Pinpointing Shaken-Baby Syndrome Cases

A new Medill Justice Project study identifies where higher rates of shaken-baby syndrome cases are occurring in the United States

By Lauryn Schroeder
The Medill Justice Project


These unheralded counties throughout the nation share an unlikely distinction. They have the highest rates of shaken-baby syndrome cases in the United States, adjusting for population, according to a new Medill Justice Project study on this criminal justice concern.

On a statewide level, Nebraska ranks first with the most shaken-baby syndrome cases per 100,000 people, followed in order by Utah, Oklahoma, Wisconsin and Ohio.

This is the first known study that has identified where people are being accused of shaken-baby syndrome crimes throughout the country. Given the complexity of the issue and lack of public records, it has taken The Medill Justice Project a year and a half to collect, verify and analyze more than 3,000 cases and identify countrywide patterns and trends. That number of accusations is primarily comprised of criminal charges but also includes some instances where individuals were accused but not charged, or charges were dropped. Not even the FBI's Uniform Crime Reporting program, with data collected by nearly 17,000 U.S. law enforcement agencies, specifically identifies shaken-baby syndrome crimes.
Criminal justice experts, statisticians, health authorities and others interviewed for this article offered several possible explanations for the higher rates of cases in certain regions. The factors include aggressive prosecutors in places like Queens, N.Y.; influential physicians, medical examiners and hospitals; particularly focused state laws; and a large amount of local media attention on shaken-baby syndrome issues.

All of the factors contributing to a locality’s higher rate of cases could not be determined. A higher rate, for instance, could mean authorities are being effective in catching the cases when they occur, or it could mean there is a high number of caregivers who are violently shaking infants. Bias in the media and misdiagnoses may also be impacting the number of reported accusations, experts said.

With the publication of this article, The Medill Justice Project is releasing its database on shaken-baby syndrome cases to the public for the first time. The Medill Justice Project hopes the public will use this information to better understand this largely opaque issue, which affects families throughout the nation.

“I think that it’s incredibly important we have this quantitative data to help explain this,” said Deborah Tuerkheimer, a professor of law at DePaul University in Chicago who has written about shaken-baby syndrome and the courts. “It’s much more powerful that you have evidence that this is going on in certain places more than others.”

Shaken-Baby Debate

The issues surrounding shaken-baby syndrome or its broader term, abusive head trauma, are the focus of a growing national discussion within the medical community and criminal justice system. In cases involving shaken-baby syndrome, caregivers are accused of violently shaking an infant, typically under the age of 2, inflicting severe head trauma that may lead in some cases to the infant’s death.
The diagnosis is marked by a triad of symptoms: brain bleeding, brain swelling and bleeding within the eyes. Recent medical studies show accidental trauma and other medical conditions may mimic the symptoms of shaken-baby syndrome, and forensic experts have started to question whether the triad of symptoms is pathognomonic, or exclusively characteristic, of shaken-baby syndrome.

“Everyone wants it to be a clear-cut case, where these symptoms mean this and nothing else,” said Dr. Michael Laposata, director of laboratory medicine in the department of pathology at Vanderbilt University Medical Center in Nashville, Tenn. “But nothing about shaken-baby syndrome is pathognomonic.”

Laposata said he has been involved in the evaluation of more than 50,000 cases of patients with excess bleeding or abnormal clotting disorders. Laposata, whose research focuses on cases of medical error, particularly the over-diagnosis of child abuse, said while many shaken-baby syndrome cases include corroborating medical evidence such as cuts, bruises, burns or broken arms and legs, other cases do not. He said he believes innocent people have been imprisoned for crimes they did not commit.

“There must be hundreds,” Laposata said. As an expert witness in legal cases, he said, “I have around 40 cases that look like they're misdiagnosed, and I'm just one doctor.”

Dr. Randell Alexander, clinical professor of pediatrics at the University of Florida in Jacksonville and a member of the international advisory board for the National Center on Shaken Baby Syndrome in Farmington, Utah, acknowledged misdiagnoses are possible.

