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A Maker of Sirens, Sued Over Hearing Loss, Gets Help From a Researcher

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By DAVID ARMSTRONG

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Racing to a blaze, Chicago firefighter Larry Lempa usually stood toward the rear of the truck, next to a wailing siren. After three decades on the job, he says, he needs a hearing aid to understand his grandchildren. He is one of thousands of firefighters who've sued the maker of the sirens, contending they caused hearing loss.

Not likely, according to William W. Clark, a hearing scientist at Washington University medical school in St. Louis. A study he published in 2005 concluded that "firefighters are not at risk for occupational noise-induced hearing loss, even though they work nonstandard shifts and are occasionally exposed to high levels of noise."

The siren manufacturer, [Federal Signal Corp.](#), told a court the study "directly refutes plaintiffs' argument that siren noise exposure causes hearing loss in firefighters."

What the study didn't mention was that Dr. Clark was a paid expert for the company helping it with its litigation at the same time as he was doing his research. Not only that, but the company gathered data that were the basis of the study.

The case offers a look inside the world of academic researchers who boost their pay with outside work for litigants as expert witnesses and consultants. The practice is common, but it's one that can easily produce conflicts of interest, especially when the expert is simultaneously filling the dual roles of researcher and paid litigation consultant.

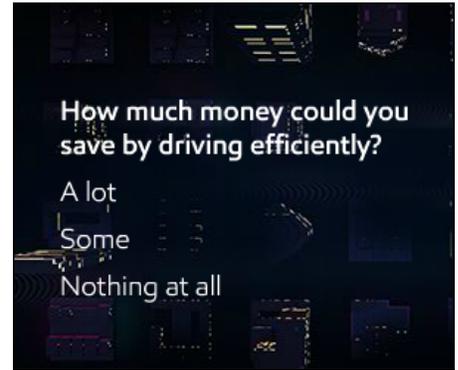
For Dr. Clark, it wasn't the first time he has prepared hearing-loss studies relating to an industry at the same time as industry interests were paying for his help. Prior cases involved railroads and mining. Dr. Clark says none of his published work has been influenced by his financial relationships with industry.

Some conflicts stay hidden because scientific journals fail to insist that researchers disclose their litigation ties. Or, a disclosure may be so vague that someone reading it wouldn't necessarily discern a study author's expert-witness role. Readers of Dr. Clark's study, which ran in *Ear & Hearing Journal*, were told only that the researcher "has provided consulting services for manufacturers of emergency firefighting equipment." There was no mention that such a manufacturer was being sued for causing hearing loss.

Peer Review

At the center of a contentious lawsuit between firefighters and siren maker Federal Signal Corp. is a study published in 2005 in the *Ear and Hearing Journal*. That study, by Washington University scientist William W. Clark, concluded that "firefighters are not at risk of occupational noise-induced hearing loss." Last year, an attorney for the firefighters subpoenaed *Ear & Hearing* for documents related to the study. That request produced normally secret records

Dr. Clark -- a Ph.D. who directs his medical school's Audiology and Communication Sciences program -- says he complied with all disclosure requirements of the *Ear & Hearing Journal*. Its editor, Brenda Ryals, says the journal "takes the issue of full disclosure very seriously." She said that Dr. Clark's



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surrounding the confidential peer review process. Among the records are Dr. Clark's request that certain experts not be selected as peer reviewers and the frank comments of the editor overseeing the selection of peer reviewers.

Document 1: Cover letter from Dr. Clark for manuscript on hearing-loss study.

Document 2: Confidential comments from reviewer on the manuscript. "This manuscript sometimes reads as though the authors are trying hard to prove that noise induced hearing loss does not exist among firefighters …"

Document 3: Confidential comments from section editor on the manuscript "This was an interesting exercise in finding reviewers…"

Document 4: Dr. Clark's comments regarding these documents.

disclosure "is currently under review at the journal."

In the late 1980s, Dr. Clark was serving as a consultant to [Union Pacific](#) railroad as it was defending a slew of suits claiming trainmen were losing their hearing from noise. He also ran a "hearing hotline" for Union Pacific workers that, among other things, counseled them on results of their hearing tests. In the midst of this, in 1989, he published a peer-reviewed article concluding that "trainmen are not typically exposed to hazardous occupational noise."

After its publication, cases began to be settled on less-generous terms, according to affidavits from rail workers and the railroad. They were settled for 80% less, on average, than before the Clark study appeared.

