The air in the meeting room had grown stale as the afternoon wore on, but Minnesota Attorney General Mike Hatch listened intently, puzzling his way through the data. Leaning forward at the head of the oak table that dominated the room, he asked, “Are you saying there is still mercury in vaccines today?”

After a quick glance at his attaché case, Dr. Mark Geier replied, “In several of them—we have the bottles here to show you.”

“I thought the Federal and Drug Administration required it to be removed,” countered Hatch.

Mark Geier sighed. “They recommended it be removed. Many of our children are still being injected with mercury at their well-baby checkups.”

Mercury is the main component of thimerosal, an antibacterial preservative that until recently was used in most vaccines. It has become a lightning rod in an escalating debate over the cause of the nation’s rising rates of autism. It has entangled parents, health care providers, legislators, attorneys, public health officials, and drug makers, prompting them to ask one central question: Is thimerosal the mark of colossal government negligence or merely a symbol of parental desperation?

This debate became more than a theoretical one for me the day I received a call from the office of Congressman David Weldon (R-Florida), asking me if I was writing anything about thimerosal. Stuart Burns, Weldon’s deputy chief of staff, was calling in response to an article I wrote in The Washington Post Magazine, detailing the government’s acknowledgement of my son’s brain damage from a vaccine. Mr. Burns gave me the name of Dr. Mark Geier and Dr. Geier’s son David, saying, “They are the only self-funded researchers publishing in peer-reviewed journals on thimerosal and autism, using CDC data. You should talk with them.” Twenty-four hours later, I was on the phone with the Geiers. I was doubtful about what I’d hear as I dialed their number. We started speaking at 9:30 on a Saturday night. We didn’t finish until after midnight.

In the course of that call—and a two-day visit to their home a few weeks later—I heard a story that sounded more like a whodunit than a typical scientific investigation. They detailed their evidence linking thimerosal with the autism epidemic, and it was compelling. I had to hear more and told them I’d come visit in order to fully understand the issue.

Almost everybody knows of someone with autism today—but it wasn’t always like that. In the years between 1970 and the late ’90s, the autism rates in America rose from 1 in 10,000 children to 1 in 166. The Centers for Disease Control and Prevention (CDC) and the American Academy of Pediatrics (AAP) sent out an Autism A.L.A.R.M. to pediatricians across the country in March 2004, warning them that the disorder “is prevalent” and must be treated early and aggres-

I s the nation’s spiraling rate of autism caused by the mercury in vaccines? With over four thousand cases pending, a trillion dollars at stake, and public trust on the line, a firestorm is sweeping from the halls of science to the boardrooms of Big Pharma to the steps of the Capitol. Sarah Bridges spends nine months with a father-and-son team of researchers on the frontline.
Dr. Leo Kanner in 1943, numerous theories have emerged to explain its etiology, ranging from bad mothering to microwave ovens to faulty genetics. "At first they talked about 'refrigerator mothers' and then the Measles, Mumps, and Rubella (MMR) vaccine," said Dr. Adrian Sandler, chairperson for the AAP. "The field of autism is littered with the carcasses of false causes." Several recent studies have linked autism to particular genes; however, the role of the environment in the epidemic must be factored in, as genetics alone cannot account for the rapid increase in the prevalence of the disease. Most scientists agree that epigenetics—an interaction between genes and the environment—will ultimately be identified as the cause.

In the mid '90s, concerned scientists, parents, and politicians began questioning the link between the skyrocketing incidence of neurological problems in children and thimerosal, a drug that is 50 percent mercury by weight.

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ollowing up on my promise to the Geiers, I flew to the East Coast last fall to meet with them. The subway ride from Washington, D.C., was humid and long as the train sped past a blur of high-rise buildings and emptied out in the Maryland suburbs. I spotted Mark Geier on the platform—middle-aged with practical glasses, slightly unruly hair, and an easy grin. No flash, I thought, but exuding confidence.

"I'm Mark," he said, extending a hand before climbing into the driver's seat of a car with "Geier 4" spelled out on the license plate.

"What happened to Geier 1, 2, and 3?" I asked.

"My wife and son have those," he replied.

We traveled through a residential neighborhood to his modest two-story home. He chatted amiably as we drove and told me a story about his attempt to have thimerosal delivered to his house so that he could study it in one of his labs. "A day after I ordered it," he said, "I received a frantic call from the Fed-Ex office. The woman on the other end said they would not be able to deliver thimerosal out of an abundance of caution." He paused and looked over at me. "This is the same stuff we are injecting into our kids."

I didn't respond. Despite the severe reaction my son Porter had to the pertussis (whooping cough) vaccine, I am a firm believer in immunizations. I've had two children since Porter's injury, and both of them have been fully vaccinated. The mercury-poisoning theory of autism reminded me too much of the preposterous Mad Hatter in Alice in Wonderland. The training I did for my PhD in experimental psychology taught me to be skeptical, and it was working well at the moment.

