply for a government apology.

“We’ve never had an opportunity to live normal lives,” she says. “They can never say that they didn’t know ahead of time that radiation was harmful or that there was going to be fallout. We don’t ask if we’re going to get cancer; we ask when it’s going to be our turn. We are the forgotten collateral damage.”

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**EUCCHARISTIC CELEBRATION
IN COMMEMORATION
OF THE
77TH ANNIVERSARY OF THE BOMBING OF NAGASAKI**

CATHEDRAL BASILICA OF ST. FRANCIS OF ASSISI

AUGUST 9, 2022

As we gather today to commemorate the 77th anniversary of the bombing of Nagasaki, which followed only three days after the first atomic bomb fell on Hiroshima, we cannot help but remember the four Muslim men who were ambushed and cruelly murdered in Albuquerque, one last November and three just recently. We in the Archdiocese of Santa Fe are appalled at these hateful and horrific crimes and we utterly condemn them. We pray for the victims' families, for the Muslim community, now living in fear and for the speedy apprehension of the racist perpetrator or perpetrators. These abhorrent crimes have no place in the just, loving and tolerant society that we have come to know and treasure here in the Southwest. May those whose lives have been cut short rest in peace and may their souls and all the souls of the faithful departed rest in peace.

In this evening's Gospel, we hear once again Jesus's beautiful Sermon on the Mount, which begins with the Beatitudes. Scripture scholars tell us that the Beatitudes paint a verbal picture of Jesus himself. Hence, if we study the Beatitudes we are studying Jesus. If we live the Beatitudes, we are following Jesus. Of particular interest to us tonight is the seventh beatitude according to Matthew's list: Blessed are the peacemakers, for they will be called children of God. As peacemakers, we are gathered here tonight for this Eucharist to remember what happened in Japan in August of 1945 and to pray for peace, nuclear disarmament and the healing of those who have already been scarred by the effects of atomic weapons in our land.

My fellow peacemakers, this is the sacred Cathedral of St. Francis. The Pope too has taken his papal name from that venerable saint. Moreover, the name of our beloved City, "Santa Fe", translates from Spanish as the "Holy Faith" of St. Francis, who through the ages has been held up as the model "instrument of peace." Therefore, it is more than appropriate that from his Cathedral I invoke his prayer:

"Lord, make me an instrument of your peace:
where there is hatred, let me sow love;
where there is injury, pardon;
where there is doubt, faith;
where there is despair, hope;
where there is darkness, light;
where there is sadness, joy."

But next to this place of peace, less than a hundred footsteps away, is 109 East Palace, the gateway to the secret Los Alamos Lab during the World War II years. The main purpose of

the Manhattan Project was to develop the plutonium bomb that destroyed Nagasaki, instantly killing some 70,000 people. We commemorate the anniversary of that atomic bombing this very day.

And Jesus said, BLESSED ARE THEY WHO MOURN, FOR THEY WILL BE COMFORTED

Now, 77 years later, the Los Alamos Lab is aggressively expanding the production of the radioactive cores of nuclear weapons, known as plutonium pits. This is the single most critical part of the government's 2 trillion-dollar plan to completely rebuild existing nuclear weapons with new military capabilities; and buy at enormous taxpayers' expense new missiles, submarines and bombers to deliver them. This is nuclear weapons forever!

We are in a new nuclear arms race that is arguably more dangerous than the first. New cyber and hypersonic weapons, artificial intelligence and multiple nuclear adversaries are increasing the grave risks, even as climate change and growing economic inequality undermine the status quo. The old argument that we need thousands of nuclear weapons for the declared rationale of "deterrence" is false when only a few hundred weapons are truly needed for just deterrence. Yet the U.S. and Russian governments reject minimal deterrence in order to keep nuclear warfighting capabilities, despite their declared rhetoric that a nuclear war can never be won!