“I hope it doesn’t happen, but it’s not impossible,” he said. “These are heavy-duty decisions where someone’s life is involved, and so I do think we need to be sure that it’s a thoughtful process and we’re getting it right.”

Sarpy and Douglas County, Neb.

Sarpy County, the smallest county in Nebraska by area but the third largest in population, has the highest rate of shaken-baby syndrome cases in the United States, 7.45 per 100,000 people, according to the study. Just to the north of Sarpy, Douglas County is ranked fourth in the nation for its rate of shaken-baby syndrome cases. Encompassing the city of Omaha containing the state’s largest population, Douglas has a rate of 4.85 cases per 100,000 people. The counties’ higher rates are partly due to the impact of Nebraska laws, experts said, including one in 1992 requiring every county to create a multidisciplinary team to investigate child abuse or neglect cases.

The team—comprised of law enforcement, child advocacy centers, prosecutors, the Department of Health and Human Services and medical professionals—was established to help reduce the high number of infant mortalities in Nebraska and create a statewide standard for child abuse case investigations. Public health experts said the effects of the law are felt more in Sarpy and Douglas because the two counties have more than 30 percent of the state’s population.

The agencies on the team “review the cases together and if they need help they assist each other,” said Sarpy County Attorney Lee Polikov, who has acted as the lead prosecutor in Sarpy since 1999. “[The law] added continuity and consistency in the area instead of having multiple agencies try and tackle a problem independently.”

Michael D. Nelson, an Omaha criminal defense attorney for more than 20 years, said the teams help set a standard for investigations but they can also lead to quick prosecutions.

“Being a team also means that they will get together on a case and all go in one direction instead of investigating into other possibilities,” he said. “When you do that you break the golden rule in the criminal justice system, which is we don’t want to convict innocent people.”
Nelson recently represented a 30-year-old Omaha babysitter who was found not guilty last year in the shaking death of her cousin’s 16-month-old daughter. The judge cited authorities’ lack of investigatory evidence.

Nelson said the area’s higher rate of shaken-baby syndrome cases may also be connected to a Nebraska law requiring each lead county attorney to also be the county’s coroner, or chief death investigator. Nebraska is the only state in the nation that requires all of its counties to follow such a law.

As coroner, Nebraska county attorneys determine whether an autopsy is performed and oversee suspicious death investigations to declare a cause of death. According to a recent study of medical examiner and coroner systems in the United States, the systems are organized at a county, regional or statewide level, depending on the laws in each state. Medical examiners are physicians, usually with training in pathology, death investigation and forensic autopsies. Coroners are elected or appointed officials and most states implementing this method require those officials to have death investigation training or a medical background.

According to a 2008 Nebraska survey of the state’s county coroners that examined its system and death investigation procedures, 32.2 percent of county attorneys surveyed believed the system’s weakness was a lack of training in forensic science and technology. Additionally, 28.8 percent believed the lack of expertise could result in mistakes being made during major investigations. In survey comments, one attorney said, “I am afraid I will make a horrible mistake because of my lack of expertise and this antiquated system.”

Until 2009, when a law was revised, there was no requirement for Nebraska county attorneys to have specialized medical training in death investigations, nor were they legally required to consult with a certified forensic pathologist in the event of an autopsy. Brenda Beadle, the deputy county attorney in Douglas, said training is now continuous and county attorneys are required to attend an annual death investigation education course. Other counties offer additional programs ranging from attending two annual workshops in investigating deaths to a 10-week forensic school. The law also requires coroners to contract with regionally based coroner physicians, who are trained pathologists at local medical centers.

“There is no way I can make a medical determination, and I am not medically trained, I almost always require that an autopsy be done,” Polikov, the Sarpy County Attorney, said. “I trust the pathologists that we contract with, and I only have pathologists I trust do the job.”

