Influence of Accreditation: The Impact of Accreditation on Forensic Laboratories By Diamond Spedden

The evidence collected is typically considered to be reliable and authentic; however, the illegal methods used to collect such evidence are what cause judges to disqualify it. The Exclusionary Rule purports to filter out illegally obtained evidence from the trier of fact. Arguably, in doing so, the Exclusionary Rule is intended to prevent numerous issues from arising, such as the public’s misunderstanding of the law enforcement process and police misconduct. Despite fewer capital resources, small companies can still implement fraud prevention methods. The first step is recognizing that even its most trusted employees can commit fraud. The second step is implementing a fraud prevention program. The specific aim of this research is to identify a novel strategy for preventing filicide, the murder of one’s own child. The third section analyzes fraud statistics from the 2012 and 2014 ACFE Report to the Nations to reveal trends in fraud in 2014. This paper provides recommendations to include the capability element C-score into fraud detection analytics and recommendations to prevent Filicide by Jennifer C. Lewis

The case studies reveal that most filicides are committed by parents, stepparents, or guardians. The psychology of classifying filicide was described in 1969 by Phillip Resnick and is based on the perpetrator’s motive. Resnick classifies the types of filicide as: (1) Altruistic, (2) Altruistic Filicide occurs when a parent kills a child “because it is perceived to be in the child’s best interest, which may be secondary to either psychosis or psychosis by Phillip Resnick and is based on the perpetrator’s motive. Resnick classifies the types of filicide as: (1) Altruistic, (2) Altruistic Filicide occurs when a parent kills a child “because it is perceived to be in the child’s best interest, which may be secondary to either psychosis or psychosis by Phillip Resnick and is based on the perpetrator’s motive. 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Stevenson University has a geographically diverse student population due to the online courses offered in our Master of Science in Forensic Studies program. However, our “brick and mortar” locations are both located in Baltimore County. While our campuses have not been affected by the violent uprisings in Baltimore City this past year, students had many questions and concerns. As these events unfolded, we interviewed the Chief Federal Law Enforcement Officer for the State of Maryland, United States Attorney Rod Rosenstein. Mr. Rosenstein provides a vast amount of personal and professional history as well as a thorough explanation of how the office works, both criminally and civilly.

Should readers have an interest in learning more about particular forensic specialties, leaders in the field or related current events, I encourage you to contact us with suggestions. Any comments or suggestions can be sent to chjohnson@stevenson.edu.

Once again, I offer my congratulations to the students from the Stevenson University Master of Science in Forensic Studies program whose articles were selected for publication this year. Publication in the Journal is a highly competitive process and involves a tremendous commitment on the part of the author and editors. As always, the results are proof of the talent and dedication of our students.

Carolyn Hess Johnson, Esquire
Editor and Publisher
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DIFFERENT TIMES. DIFFERENT CONTEXTS.

Please Tell Me About Your Professional Background

I’ve been a federal prosecutor for 25 years. I started out working in My first job after law school was as a law clerk for federal judge, transactions work. That dealt in the mortgage business helped me understand how those us and my experience that I had as a teenager working at a company last decade mortgage fraud has been significant area of focus for that people can commit fraud with regard to mortgages. Over the business. I looked at the files in those cases I saw some of the ways serviced loans for mortgage companies which had gone out of business. I got see a lot and to learn a lot about financial matters and fraud because they serviced loans for mortgage companies which had gone out of business. I looked at the files in those cases I saw some of the ways that people can commit fraud with regard to mortgages. Over the last decade mortgage fraud has been significant area of focus for us and my experience that I had as a teenager working at a company that dealt in the mortgage business helped me understand how those transactions work.

My first job after law school was as a law clerk for federal judge, Douglas Ginsburg on the U.S. Court of Appeals for the D.C. Circuit. After my clerkship I joined the Justice Department, so I’ve been a federal prosecutor for 25 years. I started out working in Public Integrity section of the Justice Department investigating and prosecuting public corruption cases around the country. In 1993 I spent a year working for Deputy Attorney General Phil Hammond, and then worked for a year as a Special Assistant to the head of the Justice Department’s Criminal Division, Joanne Harris. And after that I went off on a detail to work for independent counsel for about two years and the I was fortunate to get a job as an Assistant US Attorney in Maryland in 1997. I spent four years to 1997 until 2001 as an Assistant US Attorney prosecuting cases in our Greenbelt office. In 2001, I moved to the Justice department’s tax division in Washington DC and I spend four years as a supervisor for federal criminal tax cases in DC and then I was able to return here as US Attorney in 2005.

What Has Influenced Your Professional Choices?

I was interested in law enforcement from a very young age, probably as a result of watching TV shows. I didn’t have any law enforcement officers or lawyers in my family, but I guess I played cops and robbers and I was always willing to be on the cop’s side, which probably influenced me a lot. My undergraduate degree was actually in economics, which influenced me to focus on white-collar crime. The management classes I took in college have been really helpful in my current job. In my experience, practicing law in the justice department has a lot to do with managing people as well as cases. Another significant part of the job includes market aspects; it’s not enough just to prosecute, but if you want to deter crime you have to make sure you get the word out about what you are doing. We in the Justice Department have become more and more cognizant of the importance of communicating what we are doing to the public.

What Was the Process By Which You Were Appointed U.S. Attorney?

It’s a lengthy process and there are no uniform rules for how you get to be appointed as U.S. Attorney. So, it varies for administration-to-administration and state-to-state. When I applied the White House decided to evaluate the ten candidates that applied to be U.S. Attorney. Traditionally there would be some process within the state that would be winnow the candidates before they were sent to Washington to be reviewed by the administration but because of the unusual circumstances at that time, all 10 candidates ended up being by a team of Justice Department lawyers and a couple of representatives of the White House. That committee made whatever recommendations they made and my name was forwarded to the White House for consideration. I met with officials in the White House, I met with our senators at the time (Barbara Mikulski and Paul Sarbanes) and then an extensive background investigation takes place. They interview all your friends, relatives and neighbors. Finally, my nomination was sent to the Senate. The Senate actually has to vote on U.S. Attorneys just like they do on judges and other appointees, but
they don’t have hearings. Once my nomination was submitted I just had to wait until I got word that it had been voted on and approved.

