

The Michigan government's policy on water in Flint and the EPA's Lead and Copper Rule is a good example of a public policy that was made because it was convenient but ignored using science to anticipate consequences. Flint was millions in deficit, so policymakers decided to cut costs by changing the source of the city's tap water from treated water from Detroit to pumping it from the highly polluted Flint River, without a way to treat it properly. This led to noticeably unsafe drinking water, although officials chose to deny that the water was unsafe. On top of that, the policymakers had yet another instance of not using proper scientific foresight when they decided to simply add extra chlorine to the water instead of addressing the larger infrastructural problems, with the result of elevating the level of TTHM, "cancer-causing chemicals that are by-products of the chlorination of water" (nrdc.org). The water policies coming out of Flint were the result of wanting to cut corners and save policymakers' own asses—they did not arise from heeding scientific data.

The EPA does have a federal policy on clean water standards called the Lead and Copper Rule, first published in 1991, which orders that "if lead concentrations exceed an action level of 15 ppb or copper concentrations exceed an action level of 1.3 ppm in more than 10% of customer taps sampled, the system must undertake a number of additional actions to control corrosion," and the public must be informed about how to stay safe (epa.gov). However, this regulation was initially created with the stipulation that it be continuously updated, but the last time it was updated was in 2007. This is also not a good policy, because apparently its wording is vague and allowed for a way of testing water that was insufficient to see the extent of the lead problem at first (detroitnews.com).

On October 2005, then-California Governor Arnold Schwarzenegger signed into law AB 1179, banning the sale of “violent video games” to minors<sup>1</sup>. The law was introduced by then-California State Senator Leland Yee, citing his background in child psychology as motivation for drafting the bill<sup>2</sup>. In 2011, the US Supreme Court struck down the law as unconstitutional on First Amendment principles<sup>3</sup>. Notably, the Supreme Court’s majority opinion indicated that California’s evidence was not compelling as the research it relied on had been rejected by previous courts because it “is based on correlation, not evidence of causation, and most of the studies suffer from significant, admitted flaws in methodology.”<sup>3</sup> An amicus brief by 82 “social scientists, medical scientists, and media effect scholars” effectively argued this point by highlighting the lack of scientific evidence supporting the assertion that “violent video games cause harm to minors”<sup>4</sup>. A 2004 study used by California as evidence that there is a causal link between violent video games and aggression surveyed approximately 600 eighth and ninth graders. The survey asked students about the types of video games they preferred and their level of violence, without defining “violent”. The survey also tracked how often they played video games and various “aggressive” events such as arguments with teachers and physical fights, as well as average grades and student’s hostility levels in the past year<sup>4</sup>. However, the study itself warns that “It is important to note . . . that this study is limited by its correlational nature. Inferences about causal direction should be viewed with caution.”<sup>5</sup> Shortly after AB-1179 passed, a 2007 meta-analysis of publications that study aggressive behaviors and video games within 1995-2007 found that the results of the meta-analysis “did not support a relationship between violent video game exposure and aggressive behavior.”<sup>6</sup>

<https://www.apa.org/about/policy/violent-video-games>

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The most blatant modern failure where data and public policy intersect is the comstats system implemented in New York City in 1994. It's intention was to use available data to better inform how police combat crime. However poor incentives, bad data, and misuse led to the police issuing thousands of bogus summons and rampant discrimination against minority communities. Culminating in a 75 million dollar ruling against the City of New York in the form of a class action suit brought in response to 900,000 unlawful criminal summonses.

Comstat is supposed to work like this. Higher level police officials would collect data from various sources like 911 calls, arrest reports, citations issued and census data. From there they would locate problems and allocate resources to combat them. The data would then be reassessed to see if their strategies were effective. As an example if a certain cross street had a robbery on it regularly after 3 AM they would direct a patrol car or office to be there at that time to deal with the issue.