Douglas County Attorney Don Kleine, who is also the county coroner, said Douglas employs five coroner physicians who assist in determining the cause of death. Kleine said his office also relies on the opinion of local physicians.

Douglas public defender Scott C. Sladek said he believes some physicians are not adequately considering other causes of death when making a diagnosis.

“When they see certain injuries, the cause is attributed much more to shaken-baby syndrome than any other possibilities,” he said.
Richmond County, Ga.

About two hours east of Atlanta, Richmond County, Ga., ranks second in the country for shaken-baby syndrome cases with a rate of 6.12 per 100,000 people in part because of a highly concentrated local medical system that is attuned to shaken-baby syndrome cases.

Lt. Calvin Chew, who has worked in law enforcement for more than 20 years and is the director of the internal affairs division at the Richmond County Sheriff’s Office, said his office is frequently referred cases from local hospitals.

“If the child comes in with certain injuries, and [hospital officials] think there’s something suspicious about it, they will ask us to investigate,” Chew said. “So we get referred cases for just child abuse all the time.”

Augusta, Richmond’s largest city, is home to a sizeable medical community including Doctors Hospital of Augusta, Children’s Hospital of Georgia Pediatric Surgery, Georgia Regents Medical Center, Trinity Hospital, University Hospital, Aiken Regional Medical Centers, Medical College of Georgia Hospital and Clinics, Charlie Norwood VA Medical Center, Dwight D. Eisenhower Army Medical Center, East Central Regional Hospital and several small medical practices and specialized treatment centers.

Tuerkheimer, the DePaul University law professor, said certain hospital systems are more predisposed to making a shaken-baby syndrome diagnosis. In her research, Tuerkheimer said she identified certain hospitals, doctors, hospital systems and child abuse programs more frequently than others. She declined to identify the specific hospital systems but said her research was consistent with the findings of this study.

“To a certain extent, it is probably linked to the mindset of a doctor or a hospital system as a whole,” she said. “We know now that the triad doesn’t prove shaking anymore, but depending on who’s doing the ruling out of other causes…the mindset going into a diagnosis will certainly influence their result.”

Dr. Maureen Claiborne, a pediatrician at Georgia Regents Medical Center in Augusta who handles many child abuse cases brought to the hospital, said when there is an unexplained injury or death of a child, the hospital calls Department of Human Services and law enforcement officials to investigate.
the case. She also said the child goes through an extensive testing process and analysis before any
diagnosis is made. Analyses include CT scans and full skeletal X-rays in addition to extensive blood
tests to rule out clotting disorders and other underlying causes. The doctors take a full medical
history from the parents, and an ophthalmologist evaluates the child for retinal bleeding.

“Basically we’re trying to make sure the child doesn’t have any underlying cause for the type of injury
we’re seeing,” she said. “You don’t want to accuse someone of shaking their baby if the child has an
underlying problem.”

Claiborne, who has worked at Georgia Regents for more than 20 years, said the diagnostic process
hasn’t always been this thorough, and during her career the methods have been adjusted as the
medical community’s understanding of shaken-baby syndrome grows.

“There are borderline cases and there are clear-cut cases,” she said. “But we do our best.”

Claiborne was unsure how many shaken-baby syndrome cases have come through the hospital but
said she serves as an expert witness in Richmond child abuse cases about two or three times a year.

Sandy Hodson, a veteran reporter for The Augusta Chronicle who writes about crime, the courts and
legal issues, said she covers at least one case of shaken-baby syndrome each year and that child
abuse problems are not just local but statewide.

In 1989, Jane O. Hansen, a reporter from the Atlanta Journal-Constitution, reported 51 Georgia
children died in 1988 after local child services departments had received notice about alleged
maltreatment or neglect. Hansen’s work sparked a further Atlanta Journal-Constitution investigation,
which helped uncover hundreds of wrongful or preventable deaths where caseworkers from the
Division of Family and Children Services had failed to detect or report evidence of child abuse. The
findings caught the attention of then-Gov. Roy Barnes, who ordered the Georgia Bureau of
Investigations to seize the agency's records.

