# USDA data shows how bad food lands on school kids' trays

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Two colleagues approached me last summer with an intriguing pitch: They wanted to trace the meat, poultry and other food served in school cafeterias all the way back to their manufacturers. Parents, they said, were often in the dark about the quality of the food their kids eat at school — much less who supplies it — and they suspected school officials didn't know enough about the foods' sources to act when students fell ill.

How could I resist the challenge? I love food. A couple months later, though, I'd start thinking twice about having a hamburger, thanks to what we discovered using the U.S. Department of Agriculture database that tracks school-lunch food purchases.

The series of stories USA TODAY published in late 2009 under the heading "Trouble on the Tray" showed that:

The federal government bought hundreds of thousands of pounds of ground beef for the National School Lunch Program that wouldn't past muster with McDonald's or Burger King. Fast-food chains are far more rigorous than the government in checking beef for dangerous pathogens, making suppliers take samples and test ground beef more frequently.

Millions of pounds of chicken the government buys for schools is of such low quality that it has only one other market: pet food manufacturers. Campbell Soup and others

have rejected such “spent hens” because the meat often contains bones and is more likely to test positive for salmonella.
An outbreak of salmonella poisonings spurred the recall of 800,000 pounds of ground beef produced by a Fresno, Calif., company for grocery stores. But beef made by that company in the same time period for school lunches was not recalled.
Nearly a third of school cafeterias were not receiving the two annual inspections required under the Child Nutrition Act.

In February, the stories led the USDA to announce reforms designed to strengthen testing procedures, more carefully review company safety records and improve communication within the agency.

But back to the beginning. Before they brought me into the project, reporters Blake Morrison and Peter Eisler already had interviewed federal officials and searched for data to understand the food supply chain. In search of records showing where food for the lunch program came from, they'd learned that the Agricultural Marketing Service, a branch of the U.S. Department of Agriculture, posts PDFs on its Web site that detail commodities purchased from each vendor. And they'd received a spreadsheet from the AMS with a few columns of data on individual orders placed with vendors.

Our next step was an approach I often recommend when seeking data from a government agency: Get on the phone with a staffer who works directly with the agency's databases, preferably someone from its IT group.

The reason: I knew from experience that the PDFs and spreadsheets we'd seen weren’t made by hand. More than likely, they'd been produced from structured data, queried out of a database. And given the size of the USDA and the National School Lunch Program — serving 31 million students at $10 billion a year — we guessed that those reports were just the tip of the data iceberg. Often, agency spokespeople don't know the depths of the available data, but the IT people do.

Turned out we were right. On a phone call with USDA staffers, we found that the data came from its Processed Commodity Inventory Management System — a system that integrates school district food orders, bids to vendors, contracts and delivery tracking. I asked the officials to give us a copy of the system's schema, or data dictionary, so we could understand the extent of what PCIMS contained. They told us to file a FOIA request. We did, and two weeks later we received the

documents.

The schema showed that PCIMS and related systems had dozens of tables with more than 8,000 data fields. Peter and I found the tables that held the most pertinent information: details on each food order such as who ordered it, the commodity purchased, the price per pound, the amount delivered, and where and when it was sent. We submitted another request, and a few weeks later we had the data — 360,000 orders to vendors from the Agricultural Marketing Service from 2001 to 2009 — for no charge.

I loaded the data (from two large comma-delimited text files) into Microsoft's SQL Server database manager and queried out a dozen or so tabulations to help us draw a picture of trends such as the top suppliers of commodities by year. We could find, for example, which companies supplied the most pounds of ground beef or chicken nuggets.

Because the data were order-level, we also could see the name of each consignee and where the shipment was delivered. This led to an important finding: Rather than seeing the name of a school or school district, the delivery point was typically a warehouse or processor. The USDA confirmed that once the food was delivered to the location or processor the requesting state agency specified, the federal government stopped tracking its whereabouts. As an Illinois official told us about ground beef it received that may have been contaminated with salmonella, "It could be anywhere right now."

Getting the orders fueled our appetite for more data describing the manufacturing of food for school lunches, particularly beef and chicken. Under FOIA requests, we received:

Microbial test results: More than 150,000 results from tests on beef products conducted on the production lines. We queried this to find cases where the USDA was buying beef that fast food restaurants — whose standards for microbial testing are higher — would have rejected.
School food safety inspections: State-by-state counts of the number of schools that had cafeteria inspections. Using this, we found that more than 26,000 — or 28% — of school cafeterias in 2007-08 lacked the two inspections required by federal law.
Complaints: A spreadsheet with several dozen complaints received by the USDA from customers about commodity orders from 2005 to 2008, including the vendor and

resolution.
Nonconformances: Data from USDA on more than 160 instances of "nonconformance," showing when and why a school lunch program vendor did not meet program requirements.
Suspensions: Companies suspended from the school lunch program, with dates and reasons. Seven companies were suspended between 2005 and 2009.
State orders: Data from agencies in Connecticut and New York showing orders received from the school lunch program and, in the case of Connecticut, the schools where the food was delivered.

In addition, Peter built a data set of illness outbreaks at schools and their suspected causes. He found about 7,500 school children had been sickened by norovirus between 1999 and 2007. Altogether, this collection became a key resource as Blake and Peter reported the story. The data helped generate questions, confirm theories or identify sources.

We also explored the relationships between these data sets, particularly bacterial testing and orders from PCIMS. For example, the USDA's testing requirements were less stringent than those used by fast-food chains. Tests were taken less often, and the threshold for declaring failure was higher. So, we wanted to know the test results for the vendors we'd cataloged in PCIMS.

But when we received the microbial test data, it came with the vendor names redacted. Blake and Peter pressed the USDA to disclose the names, but it wouldn't budge, saying that doing so would discourage companies from working with the government.

We caught a break when we obtained a lab report on Beef Packers Inc., a Fresno, Calif., company that had been suspended three times from the school lunch program. The report contained the test date and specific results for various bacterial indicators, including a positive test for salmonella. We simply filtered our Microsoft Excel spreadsheet data to find the only company with those results on that day — labeled "Company CC" in the data. We then used the contract number from the lab report to confirm the company name via PCIMS. Upon hearing that we had made this breakthrough, the USDA re-released the testing data — with the company names included.

All told, "Trouble on the Tray" spanned five cover stories plus several daily pieces,

including stories covering congressional calls to shut down Beef Packers Inc. and the USDA's February announcement of reforms. The data collection and analysis was key to every step of reporting and writing — the stories contained numerous data points, and we published graphics showing total dollars spent on the program, top beef suppliers, and a state-by-state look at cafeteria inspections.

The process also reinforced my belief that the best data for investigations isn't what you'll find on data.gov or readily available on the Internet — it's the data that you have to persist in digging to find.