And Jesus said, BLESSED ARE THE MEEK, FOR THEY WILL INHERIT THE LAND

There is probably more money spent in this Santa Fe Archdiocese on nuclear weapons than any other diocese in the country. This is because of the Los Alamos and Sandia National Laboratories and the Kirtland Air Force Base, which has the largest repository of nuclear warheads in the country. Given the prominence of nuclear weapons in the land entrusted to our spiritual care, the Archdiocese of Santa Fe has a special responsibility to advocate for and provide guidance toward a future world free of nuclear weapons. This is what our savior Jesus Christ proclaimed in the Gospel and what our patron, St. Francis, would want us to do.

There will be those who will call us naïve for thinking that we can rid the world of nuclear weapons. But who is it that is really naïve? Robert McNamara, Defense Secretary during the 1962 Cuban Missile Crisis, said that human civilization survived only by luck. Counting on luck is not a winning strategy. The history of nuclear weapons is replete with near misses, miscalculations and accidents. With the war in Ukraine, we are now facing the most serious nuclear threats since the middle 1980's. Isn't it the height of naiveté to think that humanity can survive on into the future as long as nuclear weapons exist?

And Jesus said, BLESSED ARE THEY WHO ARE PERSECUTED FOR THE SAKE OF RIGHTEOUSNESS, FOR THEIRS IS THE KINGDOM OF HEAVEN

The New Mexican congressional delegation has generally promoted expanding nuclear weapons programs as jobs programs. But Pope Francis has unequivocally stated, "The possessing of nuclear weapons is immoral." No amount of money can explain that away.

And who is it that really benefits from that money? Los Alamos County is the fourth richest county in the USA but is surrounded by some of the poorest counties in the nation. Why is it

that the Land of Enchantment stays perennially at the bottom of socioeconomic indicators, such as the most children living in poverty and dead last in quality of education? Just yesterday I read in the paper that New Mexico slipped to 50th in child well-being – again!

The Department of Energy is going to spend 9.4 billion dollars in New Mexico next year, more than the state's entire budget of 8.5 billion dollars. But what good will that do for the average New Mexican? Just imagine if that money was spent creating jobs that truly benefitted New Mexicans, such as state-wide wildfire protection, protecting our precious water resources and making our public schools something to be truly proud of!

And Jesus said, BLESSED ARE THE POOR IN SPIRIT, FOR THEIRS IS THE KINGDOM OF HEAVEN

These are the things that need to be openly debated instead of sacrificing New Mexico to the nuclear weapons and radioactive waste industries. The question is how can we permanently eliminate nuclear weapons in a universal, verifiable manner? And how can we make this poor state thrive, when clearly 75 years of the nuclear weapons industry has failed to do so?

This is the dialogue I seek to start. It is a dialogue that is grounded in the common good and the relationships that form us as one human family, all God's children. It is in this spirit that we are responsible to one another, and it is in this spirit that we must care for one another and make amends, even when we may not be directly involved in harmful behavior.

Therefore, to our Japanese brothers and sisters watching on the internet, I apologize for the Hiroshima and Nagasaki atomic bombs that were developed and built within my Archdiocese. I am sorrowful for the death, destruction and suffering they caused, just as your government should be sorrowful for the death, destruction and suffering it caused during World War II. Together, may the Japanese and American people drive the international will to ensure that nuclear weapons are never used again. May you all be blessed and healed!

I apologize to the world's first nuclear victims, our very own Trinity Test Downwinders from southern New Mexico, who continue to suffer from the cancerous effects of fallout. I specifically want to recognize Rosalie Cordova, a life-long Catholic resident of Tularosa who ran the Youth Choir for more than 10 years. She has lost many people to cancer, including her husband Tony, her mother, sister, and sister-in-law. Both of her daughters are cancer survivors. Rosalie has relied heavily on her faith to survive all the loss she has experienced. May all of you be blessed and healed!