**TELL ME ABOUT THE U.S. ATTORNEY’S OFFICE**

The U.S. Attorney’s Office actually has many purposes and we sum it up by saying that we represent the United States and all criminal and civil litigation in the State of Maryland. However, our responsibility goes beyond that because the U.S. Attorney’s Office has a duty to coordinate law enforcement efforts throughout the state. This coordination involves most significantly the Federal agencies because all the Federal agencies need to work through us in order to get their cases prosecuted. However, we also play an important role in coordinating state law and local law enforcement because we view it as our mission here to work jointly with state and law enforcement to reduce crime in the state of Maryland. This local coordination requires us to be in touch with all the relevant agencies such as the State’s Attorney, Attorney General, local police departments, the state police, and all the other state law enforcement agencies. We strive to have a one cohesive and coordinating effort to combat crime.

We also have a really important role in civil law enforcement and a lot of people aren’t really aware of that. There is a Civil Division in the United States Attorney’s Office, which is really a full service civil law firm. The Civil Division handles defense of civil litigation, for example when somebody slips and falls in the post office or somebody alleges medical malpractice in a military hospital. Our Assistant U.S. Attorneys will actually defend those cases just like a private law firm would defend a tort suit against a private business. We also have an affirmative component where our civil attorneys will get involved in suing companies that have defrauded the U.S. Government. Often they are health-care fraud cases where companies, doctors, or medical providers have overbilled federal insurance programs and sometimes they are contract fraud cases where somebody has contracted with the government and has made false claims, false bills, or has not provided services they were supposed to provide. And those cases are another important aspect of the enforcement that we do.

**HOW IS THE OFFICE ORGANIZED?**

We have distinct civil and criminal components. There is a Criminal Chief that supervises all the criminal aspects of the office. There is also a Civil Chief that supervises the civil components. We also have an Administrative Division. State wide we have about 83 paid Assistant U.S. Attorneys. Thirteen of those attorneys work full time on civil matters and the balance work on criminal matters. The Administrative Division has approximately seventy employees that are non-attorneys that do everything from accounting to paralegal work to legal assistant work. We have a whole department of IT professionals that handle our technology. That’s the most significant structural division; civil, criminal, and administrative divisions.

We also have two courthouses, one in here in Baltimore and the other in Greenbelt. Our Criminal Division is divided between Greenbelt, our Southern Division component and our Northern Division in our Baltimore component. In Greenbelt, we have about twenty-one of our seventy criminal prosecutors based in the courthouse who are responsible for Federal enforcement in counties surrounding Washington DC, Montgomery, Prince Georges, Charles, Calvert, and St. Mary’s. The criminal attorneys in Baltimore are responsible for the rest of the state from Garrett County all the way across Maryland and down the Eastern Shore to Somerset County. In terms of geography most of the federal cases in the state come to Baltimore but about 35 percent of our litigation is in our Greenbelt courthouse and relates those counties surrounding Washington DC.

**WHAT IS THE MOST COMMON TYPE OF CASE YOUR OFFICE HANDLES?**

The majority of our criminal caseload consists of violent crime and drug cases; probably about 60 percent or so. The reason for that is most of the crime in Maryland and throughout the country prosecuted in Federal Courts is related to drug gangs and organizations involving illegal drug dealing. So, the majority of the criminal work in the U.S. Attorney’s Office is generated by violent crime and gangs.

**WHAT CASES ARE THE MOST COMPLICATED FOR YOUR OFFICE TO HANDLE?**

It’s hard to say because every case raises unique challenges. You might think that someone getting caught with a gun in a car in Baltimore City is going to be an easy case; sometimes it is and sometimes it’s not. It really depends on the circumstance.

Generally speaking the most challenging cases for us to prosecute are white-collar corruption cases. The reason for that is the conduct in which the defendants are engaged is often related to legal conduct, unlike our drug and violence cases. In addition, the defendants often have good reputations as upstanding citizens and they rarely have criminal records. We also need to overcome positive character evidence that these defendants have been doing good things apart from the alleged criminal conduct. Finally, in many of those cases there are no witnesses or victims. For example, the victims in corruption cases are often companies that didn’t receive business because they didn’t pay a bribe or citizens that didn’t get services. The evidence in a white-collar crime is typically an agreement between conspirators and we need to prove that agreement by inference from their conduct and from documentary evidence.

The violent crime and drug enforcement cases can be challenging also because they often rely on testimony of other criminals and people who can be impeached in the courtroom because they have committed crimes themselves and because they have an incentive
to gain favor with the prosecution. These types of witnesses are looking to avoid prosecution themselves for the crimes that they have committed. So those cases raise unique challenges.

Cases involving child exploitation are extremely challenging as well because you need to work with children who have been exploited and have difficulty communicating what’s happened and are reluctant to testify in court. Challenges arise in all of our cases.

**HOW DOES YOUR OFFICE RECEIVE CASES?**

Cases come in in a variety of different ways. The majority of our cases come in from a handful of federal agencies that do most of the criminal work such as ATF, FBI, DEA, ICE and Homeland Security. The range of other federal agencies that bring us cases include the CIA, Secret Service, U.S. Postal Inspection Service and the U.S. Marshall Service. We also work jointly with local police forces or with State law enforcement agencies. Often those cases are coordinated with a federal agency, for example a local police officer and a DEA agent or an FBI agent or an ATF agent assisting in a case.

The way that cases come in typically is through a law enforcement officer who will call one of our prosecutors on the phone and describe a case and discuss whether it’s appropriate to bring that case in Federal Court, because the default location for most crime is in state courts. We are very selective about what cases we bring in Federal Court because we have limited capacity in terms of the volume of cases that we can handle in our office and the volume of cases the Federal Judges can handle. There some cases where we get a complaint directly from a citizen. For example, somebody might call up and say they’ve been a victim of extortion. Occasionally we read something in the newspaper and sparks our interest and we think we ought to get involved because there is sufficient indication of criminal conduct. We try to be cautious about that and not do a fishing expedition; we want to make sure that we believe a crime occurred before we commit the resources and begin an investigation.

That investigation process proceeds once we learned about the case either from a call or a newspaper article or a referral from a Federal Agent. Our Assistant U.S. Attorneys will sit down with their supervisors and talk about what the evidence is, what we would need to prove to make it a federal crime, and then, if warranted, they proceed to conduct a federal investigation. In the federal system more so than in the state system, cases do not come in prepackaged so what we do is work with the police or with Federal Agents to develop the evidence. Our prosecutors are really proactive so they’re really sitting down with the agents and discussing who should be interviewed, what location should be searched and what evidence we are going to need in order to make this case prosecutable, as opposed to the reactive crime that more often characterizes local prosecutor’s offices where there’s been a robbery for example or a rape or a murder and we have our victim and a suspect. In federal cases more often you are conducting a longer-term investigation where you need to go out and gather evidence and prosecutors work alongside the agents in doing that.