“I think there is a realization that we have a problem with child abuse here in Georgia,” Hodson said.

The Richmond District Attorney’s Office did not respond to several requests for comment.

Weber County, Utah

Weber County, Utah, which includes Ogden-Clearfield, a metropolitan area Forbes named one of the
best communities in the country to raise a family in 2010, is ranked third nationally in the number of
shaken-baby syndrome cases with a rate of 5.06 per 100,000 people. Experts said the high rate may
be due to a quirk of geography.

A manager of Weber-Morgan Children’s Justice Center, which serves children who suffer from sexual
or physical abuse, said she was surprised by the results but surmised the high rate may be due to
increased awareness of shaken-baby syndrome in the area. The National Center on Shaken-Baby
Syndrome, one of the main organizations that works worldwide to educate and prevent this type of
child abuse, used to be headquartered in Weber County. The center moved about 15 miles south to
Farmington, Utah, in 2011.

Amy Wicks, an information and research specialist for the National Center on Shaken Baby
Syndrome, said media coverage plays a bigger role than the location of the organization’s
headquarters, because the center works internationally, not just locally.

“Sometimes small publications have the resources to allow reporters to cover court cases and
sometimes they don’t,” Wicks said. “We’ve had local training conferences in Salt Lake before, but
we’ve also had conferences” elsewhere.
Richard Spitzer, chief executive officer of TrendPointers, a predictive media analytics company headquartered outside of Chicago, agreed media coverage may play a role in a community’s awareness of shaken-baby syndrome. Spitzer said newsworthiness of an issue depends on several variables in each media market, but the amount of attention a story receives can be controlled by the public’s awareness of a certain subject. This means news publications would be more likely to cover an issue or event that falls within the public’s interest, and Spitzer said this might alter the perception of how often crimes occur.

“In general, [the media] does the best it can to cover important issues,” Spitzer said. “But there have been many reports indicating that the unevenness in criminal reporting distorts the true picture.”

Summit County, Ohio

Summit County, Ohio, just south of Cleveland, ranks fifth nationally in shaken-baby syndrome cases, with a rate of 4.55 cases per 100,000 people. The higher rate may be due in part to influential doctors. Donald Caster, an attorney for the Ohio Innocence Project at the University of Cincinnati, said the project noticed an unusually high number of shaken-baby syndrome cases in Summit. Further research led the project to physicians at Akron Children’s Hospital in the county’s most populous city.

An article published by a local Ohio newspaper in 2009 stated that in a little more than two years, 36 cases of shaken-baby syndrome had been reported in a 25-county area served by Akron Children’s Hospital. Caster said Dr. Richard Daryl Steiner, director of the hospital’s child abuse center, has testified as an expert witness in many cases throughout the northeastern part of Ohio.

Caster cited, for instance, a 2011 case in which a Columbiana County, Ohio, juvenile court judge expressed concerns about Steiner’s diagnosis in one case, according to court records obtained for this article. In the court’s written statement, the judge said he was “somewhat shocked” Steiner used “deductive reasoning” to arrive at his diagnosis of child abuse in the case before him. The judge also said, “To simply say I cannot find any reason for this condition; therefore, it must be child abuse is, in the Court’s opinion, taking a rather cavalier attitude toward a serious matter.” The judge dismissed the child abuse case against the parents. Through a hospital spokesperson, Dr. Steiner declined to comment for this article.

Lisa Kohler, lead medical examiner for Summit since 1998, said the county doesn’t have an unusual number of shaken-baby syndrome cases. “I don’t think that our numbers are that high,” she said.
Jennie Shuki, the county’s assistant prosecutor, said she was surprised by the higher rate of cases in Summit.