And then there's Doris Walters, also from Tularosa. She is an 11-year cancer survivor and her mother, daughter, three sisters and aunts have all had cancer too. Doris is a lifelong member of St. Francis De Paula Catholic church in Tularosa where she and her husband Adolph have been active supporters of the church. Doris and Adolph have also been founding members of the Tularosa Basin Downwinders Consortium whose mission is just compensation for the Trinity Test Downwinders. May all of you be blessed and healed!

If Rosalie, Doris and Adolph are here, would they please stand and be recognized.

And Jesus said, BLESSED ARE THE MERCIFUL, FOR THEY WILL BE SHOWN MERCY

I apologize to the people of the Marshall Islands, who suffered horribly as the result of 67 H-bombs tests by the U.S. The Los Alamos Lab has proudly named streets after the Enewetak and Bikini Atolls test sites. In reality it is a source of deep national shame how the Marshallese were treated by our government. In that vein, I want to recognize Paul Griego, a health physics technician during the incomplete Marshall Islands cleanup, who himself suffered high radioactive doses. He is the New Mexico State Commander of the National Association of Atomic Veterans and continues to work as an advocate and consultant for the Marshall Islands. May all of you be blessed and healed!

I apologize to the uranium miners and workers who suffered cancers and had their lands contaminated, particularly the Diné and Pueblo people. I also apologize to the Pueblo people and Hispanic homesteaders who had their lands seized and contaminated by the Los Alamos Lab. May all of you be blessed and healed!

I apologize to the more than 7,000 workers at the Los Alamos Lab and 700 workers at the Sandia Labs who filed claims against the government for their occupational illnesses caused by nuclear weapons research and production. May all of you be blessed and healed!

Finally, I ask God to protect those who might be harmed by nuclear weapons in the future. We must never let that happen again.

Pope Francis has made clear statements about the immorality of possessing nuclear weapons, moving the Church from past conditional acceptance of “deterrence” to the moral imperative of abolition. We are robbing from the poor as we plan to spend 2 trillion dollars to “modernize” our nuclear weapons and keep them forever.

Pope Francis declared, “We must never grow weary of working to support the principal international legal instruments of nuclear disarmament and non-proliferation, including the Treaty on the prohibition of nuclear weapons.” I believe that it is the duty of the Archdiocese of Santa Fe, the birthplace of nuclear weapons, to support the new international nuclear weapons ban treaty while working toward universal, verifiable nuclear disarmament.

And Jesus said, BLESSED ARE THE CLEAN OF HEART, FOR THEY WILL SEE GOD

Just across the street from this Cathedral, at 109 East Palace, was the gateway to global destruction. Today I hope to sanctify this Cathedral of St. Francis as the gateway to global nuclear disarmament. I call for the healing of all past victims of nuclear weapons and protecting those who might be future victims by eradicating nuclear weapons from the face of the earth.

And Jesus said, BLESSED ARE THE PEACEMAKERS, FOR THEY WILL BE CALLED CHILDREN OF GOD

I hope that you will join me toward that end, my fellow children of God, my fellow peacemakers. Jesus is faithful and true to his promises. You are truly blessed.

The Most Reverend John C. Wester
Archbishop of Santa Fe

Trinity: “The most significant hazard of the entire Manhattan Project”