**HOW ARE CASES INVESTIGATED?**

We have a lot of tools that are available to conduct federal investigations. The most obvious one is to go out and interview witnesses as that’s where we get a lot of our information. In addition to that there are voluntary interviews which are a source of a lot of information and we also have the ability to use a Grand Jury process. The Grand Jury process involves issuing a subpoena, which is a court order that requires a person to come before the grand jury and testify. Once the person receives the subpoena have no choice but to come and testify unless they have a valid privilege claim (for example, a Fifth Amendment claim against self incrimination.) But apart from a Fifth Amendment claim, there are a limited number of other privileges so witnesses have an obligation to come in and testify truthfully so the Grand Jury process is a really valuable tool in order to compel people to testify and tell us what they know. We also can use the Grand Jury subpoenas to collect documentary evidence. Documentary evidence can be bank and financial records, cell phone records, or just a variety of different documents that will give us evidence about the conduct that we are investigating.

In addition to the Grand Jury, we have the ability to use pro-active law-enforcement techniques including physical surveillance, where agents can follow somebody around to see what they’re doing. Using electronic surveillance, we can actually wiretap phones with an appropriate court order and that’s a very valuable source of information particularly in our gang cases. One of the most interesting things that we do is try to gain the cooperation of co-conspirators through a process that involves either having a federal undercover agent introduced into the organization so that he or she can gather information and bring it back to us or through the use of an informant. An informant is not a law enforcement officer but somebody who inserts themselves into the criminal organization and tries to get information from the perpetrators. We also try to flip or gain the cooperation of insiders in the criminal organization so that they work for us and report what’s going on it within the criminal organization. That’s a valuable way to gain intelligence, through human sources that are actually the inside and telling us what’s going on, they can also use consensual recordings where they tap record conversations with the suspect. In some cases we also use video recording of criminal activities.

**HOW DO YOU MAKE DETERMINATIONS ABOUT WHICH CASES GET SENT TO TRIAL?**

Between 90 and 95 percent of our cases are resolved through guilty pleas. It’s actually relatively rare for a case we charge to actually go to
In your tenure as a U.S. attorney, what policies on crime have you seen to have the biggest impact on the state?

The most significant impact that I've seen in my time here as U.S. Attorney is the impact of a coordinated strategy to combat violent crime in the Baltimore City, Prince George's County and the rest of Maryland. Maryland has one of the highest murder rates in the country, which is surprising to a lot of people and the reason it's surprising is the majority of those murders occur in Baltimore City and Prince George's County. The rest of the state is actually below the national average. The impact of so many murders in Baltimore City and Prince George's County raises the state to have one of the highest homicide rates in the country. We've made a conscious effort over many years to work with our local and state partners to try to lower the homicide rate. I think we had an impact. Between 2005 and 2014, the murder rate in Maryland dropped significantly and hundreds of lives were saved. I think that's a result of this coordinated Federal and State law enforcement initiative where we were focusing on violent repeat offenders and developing Federal charges against them in appropriate cases and we were also targeting violent gangs in developing Federal racketeering and conspiracy cases to dismantle those gangs. That had a significant impact statewide. Unfortunately 2015 is not going to be a good year because of the unrest in Baltimore and because of the challenges police are facing all over the country. The murder rate in 2015 is going to be up significantly and that's very frustrating and very unfortunate, but it doesn't take away from the achievements of our law enforcement partners over the last 10 years in significantly reducing violent crimes. I think as a result of those efforts the baseline has significantly improved and we have saved a lot of lives because of the coordinated effort. The lesson I learned is we really can make an impact if all of our Federal Agencies and our law enforcement partner agencies all work together to make sure we are using the resources to target the right people and identify the people who are bringing violence to the communities and the gangs that are responsible for violent crime and focusing our resources on them.

Do case outcomes and policies affect the overall crime rate?

I believe they do but not because of anything that we do alone. I think the critical thing to recognize is that in our best year the highest number of defendants we've prosecuted in Federal Court in Maryland is about 1000, which is a fraction of the defendants prosecuted state-wide. To have an impact on crime we need to make sure that our Federal system is working in coordination with state and local partners so that we are bringing in the Federal Court the defendants for which we are going to get the biggest “bang for the buck.” I think that our policies can make a difference if we use our prosecutorial power in that way with coordination with our state and local partners and we focus on prosecuting the right people and the impact of that is that we remove those offenders from the community. If we do it right we spread the word about it, so we establish a deterrent. There is no deterrent value in a prosecution if people don't know about it and don't believe that there is a risk of being prosecuted if they themselves were to go down that road. The example that I like to use is speed cameras. When you're driving up on the road on 95 between Washington DC in Baltimore you may pass a couple of speed cameras on the side of the highway and if you watch what people do the people who know the speed cameras are there slowdown and then they speed up after they passed the speed camera. What that illustrates is a very elementary aspect of human nature is that people can be
deterred if they know that there is enforcement. Everybody knows the speed limit but that's not enough for people to slow down - people have to know that there is an enforcement. We apply that same concept in violent crime, drug enforcement, fraud, and corruption and so we try to make sure that we are prosecuting appropriate cases in all those areas and that we're spreading the word about what we're doing so that we can send that deterrent message.

One other important point is that in addition to prosecuting cases and spreading the word about cases one of our goals is to encourage people to put in place appropriate audit and oversight mechanisms so that we won't need Federal prosecution. For example, in Prince George's County we had some very significant corruption cases that were prosecuted about six years ago that illustrated that there was widespread corruption within the County government and that case was very effective in removing some of the individuals who were responsible for the corruption. However, just removing corrupt people doesn't solve the problem, it's systemic. You need to make sure that there are appropriate audit and oversight mechanisms put in place so that it won't happen again. By exposing the corruption in Prince George's County one of the things we hope to do is to encourage people to change policies so that the circumstances that lead to the crime and corruption won't be replicated. In Prince George's County for example that might involve better ethics and oversight. Our goal is to reduce crime and that requires a more comprehensive perspective in realizing that just sending someone to prison isn't a success. The success is resolving the case in a way that is going to result in fewer cases in the future. That's an approach that the Justice Department is trying to take now with a lot of drug enforcement. We've changed the dynamic in drug enforcement and changed our strategies from five years ago which were to lock up as many offenders as possible for as long as possible. The approach now is to try to be more selective about it. Try to deal more with the root causes to solve drug problems rather than just sending people to prison and that's an example of a kind of systemic change that can have an impact.