The journal that published the trainmen report, called *Laryngoscope*, didn't disclose that Dr. Clark was consulting for Union Pacific. Dr. Clark says it didn't require such disclosure. *Laryngoscope* says it doesn't know what its disclosure policy was in the late '80s.

To run the railroad's hearing hotline, Union Pacific paid \$850,000 to a partnership of Dr. Clark and his co-author of the railroad hearing-loss study, according to a deposition Dr. Clark gave in Cook County, Ill., Circuit Court.

Dr. Clark said in an interview that there were no published rebuttals of his study saying trainmen aren't typically exposed to hazardous occupational noise. But a lengthy critique of his article, in letter form, ran in the same medical journal the next year, stating that "there were some serious flaws in the analyses of the data and the conclusions reached." When asked about this, Dr. Clark acknowledged it but reiterated that his own study's conclusions were valid.

The writer of the critique was Karl Kryter, then a scientific consultant at Stanford Research Institute, now called SRI International. He couldn't be reached for comment.

In 1997, the U.S. Mine Safety and Health Administration was considering tougher noise guidelines. An industry group called the National Mining Association hired Dr. Clark to do a critical analysis of another federal body's noise data. He testified before the mine agency against tougher guidelines.

Two years later, Dr. Clark published a study concluding that miners did not have significant occupational hearing loss. The study was done "at the request of the National Mining Association," he acknowledged in the article. He didn't mention that the association had paid him as a consultant. In an interview, Dr. Clark said the mining trade group didn't provide funds for the study itself, which ran in a now-defunct publication called the *Journal of Occupational Hearing Loss*.

Dual Role

The Issue: Academic researchers often serve as trial expert witnesses. But doing research while helping a litigant could be a conflict of interest.

Case in Point: A hearing scientist has prepared research playing down hearing-loss concerns in mining, railroad and siren manufacturing while aiding those industries in hearing-loss litigation against them.

Upshot: In the siren case, a judge barred the scientist's study from defense use in future trials.

At the National Institute of Occupational Safety -- whose data Dr. Clark analyzed at the behest of the trade association -- a former bioacoustics expert said that his own research found elevated hearing loss among coal miners. "I don't think [Dr. Clark] has been good for the science," said the former Niosh official, John R. Franks.

Asked about this, Dr. Clark contended

Niosh researchers are "biased" because "their jobs depend on hearing loss being a problem." Dr. Franks denied that, saying that Niosh has sometimes investigated industries and found no increased hearing loss.



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On the matter of his own reputation, Dr. Clark said someone at a conference once asked him, "How come you never report that people do have hearing loss?" Dr. Clark says he told the person that "what creates the reputation is partly due to the reluctance of anybody who has data that shows hearing loss to disclose it. Find it for me, I will study it, I will publish it and I will nail that company. There is just not that opportunity."

Federal Signal, the siren maker, first worked with Dr. Clark in the late 1990s when he helped it defend some earlier hearing-loss lawsuits. The first Chicago-firefighter suit was filed in 1999.

By early the next year, plans were in the works for a study by Dr. Clark of hearing among firefighters. In a deposition in Cook County Circuit Court, Federal Signal's general counsel, Jennifer Sherman, was asked whether doing such a study was her idea or Dr. Clark's. She said she wasn't sure. Dr. Clark testified it was his.

In any case, the siren maker did the spade work. Through its sales force, it tapped contacts at fire departments to see if they would share employee hearing-test data. A letter Ms. Sherman addressed to the fire department of Fort Worth, Texas, suggested the city might face hearing-loss litigation itself if Federal Signal failed to mount a vigorous defense of the suits.

The Jan. 6, 2000, letter said Ms. Sherman was enclosing "two similar studies" -- Dr. Clark's work downplaying any noise or hearing issue for railroad workers and miners. She added: "We may want to consider a similar article for firefighters." She promised to share results with the city.

In an interview, Ms. Sherman said she wasn't certain that the letter, which surfaced during legal discovery in the Chicago litigation, was ever sent. In any case, the Fort Worth and Phoenix fire departments provided hearing-test data for a study.

Dr. Clark said he welcomed the company's help. "I did not have the time, or the energy, or the resources to try and talk every fire company in the country into participating in a study," he said in a deposition.

In an interview, Dr. Clark said he suggested to Federal Signal early on in the firefighter case that it hire Thomas Jayne, a lawyer he had worked with while serving as a consultant to Union Pacific railroad. Federal Signal did retain Mr. Jayne. He helped gather the data for Dr. Clark's study, according to the lawyer's invoices.