By Kathleen M. Tucker, Robert Alvarez, July 15, 2019

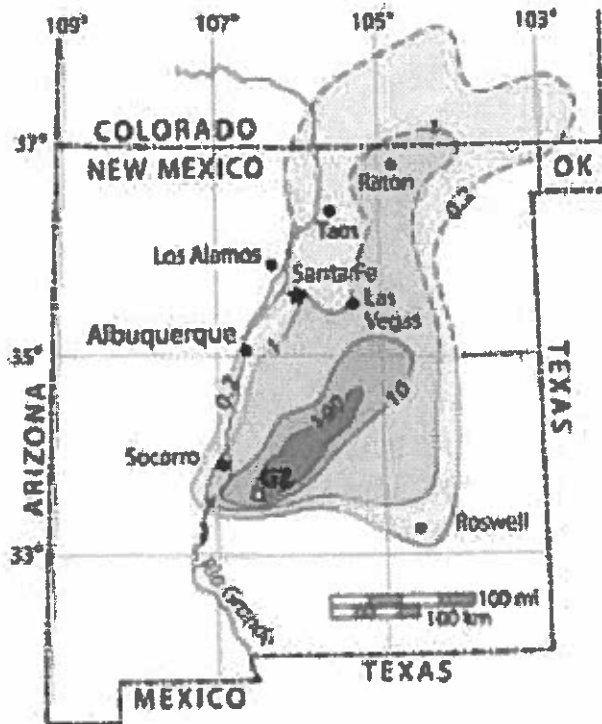
For the past several years, the controversy over radioactive fallout from the world's first atomic bomb explosion in Alamogordo, New Mexico on July 16, 1945—code-named Trinity—has intensified. Evidence collected by the New Mexico health department but ignored for some 70 years shows an unusually high rate of infant mortality in New Mexico counties downwind from the explosion and raises a serious question whether or not the first victims of the first atomic explosion might have been American children. Even though the first scientifically credible warnings about the hazards of radioactive fallout from a nuclear explosion had been made by 1940, historical records indicate a fallout team was not established until less than a month before the Trinity test, a hasty effort motivated primarily by concern over legal liability.

In October 1947, a local health care provider raised an alarm about infant deaths downwind of the Trinity test, bringing it to the attention of radiation safety experts working for the US nuclear weapons program. Their response misrepresented New Mexico's then-unpublished data on health effects. Federal and New Mexico data indicate that between 1940 and 1960, infant death rates in the area downwind of the test site steadily declined—except for 1945, when the rate sharply increased, especially in the three months following the Trinity blast. The 21 kiloton explosion occurred on a tower 100 feet from the ground and has been likened to a “dirty bomb” that cast large amounts of heavily contaminated soil and debris—containing 80 percent of the bomb's plutonium—over thousands of square-miles. (See Figure 1.)

After a nearly half a century of denial, the US Department of Energy concluded in 2006, “the Trinity test also posed the most significant hazard of the entire Manhattan Project.”[1] Four years later the US Centers for Disease Control gave weight to this assessment by concluding:

“New Mexico residents were neither warned before the 1945 Trinity blast, informed of health hazards afterward, nor evacuated before, during, or after the test. Exposure rates in public areas from the world's first nuclear explosion were measured at levels 10,000-times higher than currently allowed.”[2]

Figure 1.



Estimated exposure rate in milliroentgens per hour (mR h⁻¹) 12 hours after detonation; GZ = ground zero of Trinity. Source: Centers for Disease Control (2010).

Meanwhile the National Cancer Institute is conducting a study to model the dispersion and dose reconstruction for people who may have been exposed to fallout from the Trinity explosion. Regardless of the outcome of this study, it is clear the public was put in harm's way because of US government negligence in conducting and its participation in a coverup of the results of an exceedingly dangerous experiment.