WHAT IS THE MOST DIFFICULT PART OF YOUR JOB?

The most difficult part of my job is the personnel management side of my job. We run an office that has about 160 paid employees and dozens of detailed employees who are on loan from other agencies. Dealing with those personnel issues is probably the most challenging aspect of my job. But it’s a very rewarding job. You’re not going hear of many U.S. Attorneys complain about their jobs. I feel very fortunate to have this job and I work with so many outstanding people, not just within our office but also in law enforcement and throughout state. We just this morning had an awards ceremony where we recognized 111 law enforcement officers throughout the State of Maryland for their work on violent crime cases over the past couple of years. It was really rewarding to me because it gives you a sense of the number of folks who are out there enforcing the law and the quality of the work that they are doing. We all often hear about the bad things that police do and the allegations and misconduct but you don’t hear often about the good things that they do. There was opportunity for us this morning to express our appreciation of them. Officers have commented that nobody ever gives them awards. They do their job, they go home and if something goes wrong they get criticism and if something goes right they often don’t get a lot of appreciation. So this was an opportunity for us to demonstrate to them, to convey to them our appreciation for the work they contributed to all the successes that we had. One of the things that’s humbling about my job is when things go well, the U.S. Attorney gets credit for things; I realize that it’s a function of a lot of extraordinary work by a lot of people who don’t get the credit that they deserve.

WHAT WAS YOUR MOST MEMORABLE CASE AND WHY?

Well I guess I can answer that two ways. The most memorable case that I personally prosecuted was probably a bank robbery case in the late 1990’s. I prosecuted the case involving a robbery of a credit union in College Park. It was a fascinating case because it appeared to be a robbery where an armed robber had gone into the credit union after closing time and stolen the 400,000 dollars but it turned out to be an inside job. The head teller actually set it all up and the robber was a friend of hers. The investigating authorities, the police in Prince George’s County and the FBI, were able to figure that out very quickly. It was really a great case because it illustrates the value of good law enforcement and how much space and time you have for the background of a case. This was the late 1990’s, so the Internet was still young we would do it differently today. There was a witness who had seen a getaway car and it was an Enterprise rental car. One of the FBI agents had a friend who worked for Enterprise in California, and since it was at night the California office was still open. This particular agent called California and they accessed their computer and figured out who had rented the car. Then they figured out that the fella who rented the car was actually the boyfriend of the head teller. The suspect in the credit union robbery was the boyfriend’s friend and the agents were able to put that together so quickly that even before the teller came out of the credit union we had already pretty much figured out what happened. That makes our job a lot easier when they do good police work like that.

During my time as U.S. Attorney there have been so many cases that had an impact in terms of publicity. The two cases that have been the most significant from a publicity perspective may have been when I prosecuted the corruption of the Baltimore City Jail and the corruption of Prince George’s County. There are so many cases that that have made an impact on me because of the people involved and the victims. So many of the cases are meaningful in many ways.
HOW HAS THE ADVANCEMENT OF TECHNOLOGY IMPROVED THE COURTROOM?

The advancement of technology is a mixed blessing for prosecutors. I started prosecuting in 1990; email was new and there was no such thing as smart phones and evidence was paper-based. So you would go in and do a search warrant and carry out a few boxes of documents and then the agents would sort through them and pick a few out and introduce those into trial. The value of evidence was limited that way. Today it is completely different because everything is electronic so the scope of evidence we would be able to recover in a case is much larger. That has advantages obviously in terms of the ability to find documents that are incriminating. But the disadvantages are that the job is so much more complicated. Instead of reviewing a box of documents or a file cabinet full of documents, you are reviewing gigabytes of data trying to find a needle in a haystack that might be relevant; that actually creates a lot of challenges for us.

In terms of the courtroom, the technology gives us the ability to present things in a different way. I remember the first time I use a overhead projector in the courtroom. That was modern technology at the time, we actually had TV monitors that we would project documents on. The last case that I tried personally that was about three years ago, it was fully electronic with digital copies of evidence and recordings and PowerPoint slides. Technology is important because we are able to communicate to the jurors in a way that they appreciate. The jurors today are used to getting information quickly and used to getting it electronically. They don't want to flip through binders full of exhibits. They want you to post on the TV screen the relevant documents and exactly the line that you're talking about and the technology gives us the ability to do that. It helps to present our case more effectively but also is a lot more time consuming for the prosecutors to get the case ready and they need to master the technology as well as the facts that are presented in the courtroom.

HOW HAS THE ADVANCEMENT OF TECHNOLOGY IMPROVED INVESTIGATIONS?

I talked a little bit about the volume of evidence that is the most significant fact of evidence. When our agents are conducting an investigation they are looking for digital evidence. If it's a violent crime case they want to find out what text messages the suspects exchanged or what photographs they posted on their Facebook pages. If it's a white-collar case we want to get the email and find out about what kind of exchanges the suspects have had through email. Technology has had a tremendous impact on the way cases are investigate. In the old days being a good investigator involved being a good communicator and being able to persuade people to tell you their secrets and that's still an important skill, but the ability to master the electronic evidence has been much more significant component of what we do. Our most effective law enforcement agents these days are the folks that are able to sort through digital evidence. People who know that when you have a robbery the first thing you have to do is go find the nearest cell tower and figure out the time of the robbery and which telephones were in the area because that will lead you to a suspect. And so that electronic evidence has really become critical.

SPECIFICALLY WHAT IS THE MOST IMPORTANT TOOL USED NOW THAT WASN'T USED 15 YEARS AGO?

DNA is one of the most important tools that we have because the impact of DNA is so dramatic. We had a couple of examples that we talked about this morning at our awards ceremony and those were cases that were proven by DNA. There was one murder case where DNA was recovered and over a decade later it was matched to a suspect who was caught and convicted of a murder. That never would have happened 20 years ago because the DNA would have never been matched. So the existence of DNA evidence is extraordinarily powerful, much more compelling than a witness identification or really any other form of evidence. There's cases where there is physical evidence and people think about DNA as being relevant to rape cases but it's not limited to that- any case that somebody has left a blood sample or a tissue sample at the scene of a crime we are able to track that by DNA and match it up. That been an extremely valuable tool.

HOW ARE FORENSIC EXPERTS USED IN YOUR CASES?

