careers

Lawyers, microbiologists and safe food

William Marler describes how his career in law has developed to encompass microbiological food safety. He then goes on to explain the ways in which microbiology features in his day-to-day life as a plantiff's attorney

There must be a good joke about a lawyer who sidles up to a bar and strikes up a conversation with the microbiologist on the next stool. I don't know the punch line, but rest assured it will have something to do with the microbiologist peering through a microscope, and the lawyer chasing ambulances. The punch line will insult both, but mostly the lawyer. As with any joke, it will have some basis in reality. Microbiologists spend some time with microscopes, and while I've never literally chased an ambulance, I make my living representing people who have spent time inside ambulances.

Education and training

My parents were teachers, so I took my education very seriously and aspired to become a lawyer. I studied my share of science, but I gravitated toward law and politics, and it would be some years before science became a crucial component in my work. I studied political science, English and economics at Washington State University (WSU) and while still in school, I was elected to the Pullman City Council—the youngest person and first WSU student to be elected to that office. I went on to law school at Seattle University, receiving my law degree in 1987 and from there I joined a Seattle law firm.

Six years later, my career took off when I represented many of the families injured by the infamous outbreak of *E. coli* O157:H7 linked to undercooked hamburgers at a chain of restaurants in the USA. Eventually the company settled for millions of dollars, which helped those families deal with the medical consequences to their loved ones, and enabled me to set up my own firm, and a new direction.

My firm specializes in cases involving foodborne illness. As the founding partner, I oversee a staff of about 20, including seven lawyers. Over the years we have represented thousands of people and families injured by *E. coli*, *Salmonella* and other potentially harmful microbes, and we are involved in virtually every outbreak across the USA. In many respects, my job is similar to other lawyers—dealing with clients and opposing lawyers, gathering information, negotiating settlements and sometimes trying cases in court. The main difference is that I am also deeply involved in consumer education and in the political effort to reduce the risk of foodborne illnesses.

My days usually begin before 5am, when I spend 90 minutes or so responding to emails, monitoring developments in my firm, and posting new items on my personal blog—Marlerblog.com, and several other informational sites that have become an important part of my work. By the nature of my specialty, I rely heavily on advances in science. My job would be far more difficult, if not impossible, without the advances made in food safety and microbiology.

The most obvious way we interact with scientists is through culture and isolation of bacteria, the very foundation of foodborne illness detection and surveillance. Molecular microbiology methods, such as pulse field gel electrophoresis (PFGE), allow us to build solid claims on behalf of our clients. To represent our clients, we must be able to trace a foodborne illness to its source, whether that is a pizza parlor in Florida or a meat processing plant in Nebraska, and that source must be established with enough certainty that a jury is left with little doubt about the source of an outbreak illness.

Until just a few years ago, this was difficult to establish. Outbreaks of *Salmonella* or *E. coli* O157:H7 or other serious illnesses were generally investigated by interviewing victims and searching for a common denominator—a local restaurant or scouts club or church event. In a complex society, it was difficult to detect widespread outbreaks, let alone trace those outbreaks to a specific source. PFGE changed everything. This method establishes a DNA "fingerprint" that distinguishes specific strains, confirming that these people were sickened by this batch of hamburger or that batch of peanut butter. PulseNet is a nationwide network of state and local public health agencies, coordinated by the Centers for Disease Control, which enables epidemiologists and public officials to detect national outbreaks that might normally be missed. So both the science and bureaucracy surrounding PFGE help us to represent our clients far more effectively.

There are other less obvious, but equally important ways in which we use microbiology. The popular misconception of my work goes something like this: somebody feels they have been injured or damaged, so they hire a lawyer, who argues the case before a judge and jury who awards them a great deal of money. Case closed. In fact our work is much more complicated. Every day, we hear from people who believe they have been sickened by foodborne illness. They have a stomach ache, or diarrhoea, or their grilled cheese sandwiches "*tasted funny*" or "*didn't look right*." They read in the newspaper about an outbreak of foodborne illness linked to grilled cheese sandwiches, and they say: "*Ah ha! Obviously, that's what made me sick*." So they call us. Some of those people have legitimate claims, but most are not supportable. The illnesses may be psychosomatic, or coincidental, or downright fraudulent, and the first task of a good lawyer is to sift through the claims and determine which cases are sound. As I mentioned, most claims are not supportable, and we reject the great majority. When lawyers fail to use good judgment in assessing these claims, there are repercussions throughout the system. No lawyer can make a living by arguing false or fraudulent claims; it merely wastes their own time and money, that of his clients and the courts, and that of the companies forced to defend them. Pursuing illegitimate claims undermines the system, so that the food industry is more likely to deny legitimate claims by people who have actually been sickened by their products. This, in turn, makes it more difficult to push through important measures that would improve food safety. In the long run, pursuing false claims only increases the risk that more people will get sick. Our first task is to weed out the fraudulent complaints and thereby increase the chances of

achieving success with the legitimate ones. For foodborne illness claims, we have developed a series of legal and scientific screens, derived from years of experience. Here are some of the factors we consider:

Incubation period: When claimants say the hamburger they ate this morning sickened them, they are generally out to lunch. Incubation periods—the time between eating and the onset of symptoms—are only ranges, and wide ranges at that. But they are still important. So, the claimant who says she got *E. coli* O157:H7 from today's hamburger simply does not have a winnable case, because of the incubation period for *E. coli* O157:H7 (one to ten days, typically two to five days). In 2004, a claimant who had stopped for a cheese sandwich contacted us saying: "*within two hours of eating that sandwich I became very ill*," he wrote. "*My fever went up from 98.6 to 100.2; I got diarrhoea, stomach cramps, headache and chills. I am still very sick...can you please help me?*" The answer was, no. Based on incubation periods, this person's lunch from this restaurant is most likely not the source of his illness. The major culprits—*Salmonella*, *Shigella*, *Campylobacter*, or *E. coli* O157:H7—are all subject to incubation periods longer than two hours, which rules out the cheese sandwich.

Smell and taste: other potential claimants complain that something they ate tasted funny, or didn't smell right. We try to be sympathetic, but most bacteria are odourless and tasteless, and customers who suspect a meal because it tasted funny are usually wrong. Others file what we call "*gross-out*" claims. In one case, a consumer complained that she had opened a box of "*buffalo wings*" and "*an unusually shaped piece caught my eye...when I saw that the piece had a beak, I got sick to my stomach. My lunch and Diet Coke came up and I managed to christen my carpet, bedding and clothing. I want them to at least pay for cleaning my carpet etc. What do you think?*" We thought she chose wisely not to eat the wings, but this is probably not a legitimate personal injury claim.

Health department investigations: while statutes and regulations vary from state to state, most health departments monitor outbreaks of foodborne illness. In most cases, a positive lab result from a human sample triggers a report to the local health authority and some type of follow-up investigation. The length, breadth, and documentation vary depending on the pathogen involved, the type of food, the number of persons who may be sick, the local jurisdiction, and other factors. Usually, the results of the investigation are either made public by the health authorities or can be obtained through public records. It is difficult for food-processing companies to dispute such investigations. Rarely has a defendant avoided liability where the local health department concluded that the defendant's food was the source of an outbreak. In general, public health officials are extremely cautious not to prematurely assign blame for an outbreak. They operate with a much higher burden of proof than the civil justice system. Most epidemiologists require 95% confidence in a particular conclusion, while a jury requires only 51 percent confidence. Take, for example, the *E. coli* outbreak at a school in eastern Washington State in 1998. Local and state health officials concluded that the source of the outbreak was a ground-beef taco meal prepared and served at the school. We represented the families of 11 children who were identified as victims of the outbreak. All but one of them attended the school. Four of the children developed haemolytic uraemic syndrome (HUS), which resulted in varying degrees of permanent kidney damage. However, the child with the most severe injuries did not attend the school and did not eat the implicated meal. Health officials concluded that she had been infected through exposure to her sister or another student - a secondary infection. The school district disagreed, but in doing so, the district had to challenge the health department's conclusions. The case went to trial, and testimony by health department officials proved to be crucial in the jury's decision in favour of the plaintiffs.

Health officials will not report a confirmed outbreak, or pinpoint a restaurant or supplier as its source, without being virtually certain of that conclusion. Without 95% confidence, based largely on PFGE and other biological analyses, they are likely to identify outbreaks as possible but not certain. That standard of evidence works both ways; if health officials conclude that an outbreak did not come from a particular source, plaintiffs face an uphill battle to prove their case.

Prior health inspections: most state and local health departments enforce health regulations by inspecting restaurants and other food services, and imposing fines or other sanctions for violations. These inspections provide an important tool for establishing the source of an outbreak. Documents may include reports of prior incidents or accusations of food contamination, and those documents can be acquired through the discovery process or through public record requests. Health department documents may provide evidence of improper food handling, suggesting how food may have become contaminated. They may help document a history of improper techniques and code violations that can serve as a tool for limiting a defendant's trial options. Such documentation can lead to an early and favourable settlement, and a history of repeated violations can build a case for punitive damages.

When consumers claim to have been sickened by restaurant meals, health officials or lawyers may find contaminated leftovers, but that is unusual. Far more frequently, lawyers will build their cases on a documented pattern of health code violations. For example in 2001, a young girl suffered a particularly severe *E. coli* O157:H7 infection. She had eaten a hamburger at a California fast-food chain. But, by the time health officials investigated, the original case of frozen hamburgers was long gone, and officials did not find any food on site that tested positive for *E. coli*. However, a thorough review of the restaurant's current and prior inspections revealed a crucial flaw in the firm's cooking method. In six reports spanning three years, health officials had warned the restaurant of the dangers of cross contamination. The matter settled shortly after the presentation of this information.

Clearly, advances in microbiology have helped the world understand which pathogens cause illnesses, foods that are vehicles for transmission of pathogens, and how those illnesses can be avoided. Those advances make it easier for public health and the legal system to trace an outbreak of illness to its source, and to impose sanctions that encourage food processors to minimize risk. This is one of the ways that science and the law conspire to make the world a safer and better place to live.

William Marler