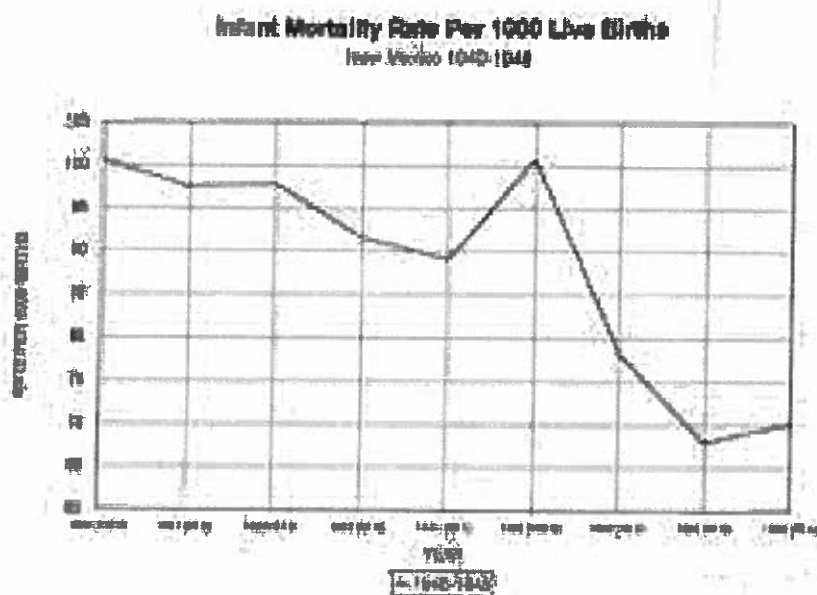
Infant mortality concerns raised about Trinity. In October 1947, the first concerns over a rise in infant mortality along the fallout path of the Trinity explosion were raised in a letter to Stafford Warren, a medical radiologist and radiation safety chief of the Manhattan Project and the Trinity test in particular. "As I recall, in August 1945, the month after the first bomb was tested in New Mexico, there were about 35 infant deaths here..." Kathryn S. Behnke, a health care provider from Roswell, New Mexico, wrote. "I understand the rate at Alamogordo, nearer the site of the test, was even higher than Roswell." [3]

On December 4, 1947, Warren's medical assistant, Fred A. Bryan, replied to Ms. Behnke, writing that "we can find no pertinent data concerning infant deaths; in fact there is no report as to the number of or specific cause or dates and, as far as Alamogordo is concerned." [4] Bryan also wrote that he "wanted to assure you that the safety and health of the people at large is not in any way endangered." [5]

Bryan failed to mention that he did not bother to examine New Mexico's vital statistics. About a month after Bryan's reassured Behnke of no evidence of harm, a state health official sent the actual unpublished data on infant deaths collected by the state to Los Alamos. [6] Soon thereafter, in a letter dated, January 22, 1948 to Bryan, Wright Langham, biomedical group leader at the Los Alamos National Laboratory (LANL), forwarded hand-written sheets from the state of "the records of infant births and deaths during 1945-1947." Langham added: "I am sure what I am sending you will not be of much help." The New Mexico Health Department data indicated that the infant death rate increased by 38 percent in 1945 compared to 1946 and was 57 percent higher than in 1947.[7]

Finding the facts. More than 70 years later, we examined the vital statistics collected by the US government and the state of New Mexico in the 1940s to determine if area health patterns changed after the first atomic explosion. The data eventually provided to Los Alamos and Bryan in January 1948 indicated a sharp rise in infant deaths following the Trinity explosion. Later, between 1940 and 1960, infant mortality in New Mexico showed steady and deep annual declines—except for 1945, when it shot up.[8] The infant mortality rate in New Mexico in 1945 was 100.8 per 1,000 live births; the rate for 1944 was 89.1, and for 1946 it was 78.2.[9] (See Figure 2.) The unpublished data sent to Los Alamos indicated an infant death rate nearly 34 percent higher in 1945 than subsequently made public.