White collar cases often involve the use of what we call financial analysts which would be the equivalent of a forensic accountant, somebody that has the ability to sort through financial information and reconstruct that transaction and figure out where the money came from and where it went and why. Likewise we work with medical experts with many of our violent crime cases and in a lot of our civil cases. Almost every one of our medical malpractice cases involves expert testimony by a doctor or medical professional about what happened and why. So it's critical in those cases and in civil cases as well as in criminal cases.

WHAT ADVICE DO YOU HAVE FOR STUDENTS WHO ARE GETTING DEGREES IN FORENSIC STUDIES AND LOOKING FOR GOVERNMENT EMPLOYMENT?

Let me answer that in two ways. What I recommend for them and what I recommend as far as looking for a job. What I recommend in terms of developing their skills and preparing to enter that industry is that in addition to the traditional skills that they develop in the classroom, it is important to also develop communication skills. It is not just about being to discover but being able to communicate in a way that is convincing to the judges, jury, and prosecutors. What I recommend for forensic students is to develop substantive expertise in forensics. Also the communication skills are going to enable them to
not just work in the lab but to interview people outside the lab and communicate their findings to judges and jurors and I think that important.

In terms of looking for a job, the general subject of forensics is a growth industry because people with forensics skills are so valued, not just in law enforcement but also in many other business areas. So there are lots of opportunities out there for forensic graduates who are looking for their first job. They ought to be looking for opportunities to be able to continue to develop their skills. I think that's the most important thing. Your first job is probably not going to be your last job and so it is important to get into a position where you are going to continue to develop your skills and you never know what it might lead to. Some people try to particularly choreograph their career and have to make the right moves. When I look back on my career and I think it is true of many of the people that I worked with, you couldn't have choreographed it out in the beginning where you are going to wind up. People who had rewarding careers I think have taken jobs that gave them an opportunity to learn, grow, and develop skills. When you do that you don't know exactly where its going to lead to but as long as you continue to be engaged and find your work rewarding you're always going to have more opportunities in the future.

**LISA TAFFE**

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Understanding Fraud:
From the Basics to Analysis
Lauren Rose

Harry Markopolos was once an obscure financial analyst, a number-crunching fraud investigator from Boston. His career at a Boston investment firm focused on analyzing the trading strategies and revenue streams of exceptionally-performing companies in order to replicate and/or produce superior results (Kroft). His obscurity ended after he uncovered Bernard Madoff’s 65 billion dollar Ponzi scheme. Madoff, former chairman of the NASDAQ stock exchange, was highly respected in the stock market industry. In fact, he was one of the most powerful men on Wall Street. Markopolos’ investigation lasted over eight years and his conclusion was that Madoff was committing fraud. Through mathematics, Markopolos was able to prove that Madoff was scamming investors out of millions of dollars.

Over time, the relationship of mathematically analyzing financial data to the frequency of discovered fraud has become more evident. This is due to increased awareness and knowledge of fraudsters’ motivations and opportunities, advancements in technology, improved education of and increased demand for professional fraud examiners and forensic accountants, and the overall higher occurrence of fraud. Forensic accountants and fraud examiners have been referred to as the “bloodhounds” of the accounting profession. Editor, Journal of Forensic Accounting, Dr. Larry Crumbly notes that the job of forensic accountants today is to sniff out any suspicious activity in financial records rather than function as the “guard dog,” or external auditor of the statements (Forensic CPA Society).

At the 32nd Annual Southwest Securities Enforcement Conference, Lori Richards, Director of the Office of Compliance Inspections and Examinations in the Securities and Exchange Commission, delivered a speech detailing why fraud occurs and what can be done to prevent or deter it. She briefly discussed five major types of people who commit frauds: the “grifter,” “borrower,” “opportunist,” “crowd-follower,” and “minimizer” (Richards).

The “grifter” is a person who commits fraud with the intent to steal money. These types of frauds are planned in advance, by a person who is often charming, creative, and cunning: “a committed fraudster” (Richards). “Grifter” frauds are seen often in the corporate world, and include Ponzi schemes, advance fee schemes, and pump-and-dump schemes. Bernard Madoff is considered a “grifter” due to his Ponzi scheme.

The “borrower” is one who believes he/she is borrowing money with the full intent to pay it back, using fraudulent reporting to cover up losses in revenues or performance results. This type of fraud often escalates; what starts as taking small amounts of money from clients’ accounts to hide a lack of revenue evolves into additional theft to cover up the initial theft. Although this person may have good intentions to return the money, the fraud becomes much worse over time. Embezzlement is a more serious form of the “borrower’s” crime exemplified by Enron and WorldCom executives who hid debts with inflated revenues by creating fake accounting entries.

The “opportunist” believes the risk of getting caught is far lower than the benefits realized from engaging in fraud. Typically, these cases involve smaller amounts of money and shorter amount of planning time, and corporate executives and professionals in positions of authority. Insider trading is an example where higher-ups come into possession of nonpublic information and illegally use that information to trade. Martha Stewart, Michael Milken, R. Foster Winans, and others including Enron and SAC Capital hedge fund executives were convicted of insider trading.

The “crowd-follower” is someone who believes he/she is following industry practice; i.e. “pressured to stay ahead or alongside of their competitors and … may really believe that their competitors are violating the law” (Richards). These fraudsters generally admit what they are doing is wrong, but will firmly hold that everyone else is doing it as well. These crimes are often seen in market timing and late trading cases or in internal cases where employees feel they have to change numbers because of work environment pressures. There have been many company executives found guilty of late trading i.e. purchasing mutual fund shares after 4:00 p.m. such as the scheme between Canary Capital Partners and Bank of America.

Finally, the “minimizer” is a criminal who is fully aware of the illegality and unethical implications of his/her fraudulent activity, but justifies the fraud by minimizing the impact. “Minimizers” are motivated by the rewards of the fraud, including but not limited to sales commissions or recognition. These people may “minimize the harm they cause in selling a product with excessive fees or risk, because the customer is obtaining some real benefit from the investment product” (Richards). These types of frauds occur when investment advisors do not fully disclose cost information to the client to include soft-dollar policies, penalties imposed, or revenue-sharing arrangements. While these fraudsters may “minimize the fraud in their own minds, these people can do enormous harm” (Richards). This type of fraud is not typically present on a large scale with corporate companies, but rather small businesses.

However, larger-scale frauds including insurance fraud and telemarketing fraud have been noted.