The invoices show that from 2000 at least through 2004, the lawyer and Dr. Clark frequently discussed the hearing study in progress. In August and September of 2003, Mr. Jayne billed Federal Signal for eight sessions with Dr. Clark. The invoices for several indicate the lawyer was reviewing a draft of Dr. Clark's proposed research article. In 2004, Mr. Jayne billed for time to "review comments of reviews re Clark article."

In Mr. Jayne's office, a paralegal and a computer technician did their own analysis of the cities' firefighter hearing-test records, according to invoices -- comparing them to hearing data for the general population. Dr. Clark says he never saw the work and that he and his co-author, Washington University colleague Carl Bohl, did their own analysis.

When Dr. Clark submitted the manuscript to Ear & Hearing Journal, he suggested four possible peer reviewers. One was Robert Dobie, a longtime friend of Dr. Clark's. Ear & Hearing selected him, its records show.

Dr. Clark also asked that two other hearing experts *not* be selected as peer reviewers. One was Randall Tubbs of Niosh, who had done several studies reporting elevated hearing loss among firefighters. Dr. Tubbs says he wasn't selected.

The person whose job was to find reviewers -- Judith Widen, a professor at the University of Kansas -- says it isn't unusual for authors to suggest reviewers, but it's less common to ask that certain people be excluded.

Dr. Clark's peer-review recommendations came to light through the legal discovery process. Dr. Clark complained that matters meant to be confidential became public and said he is "passionately committed to the integrity of the scientific peer-review process."

During the peer review, Dr. Clark says he provided reviewer comments to Federal

Signal's lawyer, Mr. Jayne. After revising the manuscript based on reviewer comments, Dr. Clark sent the final manuscript to the medical journal a week before Christmas in 2004. Learning it had been sent, Mr. Jayne emailed the company's general counsel: "There is a Santa Clause!"

A month later, Dr. Clark billed Mr. Jayne for 18 hours of consulting work on the firefighter litigation at \$200 an hour, dating to mid-2004. Dr. Clark says he was billing for tasks other than his research. The lawyer billed Federal Signal for parts of 23 days in which he worked on matters related to the firefighter research study.

In June 2005, Ear & Hearing published the study saying firefighters weren't at risk for hearing loss. Four months later, Federal Signal paid Dr. Clark a \$25,000 retainer for 100 hours of future work as an expert witness at trials. Ms. Sherman says the company wanted to make sure he was available at trials that have since been delayed.

In all, the siren maker has paid Dr. Clark at least \$32,500 for his help, invoices show. He and the company say none of this was related to his work on the study of firefighters' hearing.

The study became a prominent part of Federal Signal's planned legal defense. "This study, the only such paper published in a peer-reviewed journal, concluded that firefighters do not experience excessive hearing loss," company lawyers told Cook County Circuit Court in a filing in January 2006.

An attorney for the firefighters then sought records from Federal Signal related to the study. A plaintiffs' lawyer asserted last spring that the company was withholding some such records, a claim the company called "ridiculous." Several months later, however, Federal Signal said its lawyer's office had discovered more records related to the study. The company then turned over 1,400 more pages, consisting of data analysis done by associates in Mr. Jayne's law office.

Cook County Circuit Judge Robert E. Gordon reacted harshly to the disclosure. This February, he barred Dr. Clark and his hearing-loss study from trials of the firefighter cases to be held in his court. The judge wrote that the company and its attorneys "withheld hundreds of pages of documents used in this study and may have been an integral part of its creation." He ordered the Federal Signal side to pay the firefighters \$50,000 in attorney's fees.

The siren maker says it may still try to use Dr. Clark's study in other jurisdictions where it faces suits from firefighters holding it responsible for hearing loss. It faces cases in 17 other states, involving some 2,400 firefighters in all. Federal Signal also says that the Chicago firefighters' attorney, Jordan Margolis, never challenged the Clark study's scientific validity. Mr. Margolis says he would have, had the study had been allowed in.

Even with the study excluded, Judge Gordon warned that the firefighters' case "is a difficult rope to climb." He didn't elaborate. Federal Signal maintains the firefighters' lawyers are encouraging large numbers of people to bring "baseless claims" to extract a large settlement.

As for Dr. Clark, Washington University medical school released a letter saying that he hadn't violated any university policies.

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