“We take any kind of child abuse case extremely seriously,” Shuki said. “If more than one medical expert comes to us with a diagnosis of abusive head trauma, we’re going to prosecute for that little life that was taken away. Then it’s up to the jury to decide what’s next.”

Shuki said there’s a possibility of misdiagnosing shaken-baby syndrome but other possible causes of death are always discussed.

Oklahoma, Wisconsin and Queens, N.Y.

When ranking by number of cases alone, The Medill Justice Project found states with the highest populations tend to also have the most shaken-baby syndrome accusations.

“With data like this, there is going to be a probability effect when it comes to population,” said Phillip Stevenson, director of the Arizona Statistical Analysis Center in Phoenix and former president of the Justice Research and Statistics Association, a national nonprofit in Washington, D.C., that acts as a liaison between various state agencies and the U.S. Department of Justice. "The more people there are in that area, the more likely these types of cases will occur."

An exception is Oklahoma, which has a rate of 2.33 shaken-baby syndrome cases per 100,000 people and ranks third in the country, although its population ranks 28th nationally.

The high rate of shaken-baby syndrome cases may be due in part to socioeconomic problems and a high rate of female incarcerations in the state, said local authorities.

According to the Oklahoma Department of Corrections and the U.S. Bureau of Justice Statistics, Oklahoma has the highest rate of female incarcerations per capita in the country, and it has held this distinction for more than 15 years. That, experts said, along with other factors, such as high teen pregnancy rates, may be contributing to a lack of knowledge about the dangers of shaken-baby syndrome and partly explain the state’s high rate of cases.

For Wisconsin, which ranks fourth with a rate of 2.03 cases per 100,000 people but 20th in population, data indicated certain counties skewed the rate of shaken-baby syndrome cases.

Keith Findley, co-founder of the Wisconsin Innocence Project, noted Dane County, Wis., which is ranked 16th nationally in the rate of cases, was the site of a high profile shaken-baby syndrome case that received a large amount of attention from the local and national media. Findley said this could have increased awareness in the area and influenced how cases were prosecuted.

Audrey Edmunds, a then-35-year-old mother, was convicted of reckless homicide in the 1995 shaking death of a neighbor’s infant daughter. Edmunds was sentenced to 18 years in prison but was granted a new trial in 2008 when a Wisconsin appellate court determined new medical evidence cast doubt on her guilt. After reviewing Edmunds’ case, the Wisconsin court wrote there is “fierce disagreement” among doctors about the shaken-baby syndrome diagnosis, which points toward a change in medical opinion. Prosecutors later dropped the case and Edmunds was released from prison for time served.
The Dane County District Attorney’s Office declined to comment.

Mark Jurkowitz, associate director at the Pew Research Center’s Journalism Project in Washington D.C., which conducts media content analysis and other social science research, said high profile cases have a strong influence over the public and law enforcement, especially when cases are extensively televised.

“The whole idea of televised court cases just really captivates everyone’s attention,” Jurkowitz said. “Once the issue surfaces and sensitivities are heightened, it’s likely that the coverage will be more extensive.”

Queens County, N.Y., which lies southeast of Manhattan, has the 10th largest population by county in the United States and ranks third in the nation for total number of shaken-baby syndrome cases. After adjusting for population, it ranks 36th in cases by county per 100,000 people. Experts said the Queens County District Attorney’s Office is nationally known for aggressively prosecuting shaken-baby syndrome cases. The office also co-sponsors an annual conference with the county medical examiner’s office on abusive head trauma that invites medical and legal professionals nationwide to learn about the diagnosis, investigation and prosecution of these cases.

“A poor investigation doesn’t help anyone,” said Queens County Senior Assistant District Attorney Leigh Bishop. “I wouldn’t have a job if there was just a formula to prosecuting these cases. They’re all different.”

Verification Methods

Working with undergraduate and graduate journalism students at Northwestern University’s Medill School of Journalism, Media, Integrated Marketing Communications, The Medill Justice Project collected and verified more than 3,600 cases where people have been accused of violently shaking infants using more than 30 sources, including press accounts, public record searches, databases such as LexisNexis and court documents.