Additionally, types of fraud includes: pyramid schemes, advance fee fraud, and health care fraud. However, motivation and methodology remain the same. What are common characteristics of all fraudsters? According to the Association of Certified Fraud Examiners, there are three components in combination which lead to fraudulent behavior: pressure, perceived opportunity, and rationalization. The five specific types of fraudsters above align with these categories. Donald Cressey, an American criminologist, sociologist, and penologist was the original mind behind the “Fraud Triangle.” Cressey writes:

Trusted persons become trust violators when they conceive of themselves as having a financial problem which is non-shareable, are aware this problem can be secretly resolved by
violation of the position of financial trust, and are able to apply
to their own conduct in that situation verbalizations which
enable them to adjust their conceptions of themselves as trusted
persons with their conceptions of themselves as users of the
entrusted funds or property (30).

Pressure refers to the motivation for the crime. Generally, the
fraudster has a financial need or problem that he/she is unable to solve
through legal, ethical means. The need does not have to be personal
(consumed by debt, desire for status symbols), but can be initiated
through professional aspects as well (business or job is in jeopardy,
pressure to meet productivity targets). In order to solve his/her
problem, the individual considers illegal acts of fraud (Association of
Certified Fraud Examiners).

The second part of the Fraud Triangle refers to the perceived
opportunity of the individual, or the “method by which the crime
can be committed” (Association of Certified Fraud Examiners).
The fraudster weighs the likelihood of success with the chances of
getting caught, using his/her position of trust to ease the pressure.
The perceived opportunity must include an aspect of secrecy. The
individual usually has social or professional status to uphold. For
this reason, the fraudster has to believe that he/she will have a low
risk of detection.

The third and final section of the Fraud Triangle is rationalization.
According to the Association of Certified Fraud Examiners, the “vast
majority of fraudsters are first-time offenders with no criminal past;
they do not view themselves as criminals” (Association of Certified
Fraud Examiners). As a result, the fraudster must be able to justify
the fraudulent act to make it acceptable. Justification is a critical
stage in committing fraud as noted in the five examples of fraudsters
delineated by Lori Richards. The “grifter” is entitled to the money;
the “borrower” will return the money; the “opportunist” knows it
is ultimately for his/her business and not personal gain; the “crowd-
follower” understands that the competition is dishonest; and the
“minimizer” is minimizing overall impact on others.

Donald Cressey states that when the three factors of the Fraud
Triangle are present, the person is likely to commit fraud. Over
time, skepticism regarding the sole use of the Fraud Triangle in
deterring, preventing, and correcting fraud has risen. Of the three
aspects of the Fraud Triangle, only one is specifically observable: the
opportunity to commit fraud. As a result, some analysts studied and
incorporated additional observable traits. Steve Albrecht, Keith Howe,
and Marshall Romney of the Institute of Internal Auditors Research
Foundation substituted personal integrity for rationalization; thus
proposing the “Fraud Scale” which considers the “three attributes of
pressure, opportunity, and integrity at the same time, thus one can
determine whether a situation possesses a higher probability of fraud”
(Dorminey, Fleming, Kanacher, and Riley, Jr. 20). The individual’s
personal ethical decision-making is assessed to determine the
likelihood that he/she will commit an act that is morally wrong.

The “Fraud Diamond” was introduced by David Wolfe and Dana
Hermanson in The CPA Journal to study an additional aspect of
fraudulent occurrence. Jack Dorminey et al. write: “Opportunity
opens the door, and incentive and rationalization draw the potential
fraudster toward the open doorway, but the individual must have
the capability to walk through that opening” (Dorminey, Fleming,
Kanacher, and Riley, Jr. 20). The Fraud Diamond established the
individual’s capability and personal characteristics as contributors to
potential fraud. Wolfe and Hermanson offer four observable traits
usually present in individuals who commit fraud. The fraudster is
generally in an authoritative position, understands and bypasses
internal control weaknesses, emits confidence in success, and
possesses the capability to deal with the ethical dilemma presented
by the fraud (Dorminey, Fleming, Kanacher, and Riley, Jr. 20).
The “grifter,” “borrower,” “opportunist,” “crowd-follower,” and
“minimizer” generally follow these traits, especially the confidence
and capability to handle the stress created in conjunction with
committing the fraud.

Whether the Fraud Triangle, Fraud Scale, or Fraud Diamond is
used to observe the causes of fraud, there has been definite increase
in the amount of fraud over time. According to the Committee of
Sponsoring Organizations of the Treadway Commission (COSO),
(joint initiative of United States private sector organizations dedicated
to enterprise risk management, internal control and fraud deterrence)
“the number of fraud cases increased between 1998 and 2007 in
comparison with the level in the prior 10-years of studies” (Kaplan).
Despite implementation of the Sarbanes-Oxley Act of 2002, a
mandatory regulation imposing strict reforms to reduce accounting
fraud and improve financial disclosures, the “dollar value of
fraudulent financial reporting soared in the last decade” (Kaplan). The
2014 study by the Association of Certified Fraud Examiners (ACFE)
showed that the “median loss caused by the frauds in [the] study was
$145,000. Additionally, 22 percent of the cases involved losses of at
least one million dollars” (ARA Fraud & Forensic Services).

In terms of the Fraud Triangle, individuals are finding more sources
of motivation to commit fraud. Generally, the perceived pressure
to commit fraud has increased over time, with the main source of
motivation being a higher payoff for the individual committing
fraud. An additional survey on occupational fraud by the ACFE
gives specific details regarding the aspects of the Fraud Triangle:

More than half (55.4 percent) of respondents said that the
level of fraud has slightly or significantly increased in the
previous 12 months compared to the level of fraud they
investigated or observed in years prior. Additionally, about
half (49.1 percent) of respondents cited increased financial
In the corporate world today, technology is a familiar aspect of daily life. Businesses and professionals use technology in all areas of the workplace environment: communication, productivity, marketing, and customer service, etc. Almost all information in companies, both financial and personal, is maintained digitally for quick and easy access and storage. Customer or client information, including social security numbers and identification information, are stored in digital databases in a company computer system to enable easier organization and retrieval. Online sales and marketing expand a company's business, and this process includes a large amount of stored financial data as well: credit card numbers, bank account information, etc.

Corporate communications are conducted via email, phones (text and call), chat rooms, and teleconferences. These forms of communication are easier to track and provide a mobile work environment. Social media blur the line between public and private information, encouraging more information to be shared on the Internet.