Figure 2



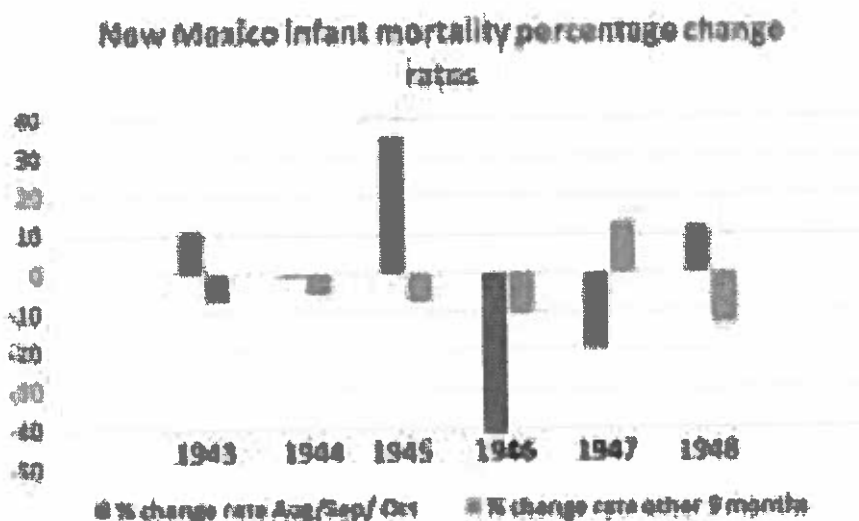
Month-by-month data for the years 1943 to 1948 revealed the highest infant mortality rates in late summer, following the Trinity blast, with a significant peak in September 1945. Infant mortality for the months August, September, and October after the explosion indicated that New Mexican infants had a 56 percent increased risk of dying, with less than a 0.0001 percent chance that this was due to natural fluctuation.[10]

In 1945, infant death rates increased on average by 21 percent (with a statistical error range of plus or minus six percent that applies to all the rates listed in this paragraph) in counties where fallout was measured by Manhattan Project personnel. Rates in these counties dropped by an average of 31 percent in 1946. The infant death rate in Roswell, where Ms. Behnke first alerted Warren of the problem, climbed by 52 percent in 1945, after falling by 27 percent between 1943 and 1944. The rate then dropped in Roswell by 56 percent in 1946. Rates in the downwind counties where fallout was measured dropped by an average of 31 percent (plus or minus eight percent) percent in 1946

We found no extraordinary metrological conditions, such as heat or heavy rains and floods, that may have competed with radioactive fallout as a factor in the increase in newborn deaths after Trinity. According to the CDC in 2010, risks to newborns were especially heightened as "residents reported that fallout 'snowed down' for days after the blast, most had dairy cows and most collected rain water off their roofs for drinking." [11]

The Trinity Test was conducted on July 16, 1945. The rate of infant mortality began rising in July. The month of August showed an infant mortality rate of 152.3 per 1,000 live births. In September, the rate was 187.8, and in October 123.1. Infant mortality change rates for August, September, and October show a dramatic increase in 1945 when compared to the same three months for the years 1943, 1944, 1946, 1947 and 1948 (see figure 3)

Figure 3



Source: New Mexico Department of Health, Bureau of Vital Records and Health Statistics

Ionizing radiation is especially damaging to dividing cells, so the developing infant, both before and after birth, is susceptible to radiation damage, as Alice Stewart, an epidemiologist who first demonstrated the link between X-rays of pregnant women and disease in their children,[12] first warned in 1956.[13] This damage may be seen years later with the development of leukemia and other cancers in children exposed in utero to ionizing radiation, as Stewart and others confirmed in subsequent studies.[14] By 1958, the United Nations Scientific Committee on the Effects of Atomic Radiation recognized that, in the short term, radiation damage can be reflected in fetal and infant deaths.[15]

Fallout protection was not a priority for the Trinity explosion. The Trinity test was top secret to all but a few scientists and military officials. No warnings were issued to citizens about off-site fallout dangers, although off-site measurements done with a paucity of instruments and people indicated that radiation spread well beyond the test site boundaries. [16]

The Trinity bomb was detonated atop a 100-foot steel tower. With an estimated explosive yield of 21,000 tons of TNT, the fireball vaporized the tower and shot hundreds of tons of irradiated soil to a height of 50,000 to 70,000 feet, spreading radioactive fallout over a very large area. Fallout measurements taken shortly after the explosion were very limited and primitive instruments were used; the data suggest no measurements regarding inhalation or ingestion of radionuclides were taken.