In the first phase of the project, the gender of the accused was identified and then the locations of those 3,043 cases were confirmed and analyzed to identify where shaken-baby syndrome accusations are occurring at higher rates.

The Medill Justice Project identified shaken-baby syndrome cases by the location of the county court where they were heard. Those locations were verified using prison, trial and appellate court records, government websites, Google maps, the U.S. Census and the LexisNexis database.

In instances where press accounts mentioned a shaken-baby syndrome accusation but no charges were filed or a case didn’t reach trial, The Medill Justice Project verified the location with such identifiers as the names of judges, prosecutors, public defenders, magistrates and county sheriffs investigating the case. In the event of a trial’s change of venue, which is rare and requires the approval of a judge, The Medill Justice Project chose to confirm the county in which the crime occurred, instead of the new trial location.

Criminal justice and statistics researchers said they consider such sources as press accounts as well as court and prison records an effective way to identify shaken-baby syndrome cases for a national database, given there is no way to systematically track such cases through the U.S. court system where they are identified by terms other than shaken-baby syndrome, such as murder.

Cases were identified over about the past 25 years. Anne Elixhauser, a senior research scientist with the Agency for Healthcare Research and Quality at the U.S. Department of Health and Human Services, said to find county rates—while also controlling for a change in population—a mean
population must be calculated from the 1990 and estimated 2012 U.S. Census data. This mean was used to calculate the rate per 100,000 people.

Only counties with 10 cases or more were included in the rankings to focus on specific locations with a higher number and rate of cases. Experts in criminal justice statistics said low-populated counties would skew the results because even a single incident of shaken-baby syndrome could create a statistically insignificant spike in the rate per 100,000 people and incorrectly make it appear as if the county had a high rate of cases even though there were few occurrences. The Medill Justice Project used the same method to determine the states with the higher rates of cases and excluded states with less than 50 cases to control for areas with smaller populations.

The database excludes individual defendant names in line with the recommendation of several national criminal justice experts. That's because, for instance, recent caregivers’ cases have shown that some people are innocent of these violent crimes. The goal is to identify national patterns and trends.

The database research builds on previous studies on this topic. In August, The Medill Justice Project published its first database finding that men are nearly three times more likely than women to be accused of violently shaking an infant. Following this report, The Medill Justice Project is examining shaken-baby syndrome cases abroad, starting in South Africa, where authorities said it is a little-understood criminal justice concern.

If you have information about a shaken-baby syndrome case or cases and would like to add it to The Medill Justice Project’s national database, please contact us at medilljusticeproject@northwestern.edu, or 847-491-5840. Please also contact us in cases where those accused of such crimes wish to have their attorneys’ names and contact information published as part of The Medill Justice Project database.

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2 Responses to Hot Spots

**Sue Lutten** says:

January 3, 2014 at 1:52 am

My commendations on a careful treatment of an important but difficult topic, and many thanks for making the results of your work available to the public.

I do hope you are planning to add more fields in the database, as you move forward with your analysis. I’ve posted a blog entry about some of the results I’ve had, searching on what’s available now, at [http://onsbs.com/2013/12/11/medill-database-opens-with-a-geography-lesson/](http://onsbs.com/2013/12/11/medill-database-opens-with-a-geography-lesson/)

Thank you for your efforts.

Reply

**Bayork** says:

March 23, 2016 at 5:20 pm

Our family is one of the families suffering from SBS in Oklahoma. My son that suffers from Iron Deficiency Anemia as I also do also suffered a stroke (Venous Thrombosis). Everything in his medical records points to the iron deficiency. Instead of this being the case the doctors simply said because he suffered a subdural hematoma and retinal hemorrhaging he was a victim of SBS. Despite medical evidence saying otherwise. I am also finding more families with the same story. Stroke being misdiagnosed as SBS.