As technology continues to make businesses more efficient, it also allows for more opportunities for individuals to commit fraud. The mobility of technology allows fraud to be committed anywhere. Sensitive information is more vulnerable with technology; "fraud opportunity has increased with technology growth because thieves can now steal information and funds from anywhere in the world" (Guillot 44). Craig Guillot outlines two such examples:

Twenty-five years ago, the threats may have come from employees or insiders using confidential information and documents. Now, a 23-year-old with a laptop in Russia can steal millions from a business in New York or Atlanta… Twenty years ago, businesses had merchant accounts with credit card processing companies that were heavily vetted. Now, anyone with a smartphone and a bank account can process credit card payments by use of third-party apps or software (Guillot 44-45).

These examples offer real situations in which technology can be used to easily commit fraudulent activity as well as increase the impact, amount, and velocity of the fraudulent activity. In an age where time is money, technology has both helped and hurt businesses. It is vitally important for corporations to use technology to enhance the internal controls and protections against fraud in conjunction with improving the efficiency of business.

Internal control as defined by COSO is "the process created by an entity's management or board of directors to provide reasonable assurance that the effectiveness and efficiency of operations, the reliability of reporting in the financial records, and compliance with all regulations and laws are achieved" (Committee of Sponsoring Organizations of the Treadway Commission 94). Internal controls have long been a part of business enterprises. There are records of internal control in Egyptian, Greek, and Mediterranean trade dating to the third century B.C., and appear in Christopher Columbus's journey to the new world (Wilson, Wells, Little, and Ross 73). The need for internal control arose when there was a legal right to owning property. Once property is legally owned, it is essential to protect that property from theft. Although the process is more complex now, internal control remains tracking inventory through records. Despite the fact that this is one aspect of internal control today, there are additional purposes for internal control, as noted by Wilson:

In a modern capitalistic society, where most assets are owned by corporations and possessed by a wide variety of officers, employees, or agents, internal controls serve four purposes: 1) to protect assets from theft or misuse; 2) to provide reasonable assurance that financial statements are reliable;
The first two elements are typically served by accounting internal controls whereas the third and fourth are augmented with administrative and managerial internal controls. The differences between these types of internal controls were distinguished in multiple reports issued by the American Institute of Certified Public Accountants (AICPA). Accounting controls safeguard assets and assure the reliability of financial records. These examples include: separation of duties of departments, systems of approval, and monitoring over inventory. Administrative controls focus on efficient decision-making by management in operations and policies (Wilson, Wells, Little, and Ross 74-75). These include performance reports and quality controls.

Although the definition of internal controls has been modified since its original professional definition in 1949, it was not until 1992 that COSO identified the five major interrelated components of internal control that are still applicable to business today: control environment, risk assessment, control activities, information and communication, and monitoring (Wilson, Wells, Little, and Ross 76-77). The control environment is also known as the basis of the business; it includes management philosophy, style of operation, ethical values, and authority of the company. Risk assessment is self-explanatory and control activities are the policies that ensure management is on the right track in its business goals. Information and communication are the links between decision makers and stakeholders, and monitoring is the continual assessment of internal controls.

It was not until the Sarbanes-Oxley Act of 2002 was passed that auditing standards were established relative to internal control. The law mandated an external audit of internal control with the audit of the financial statements in addition to an attestation of internal control effectiveness by corporate executives (U.S. House of Representatives). Both public and nonpublic companies are responsible for developing an understanding of a company’s internal control system. Generally, organizations use the COSO framework as a reference for internal control responsibilities. This framework was updated in December 2011 but retained its definition of internal control and the five components of internal control referenced above (Janvrin, Payne, Byrnes, Schneider, and Curtis 191).

The significant changes in technology and business advances have altered the way in which internal control is established and maintained. Revisions of internal control laws and regulations have integrated technology enhancement into these concepts. Internal controls are an essential business practice because: “internal control is expected to promptly detect and warn of the existence of certain risks, to regularly and thoroughly evaluate the nature and extent of the risk to which the enterprise is exposed” (Krstić and Đorđević 165). Internal control is a method to prevent, deter, and/or detect fraud in a company.

Three basic types of internal controls that may assist in reducing fraudulent activity include information processing controls, physical controls, and segregation of duties. Common information processing controls include authorization of transactions, system of well-designed forms and documents, and the use of serial numbers on documents. Authorization of transactions controls establish criteria for acceptance of a certain type or amount of transactions i.e. credit policies or management signatures for sales transactions over a certain amount. A system of well-designed forms and documents refers to an easily-tracked and accurate route for transactions. For example, a sale is acknowledged by the accounting department through its receipt of document copies from the sales, credit, and shipping departments. Serial numbers on documents provide control and tracking to ensure every transaction is processed correctly (Whittington and Pany 250).

Physical controls provide physical security over records and assets and can include processes rather than physical objects like security cameras. Additional journals and ledgers used to reconcile financial records, restricted access to computer programs and data files (achieved through passwords or identification numbers), and periodic comparisons between records and physical assets [safes, locks, guards, and fences] (Whittington and Pany 251).

Segregation of duties is a fundamental concept of business management as “no one department or person should handle all aspects of a transaction from beginning to end” (Whittington and Pany 252). The responsibilities of authorizing, recording, and maintaining transactions and assets should not be performed by one individual. That would be an easy recipe for fraud in a business, and so the goal of this type of internal control is to “not allow an individual to have incompatible duties that would allow him or her to both perpetrate and conceal errors or fraud in the normal course of his or her duties” (Whittington and Pany 252).

Education of employers and employees on fraud prevention is a key control factor. Anti-fraud programs encourage communication to establish why internal controls are in place and how they protect both the business and its professionals. A company “should consider developing a code of ethics, a code of conduct, and a whistleblower hotline to impress the workforce with the ethical significance of its anti-fraud program” (Machen and Richards 69). Anonymous reporting mechanisms where employees can submit suspicions of fraudulent activity are vital in a substantial amount of fraud cases. According to the Association of Certified Fraud Examiners, tips are the most common way of detecting occupational fraud schemes – about 42.4 percent of frauds were initially detected from a tip (Association of Certified Fraud Examiners).
The establishment and maintenance of internal control is the responsibility of management; however, what if management is committing the fraud? This has occurred with greater frequency due to misuse of positional authority and increased fraud opportunities. Professions have been created and individuals educated in order to analyze and detect fraud from an outside perspective.