Joseph Shonka, a principal researcher for the study of the Trinity shot for the Centers for Disease Control, recently concluded that the Trinity fallout “was similar to what might occur with a dirty bomb. A fraction of the plutonium [~20%] was used in the explosion [and] ... the fireball contacted the soil. Because of the low altitude, fallout exhibited a ‘skip distance’ with little fallout near the test site. Although there were plans for evacuation, radio communication was lost as the survey teams traveled out to follow the overhead plume. Thus, the command center was unsure of whether that the criteria had been met ... and failed to order the evacuation.”[17]

Scientists had stressed the importance of protection from radioactive fallout following a nuclear weapon explosion, five years before the Trinity test. “Owing to the spread of radioactive substances with the wind, the bomb could probably not be used without killing large numbers of civilians, and this may make it unsuitable as a weapon for use by this country,” warned Manhattan Project physicists Otto Frisch and Rudolf Peierls in their important memorandum of March 1940, which accelerated production of the first atomic weapons. “[I]t would be very important to have an organization which determines the exact extent of the danger area, by means of ionization measurements, so that people can be warned from entering it.”[18]

As preparations were being made to test the first nuclear weapon, warnings by Frisch and Peierls about fallout hazards were lost on the leadership of the Manhattan Project. Were it not for two physicists at Los Alamos who warned in a June 1945 memorandum that “radiation effects might cause considerable damage in addition to the blast damage ordinarily considered,”[19] little would have been done. Later Joseph O. Hirschfelder, one

of the concerned scientists, recalled that “very few people believed us when we predicted radioactive fallout from the atom bomb. On the other hand, they did not ignore this possibility.”[20]

On first being warned by Los Alamos scientists, Gen. Leslie Groves, the Manhattan Project director, dismissed concerns about fallout as being alarmist. But Warren convinced Groves of the potential risk of legal liabilities, and Groves grudgingly agreed to assemble a team at the last minute to track fallout from the test.[21]

A lot was at stake. First, there was the enormous expense involved; the Trinity device cost approximately 15 percent of what the United States spent on all conventional bombs and other explosives during World War II.[22] Then again, there was great pressure to test the Trinity device before July 17, 1945, when the three heads of government of the United States, the Soviet Union and Great Britain were to meet in Potsdam, a German suburb of Berlin, to address the end-stage of World War II and post-war policies. Compared to the political imperative of Potsdam, the hazards of radioactive fallout took a back seat.

But five days after the explosion, Warren reported to Groves that “a very serious hazard” existed over a 2,700 square mile area downwind from the test that had received high radiation doses.[23] Tissue-destructive effects from fallout were observed in livestock in areas that were incorrectly assumed to be uninhabited by people.[24] After realizing the magnitude of the problem, Warren advised Groves that the fallout danger zone, originally set at a 15-mile radius, was too small by at least an order of magnitude and that “there is still a tremendous quantity of radioactive dust floating in the air.”[25]

After more than 70 years, radiation exposures from inhalation and ingestion of water and food contaminated by Trinity test fallout were never assessed,[26]and it may prove to be difficult, if not impossible, to reconstruct doses from internal exposures, given the deaths of residents living in the vicinities from the passage of time and the major changes in lifestyles and dietary habits that have occurred since 1945. Fallout maps of the Trinity test have been made, but they contain strong elements of speculation because of the paucity of radiological monitoring at the time.

The National Cancer Institute is near completion of a fallout dispersion study of the Trinity explosion. Regardless of the outcome of this study, it is clear the public was endangered because of US government negligence in conducting a highly dangerous experiment, as was the case for the downwinders living near the Nevada Test Site, where above-ground nuclear tests were conducted. Because of passage of the Radiation Exposure Compensation Act in 1990, 22,220 “downwinders” exposed to fallout from open air nuclear weapons tests near the Nevada Test Site received an official apology from the US Government for sending them in harm’s way through deception. Through 2015, they had also received nearly \$2 billion in financial compensation.[27]