Although the NYPD claims this is how it is working evidence and testimonials say otherwise. For one the Police are providing and analyzing the data themselves which can lead to problems of confirming biases. If you believe a minority area has more crime you spend more resources looking for crime there and then you find more crime and the cycle repeats. The way this data was used is also problematic. The success of an area's police was based on their criminal arrest statistics. They were expected to demonstrate that they were effectively policing by meeting arrest and citation numbers. As crime fell in New York the pressure from higher ups to maintain that trend and keep arrest numbers high. This led to police falsely arresting people to keep the numbers up and meet their goals. And who do you arrest on trumped up charges if you want to get away with it? Minority groups that lack the ability to fight back.

To summarize. Biases lead to bad data. Combine this with bad use of said data and the NYPD's compstat program led to years of systematic abuse of minority communities.

I came up with a pretty dated example of bad policy for public health. For the rest of this response, I'll talk about the federal government's response to leaded gasoline and lead poisoning deaths in the late 1920s. This is an older example, but it's interesting because the government did not rectify the problem of pumping lead into the air until the late 60s. So, a bad policy stayed in place for decades, and I'll touch on what resulted.

In a nutshell, during the early 1900s, the gasoline and automobile industries were looking for fuel additives that would reduce engine "knocking," and they found that tetraethyl lead or just lead, a cheap and very effective solution to this problem. So, leaded gasoline was brought to the market as a better fuel for engines, and became the leading fuel for cars.

However, almost immediately following productions around 15 workers at the fuel facilities died of lead poisoning, causing the surgeon general of the US to suspend the production of the fuel and investigate the health impacts of leaded gasoline. And, this is where the fun starts.

The president gave the surgeon general 7 months to conduct a full investigation into and to research the long term effects of leaded gasoline on public health. Obviously 7 months is not enough time for any kind of conclusive study on the long term effects of exposure to anything, so it is not surprising that the surgeon general could not find significant enough evidence to say that lead from fuel emissions would be bad for public health.

<https://www.cancer.org/cancer/cancer-causes/teflon-and-perfluorooctanoic-acid-pfoa.html>  
**The PFOA issue:**

Bad science enabled the production of PFSOAs goods for consumption. Bad policy kept DuPont from being liable. The Superfund law may indirectly enable corporations to tamper with EPA investigations. The entity of investigation is responsible for funding the investigations of their activity. Empowered by this oversight, an entity under investigation may have control over the investigation. This is problematic.

I'm not entirely clear on the details here and the influence DuPont had over their own investigation but it seems like the threshold for toxicity was considerably off. The tools for measuring toxicity may have been inaccurate measuring devices as well, or I may be confusing this movie with Chernobyl again. Regardless, the investigation of chemical toxicity was deterred and policy prevented an independent investigation of the situation from occurring. People died as a result.

From what I've found, the Food Quality Protection Act (FQPA) of 1996, though not completely disastrous as the Colorado river policy, shows the ineffectiveness that policy can have if it is only based on the opinions of lobbyists and uninformed media coverage. Before 1996, the EPA used a "negligible risk" standard for determining the danger of pesticides in raw food, which means they weighed the health danger of the pesticide versus the reduction of food supply (as long as the pesticide had a less than million-in-one chance of causing cancer). For processed food, originally, there was a no tolerance policy, called the Delaney clause, which stated that no cancer could be caused from pesticides that were present in processed food. These two different policies for different food types were messy to implement, and the EPA started using the negligible risk policy for both processed and raw produce without legislative cause. After this, there were three factors that caused the FQPA to become overly restrictive of pesticide use in both raw produce and processed foods. First, environment lobbyists who wanted very few pesticides successfully sued the EPA for not following the Delaney clause. Secondly, a report titled "Pesticides in the diets of infants of children" said children may be at greater risk from pesticide effects, but the media interpreted this as current pesticides posed these increased risks (which was an inaccurate interpretation of the results), even though the report claimed the EPA was doing fine with regulation. Lastly, a (now defunct due to non-replicable results) study from Tulane University claimed that pesticides' effects can multiply together to cause more harm in the body. With the lobbyists suing, misinterpreted data, and unreliable data, the FQPA was enacted and cracked down on pesticide use in all food products, and ended up both angering farmers (who now had a harder time producing affordable crops) and environmentalists who were not satisfied. Additionally, the implementation was complicated and the policy posed struggles for disease management.

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4947579/>