Mark must have seen the look on my face. "I know it's hard to believe," he said. "Spend a few days with us, and we'll tell you about thimerosal. We'll show you the research and studies and data. Decide for yourself when we're done."

I spent the next two days with them. Here is what I learned.

In 1999, the American Academy of Pediatrics (AAP) and the US Public Health Service took the unexpected step of recommending that thimerosal be removed from childhood vaccines. In a recent interview, Dr. Thomas Saari, spokesperson for the AAP, interpreted the decision this way: "I think everyone recognizes that removing heavy metals like mercury or thallium from our environment is a good thing.... We project over the next ten years that we'll add one to two new vaccines a year, so you need to be concerned about the total amount of thimerosal children would ultimately get if the newer vaccines use thimerosal as a preservative as well." He continued, "While I could not say that there is or is not a relationship to autism in some children, the AAP was on the forefront of raising this issue and suggesting that we remove thimerosal out of an abundance of caution."

This move was not unfounded. It followed the Food and Drug Administration's (FDA) Modernization Act of 1997, legislation that, among other regulations and improvements, required the FDA to review the amount of mercury that was added to products for use in potent neurotoxin, and research from other medical disciplines demonstrating thimerosal's toxicity.

There was another reason thimerosal was suspect: the linear correlation between increasing rates of autism and the amount of thimerosal children received during the '90s. With the number of routine thimerosal-containing vaccines rising from eight to nearly 40 in that decade, federal health officials realized that some children were receiving many times the EPA's safe limit for mercury—the daily limit of allowable mercury based on evaluation of documented human mercury exposure—on given days in the first six months of life. Essentially, it appeared that the more thimerosal given to a child in a year, the more likely he or she was to develop autism or a related neurological disorder.

In the mid '90s, concerned scientists, parents, and politicians began questioning the link between the skyrocketing incidence of neurological problems in children and thimerosal, a drug that is 50 percent mercury by weight.
human. In 1999, the review was completed, and the FDA required the removal of thimerosal from over-the-counter drugs. The same year, once the amount of thimerosal in childhood vaccines was addressed by the FDA, directed that all children were receiving more than 100 times the EPA’s safe limit for mercury by 18 months of age. The agency also acknowledged that long-term studies for thimerosal had never been conducted. “The recognition caused a huge stir,” Barbara Lee Fisher said. Fisher is the co-founder and president of the National Vaccine Advisory Committee and served for four years on the FDA Vaccines and Related Biological Products Advisory Committee, a group that advises the FDA on vaccines issues. She also has a son she believes was harmed by a vaccine. “I stood in the back of the room when they announced [the amount of mercury], and you could hear the sighs—people were obviously upset. They worried that a crisis of public confidence would jeopardize the vaccine program.” In 2000, the Institute of Medicine (IOM), an impartial advisory board to Congress, stated that a link between thimerosal and autism was “biologically plausible” and reaffirmed the recommendation to remove it from vaccines. Curtis Allen, of the CDC’s National Immunization Program, said in a recent e-mail that “at present, all routinely recommended vaccines manufactured for administration to US infants are either thimerosal-free or contain only trace amounts of thimerosal that are a byproduct of the manufacturing process.” In contrast, a review of FDA documents, acquired by Rep. Weldon, reveals that some of the Influenza, Meningitis, and Diphtheria-Tetanus and Acellular Pertussis (DTaP) vaccines given to children today still contain thimerosal. For example, the DTaP multi-dose vaccine still contains “standard” levels (25 microseconds per dose), although thimerosal has been removed from DTaP single-dose vials. The agency also acknowledged that the final stock of many thimerosal-containing immunization didn’t expire until the end of 2002. The FDA did not respond to the Geiers’ requests for an interview.

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oon after, the Geiers began to investi-
gate the thimerosal issue increas-
ingly concerned. “Once we understood the data well enough, we were fright-
ed,” recalled David. Prompted by concerned parents they had met through their work on vaccine safety, they examined the CDC and FDA’s Vaccine Adverse Reporting System (VAERS)—a database where doctors and parents report vaccine side effects. Over the course of two years, the Geiers pub-
lished six peer-reviewed correlation studies based on the VAERS data, with startling results. The more thimerosal children received, the higher the inci-
dence of neurological problems, including autism. Next they tackled the US Department of Education data and con-
ducted a statistical comparison of yearly autism rates with the amount of thimer-
osal given to children. Again, a tight lockstep between the two was revealed. But this data only took them so far. “Correlation only means a relationship,” explained David. “The autism epidemic of the ’90s also coincided with increased television-watching among children. But none of us are arguing that TV is the cause.” To resolve this issue, the Geiers want-
ed to reanalyze the CDC’s Vaccine Safety Datalink (VSD)—a database of medical records purchased from seven Health Maintenance Organizations (HMOs) for 30 million dollars. The VSD by CDC researchers began in 1999 and revealed a statistically significant relationship be-	ween thimerosal and several neuro-