But the people downwind of the 1945 explosion in New Mexico have been denied official recognition, even though the Trinity shot was considered one of the dirtiest of American nuclear tests, with a significant absence of safeguards to protect people from dense

radioactive fallout. Safety took a back seat to making sure the first atomic bombs would meet their enormously destructive potential. Alvin Weinberg, director of Oak Ridge National Laboratory during and after the Manhattan Project captured the prevalent mindset in his memoir by saying that “all else, including safety, was secondary.”[28]

Several years ago, residents of central and southern New Mexico organized to fight for compensation. Known as the Tularosa Basin Downwinders, they have made a compelling case that cancers and other diseases are due to the Trinity blast and subsequent radioactive fallout from open air atomic bomb tests in Nevada.

Indeed, coming to terms with the legacy of the Trinity explosion through radiation dose reconstruction is further complicated by the fallout that drifted from the Nevada tests into New Mexico. As indicated by the Centers for Disease Control in 2005, northern and central New Mexico were among the areas where significant amounts of fallout were deposited from the Nevada open air atomic tests.[29] Even so, the strong correlation of increased infant deaths in the months following the Trinity explosion cannot be ignored.

We should remember that compensation for people near the Nevada test site was not exclusively based on abstract modeling of radiation doses. Rather, downwinders were also compensated because the burden of proof fell unfairly on them. They were victims not just of willful negligence, but also the government’s purposeful deception and suppression of evidence about the high-hazard activity that the US nuclear weapons program constituted. The current body of historical evidence of harm, negligence, and deception—especially the evidence of increased infant death following the first nuclear explosion—should be more than enough for long overdue justice for the people in New Mexico who were downwind of Trinity.

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Keywords: Trinity test

Topics: Analysis, Nuclear Risk, Nuclear Weapons



The *Trinity 150 mile radius map* on the reverse side was developed by Bryan Kendall a native New Mexican who grew up in Albuquerque. Bryan is a dedicated student at the University of New Mexico who plans to receive a B.S. degree in Mechanical Engineering with a minor in both Sustainability Studies and Mathematics. Bryan spent many painstaking hours taking a map of New Mexico, locating the Trinity Site on the map, drawing incremental radii around the site and then overlaying that information on the census map from 1940. The census data map has the many precinct districts indicated that were used to count the people in New Mexico, Texas and parts of Mexico. If you look closely, you can see the many small towns and villages around the Trinity site and how far they were away from the site. Each precinct has the number of people living there as part of the census data that was collected in 1940. With this information and using this methodology, Bryan was able to compile the number of residents at each incremental distance from Trinity.

Bryan's passion is to address the current climate crisis which has propelled him into the Environmental Justice arena where activism and direct support of grassroots campaigns is central. The map was created as a final project in Eileen O'Shaughnessy's "Nuclear New Mexico" class that was offered at UNM. This project specifically addresses the potential radiation exposure to those nearest the Trinity Test Site, and dispels the myth that "no one lived here and no one was harmed" or that the "area was remote and uninhabited". Both of these statements have been used extensively by the Government and others to describe the Trinity test site.

Tina Cordova of the Tulare Basin Downwinders Consortium addressed the "Nuclear New Mexico" class at UNM while Bryan was in the class, and he was inspired by her dedication as an activist and wanted to assist the TBD in their fight for justice. Bryan hopes that his map will help the TBD in their pursuit of social justice and the partial payment of restitution offered through the Radiation Exposure Compensation Act (RECA).

Of note the reason we chose to construct the map with radii drawn to 150 miles was because five days after the Trinity test, Stafford Warren wrote a long letter to General Groves. In it he warned that the Jornada del Muerto region was too populated for further nuclear explosions. Instead he urged that any future test be held at a site with a radius of at least 150 miles without people. As Louis Hempelmann observed in a 1982 interview, "we were just damn lucky." Taken from the book *The Day The Sun Rose* Twice by Ferenc Morton Szasz p. 144.