ological problems in approximately 110,000 children. CDC scientists continued ana-
lyzing the data, and e-mails they ex-
changed, obtained through the Freedom of Information Act (FOIA), revealed that despite “running, rethinking, running and rerun-
ing” the statistical analysis, the thimerosal effect did not disappear. As the subject line of lead researcher Dr. Thomas Verstraeten’s e-mail to col-
leagues stated, “I do not wish to be the advocate of the anti-vaccine lobby and sound as if I am convinced that thimerosal is or was harmful.” But, he felt that we should use sound scientific argumentation and not let our standards be dictated by our desire to disprove an unpleasant theory.

Nonetheless, the thimerosal effect did go away. Three years later, when Dr. Verstraeten presented the CDC, the VSD, the AAP, and vaccine makers at a private meeting at the Simpsonwood Conference Center in Georgia in 2000. Copies of the data shared at the meet-
ings, also obtained through the FOIA, showed a linear correlation between thimerosal exposure and neurological problems, including autism. The meet-
ing transcript revealed that several participants were concerned about thimerosal’s alleged neurological effects—and the impact the informa-
tion might have on America’s immu-
nization program.

In an e-mail to the AAP and a conference participant, comment-
ed on thimerosal, saying, “You can play with this all you want. [The results] are statistically significant.”

Dr. Richard Johnston, an immunolo-
gist and pediatrician, was concerned enough to consider his own family mem-
ers. “My gut feeling? It worries me more,” he said. “Forgive this person-
al comment, but I got called out for an error in my research. I was delivering a son by C-section... and I do not want that grandson to get a thi-
merosal-containing vaccine until we know what is going on.”

The group’s final discussion centered on how best to guard the incendary findings from the public. “Consider this an embargomed information,” said Dr. Roger Bernard, the associate director for sci-
ence at the National Immunization Program. The Geiers, who had taken his caution seriously, and the findings remained out of the public eye until they were published in an e-mail to the CDC.”

In fact, the CDC’s National Immunization Programs, which provided critical funding to the Geiers’ research, are being interpreted now as negative by the Geiers and a neutral study must come.”

Others felt this explanation didn’t go far enough. “Good case ascertainment had al-
ready been done before Simpsonwood—
but the VSD was not ready,” Dr. Verstraeten said in an e-mail to Robert Chen, chief of the Immunization Safety Branch of the CDC’s National Immunization Programs, and others, he wrote, “I do not wish to be the advocate of the anti-vaccine lobby and sound as if I am convinced that thimerosal is or was harmful.”

The CDC screening study of thimerosal-contain-
ing vaccines was perceived at first as a positive study that found an association between thimerosal and some neurological problems. This was the perception both independent scientists and anti-vaccine lobbyists had at the conclusion of the first phase of the study. It was foreseen from the very start that any positive outcome would lead to a second phase. “I’ve studied thimerosal and talked to people on both sides of the issue. There is enough evidence I’ve seen to make it clear to me that we need to get thimerosal out of the products we give to our children.” “Because the findings of the first phase were not replicated in the second phase, the perception of the study changed from a positive to a neutral study. Surprisingly, however, the study is being interpreted now as negative by the Geiers and a neutral study must come.”

Further muddying the water for some, Pediatrics failed to reveal that Dr. Verstraeten worked for GlaxoSmithKline, a vaccine maker that may be val-
ued for its success in lawsuits over thimerosal. He joined the pharmaceutical company in 2001, on the day he presented his first study to the CDC. In his letter to the Editor, Dr. Verstraeten also addressed this issue, stating, “I regard myself as a professional scientist who respects ethical value before any person or material gains.”

Continued on page 107
ber of swing voters to oppose Bush in order to tip the scales of the election. In 2000, they were naturally concentrated in the key swing electoral points, and the votes within the states that determined these electoral points were incredibly narrow. Bush won in Florida by a margin of just 537 votes; in New Mexico Gore won by 366 votes; and in Michigan Gore won by 5,708, which stretched the state beyond the 537 margin. In the nation, a candidate's win was decided by fewer than 10,000 votes.

Both Democratic and Republican strategists know that a voter is less likely to change his mind after perceiving the political landscape has changed dramatically since 2000, the voter breakdown becomes even more critical. They may say the key is to “Minimize the pols and political shows that it’s going to be an incredibly close race—just as close as the last one,” says Frank Luntz, who is why environmental organizations are developing their campaign strategies around critical swing states. “Just by getting a hundred votes here and a thousand votes there in certain swing states, we can decide the fate of the presidential election,” said LCV’s Longabaugh, a senior vice president at the LCV.

Those small pockets of voters shouldn’t be hard to find. A total of 10 million swing voters are registered voters who say they support strong environmental policies, according to the Natural Resources Defense Council. And 25,000 political ads were run in Florida, 18,000 in Ohio, and 17,000 in Michigan. “We’ve changed from a primary emphasis on personal concerns and geographical locations—on what the environmental record, but often we can’t tell the voter that the Bush Administration has a bad environmental record,” he says Werbach. “Clean cars, clean energy, clean-energy industries are exploding,” says Werbach. “Clean cars, clean energy, clean-energy industries are exploding,” says Werbach. “Clean cars, clean energy, clean-energy industries are exploding,” says Werbach. “Clean cars, clean energy, clean-energy industries are exploding,” says Werbach. “Clean cars, clean energy, clean-energy industries are exploding,” says Werbach.

One popular campaign, called “Fire Griles” (FireGriles.com), set out tooust deputy secretary of the interior and environmental for J. Steven Griles. A former energy lobbyist, Griles was paid $284,000 a year during his first several years with his company that has the same high environmental impact, and the Bush Administration’s claims of environmental security.” Indeed, the energy issue alone on sweeping concerns like Bush’s energy policy, he says Werbach. “The president has shown principles that could face lawsuits over thimerosal. There are the only

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The Rise Against Mercury

I believe that I am currently employed by a company that has the same high environmental impact, and that there is no better time for environmental organizations to amass a larger support base now.

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anyone can report a health problem, and they may indirectly link the problem to vaccines without risk of mass declassifications in vaccine rates due to heightened fears. Anyone interested in vaccine safety is well aware of Britain’s record. The only experience with which the CDC and thimerosal, the country saw immunization rates fall by 10 percent—disease rates increase.

Over the course of the reapplication process, the Geiers incurred thousands of dollars in lawyers’ fees, and it was only by analogy that the CDC itself would be able to make a profit. Thimerosal research is firmly established, the revelation will shake public confidence in the current model and its vaccination protocol and may prompt litigation aimed at the CDC and individual researchers within its ranks.

A s I sat at the dining room table in the Geiers’ house reviewing my first visit with them, several clear themes emerged from their story: Working with the US government is neither fast nor easy; it’s tough to gain trust as an outsider; and people don’t appreciate you poking around something as important to the national interest as vaccines. Roadblocks were to be expected, but at some point they became nearly insurmountable. Hoping for a “correction,” David said, “when we asked the CDC for data on the net distribution of all vaccines given to American adults by year, which is something we need to accurately calculate various clinical reactions. They told us it didn’t exist. However, a month later an anonymous researcher sent me back facsimile copies of the data to us.”

The Geiers believed it was crucial to reexamine the very data that Dr. Verstraeten and his colleagues used to study thimerosal. Up to that point in time the CDC had refused to allow independent researchers to view the data they used to support their claim that thimerosal causes autism. After an intense lobbying by Congress, the agency announced in August 2002 that citizens who had asked to view the database would be allowed to analyze the VSD database. The Geiers immediately applied. Just as quickly, their proposal was rejected.

At first, the CDC denied their application on the basis of the configuration of their proposed studies. The Geiers repeated their request and, for the second time, began a five-month process of back-and-forth with the CDC comprised of new proposals, new rejections, new amendments, and further rejections. Ultimately, the logjam was broken only through weekly intervention by Rep. David Weldon, who is a physician himself and an advocate of independent research.

One of the Geiers’ allies informed me that the Geiers would continue to pursue the CDC’s vaccine research with the ultimate goal of ensuring that the program is successful and to ensure that VSD data be made available to independent scientists, while maintaining confidentiality.

The agency’s reluctance to discuss its thimerosal-autism research is firmly established, the revelation will shake public confidence in the current vaccination protocol and may prompt litigation aimed at the CDC and individual researchers within its ranks.

A s the Geiers got closer to viewing the actual VSD data, Rep. Weldon asked the CDC to cooperate with them. The Geiers were determined to see the different phases of Dr. Verstraeten’s study—in order for the Geiers to examine how refinement of the data over the years had affected the study. A particular interest was the study discussed at the Simpsonwood meeting, which involved a comparison between thimerosal and numerous neuropsychological problems. The CDC agreed to provide the information, though the Geiers still had not received the data several months later. Rep. Weldon continued to intervene on the Geiers’ behalf. “To date, only with a conflict of interest have had access to the database,” he explained before sending another letter to the CDC’s director, Dr. Julie Gerberding, and others, asking them to share the data.

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