Fraud examiners and forensic accountants have not been identified professionally as such for long. “In the early 1900s, ‘forensic’ accounting first developed to safeguard businesses expanding in North America, but there was no specific accounting practice explicitly dealing with forensic or fraud issues” (Smith 18). It was only in 2009 when the Federal Bureau of Investigation (FBI) created a standardized, professional investigative support position known as a “forensic accountant” (Federal Bureau of Investigation). The FBI was first created in the summer of 1908, and it took more than a century for forensic accounting to be established as position even though accountants were a part of the bureau in the early 1970s when complex financial cases were occurring. According to Smith, “large fraud cases in the 1970s – such as Equity Funding, National Student Marketing, and ZZZZ Best – once again brought the issue of fraud detection into the national spotlight” (Smith 19). As the size of businesses expanded and legal action against businesses was becoming more frequent, it seemed unreasonable for accountants to perform their duties in addition to searching for fraud. One of the most notable differences between traditional accountants and forensic accountants is that the former assume “honesty and integrity” in an examination of finances while the latter typically question everything until the numbers are validated (Machen and Richards 68).

Forensic services began diverge from traditional auditing by focusing specifically on fraud detection and prevention. As workplace technology changed, the forensic accountant’s methodology evolved to include computer forensics. Smith writes:

> Today’s forensic accountant must be able to run the gamut of investigative assignments, from developing income forecasts to identifying fraudulent digital information, and—in an expanded perspective of forensic practice—preventing cyberattacks against company systems. All work product information must be presentable in the courtroom and include digital metadata. The computer skills required for this analysis go beyond the proficiency used to create spreadsheets (20).

Forensic accountants and fraud examiners are different. Fraud examiners tend to have a more general role in the duties of fraud prevention, detection, and deterrence; rather than being limited to accountants and auditors, fraud examiners can be educators, criminologists, attorneys, or fraud investigators. The Association of Certified Fraud Examiners (ACFE) was formed in 1988 with the goal of advancing the process of fraud detection. Although some practice independently, most fraud examiners are certified and members of ACFE. All fraud examiners have similar duties; primarily, they work for businesses or government agencies as employees or consultants and “assist in a fraud investigation by procuring evidence, taking statements, and writing reports” (Machen and Richards 68). Forensic accountants have these responsibilities as well, but focus on the financial aspect of fraud, delving deeper into the numbers.

Both fraud examiners and forensic accountants look for indicators to show that fraud may be present. There are red flags for both the behavior and the operations of a potential fraudster. Behavior indicators include: living beyond one’s means, experiencing financial difficulties, divorce or family problems, unusually close association with a customer or vendor, defensiveness, addiction problems, past legal or employment-related problems, excessive pressure from within the organization or from family for success, refusal to take sick leave or vacations, and complaining about lack of pay or authority (Lundstrom 4-6). Operational indicators include: reluctance to provide information to auditors or frequent changes in auditors, unexplained changes in or alterations to accounts, increases in revenues and decreases in expenses, large numbers of write-offs, rapid growth or profitability, and excessive numbers of year-end transactions (Lundstrom 6-27).

If red flags are identified, or the professional believes that fraud may be present, analysis begin with mathematical and accounting tools. Benford’s Law is a standard mathematical tool. The majority of mathematics is based on finding differences in patterns; “this mathematical theorem allows accountants to use digital frequency analysis to identify numbers (and digits within numbers) that appear in unnaturally high percentages in populations of financial data” (Machen and Richards 69). Unexpected patterns in data assist with detecting fraudulent data. Specifically, Benford’s Law focuses on the leading digit (the first digit in a given number) and the different probabilities associated with different leading digits. For example, “the probability that in a randomly selected number, the first digit is ‘1’ is about 30 percent, while the probability that the first number is ‘9’ is only five percent” (Grabiński and Paszek 515). The implied probability of the first digit (if leading digits that are zero are ignored is ) where base 10 logarithms are denoted (Tödter 340). The implied probability of the second digit with the same conditions is ) and is obtained by summing over all first digits (Tödter 340). See Figure 1 in the Appendix for a distribution of first and second digits according to Benford’s Law.

Physician Frank Benford formulated Benford’s Law in 1938, based on discovery by mathematician and astronomer Simon Newcomb in 1881. Benford expanded on Newcomb’s digit distribution in natural numbers to show that the law can be applied to a given data set as a measure of reliability (Grabiński and Paszek 516). If the given data set is not consistent with Benford’s, it is possible that some of the
Another mathematical tool that is used in application for detecting fraud is regression. Essentially, regression creates a model of the relationship between variables. Usually, there is one variable that the experiment is trying to predict and one or more other variables that are considered predictors of that variable. In an example related to fraud cases, company cases that do not have fraud occurrences are coded as “0” and company cases that have fraud occurrences are coded as “1.” An additional factor used to predict fraud risk, such as bankruptcy risk, is applied to the regression. Using regression analysis, a linear model is calculated that produces values only between 0 and 1, which are then interpreted as probabilities. This model is now based on two factors: fraud occurrence and bankruptcy risk. An example of a model that uses these variables is seen in Figure 2 in the Appendix. The logistic regression equation for the model presented in this figure is (McKee 29).

This may not seem useful initially; however, the “reason for developing a fraud model is to use it to forecast fraud risk for other companies” (McKee 29). The model designed in the example above can be applied to other companies in order to identify potential fraud risk. If a new company is established where the fraud risk is unknown, the bankruptcy risk could be substituted into the formula to calculate fraud risk. Should a better indicator of fraud risk arise, i.e. company size, a new regression model could be formed. McKee presents a revised model based on three variables: company size, auditor tenure, and bankruptcy risk. Figure 3 presents the model prediction results for the new regression model using the equation: (McKee 31).

Another mathematical tool used to predict suspicious activity is peer group analysis. This technique has been used to challenge stock market manipulation because it detects abnormal target behavior. Peer group analysis identifies a target and “detects the abnormal behavior of a target by comparing it with its peer group members and measuring the deviation of its behavior from the peer group” to find outliers that otherwise would go unnoticed in the population (Kim and Sohn). In terms of the stock market, a particular stock is compared with other stocks that show similar patterns of price fluctuation. The variables involved are open to the public, including price and trading volume. Ultimately, it is a useful tool for general investors and could be expanded in the future; “peer group analysis can be also advantageous in deciding an accurate time to raise an alarm since it is effective to find local outliers” (Kim and Sohn).

One of the simplest yet effective analytical tools that fraud examiners and forensic accountants use to identify fraud is trend and ratio analysis. Trend analysis measures the “changes over time in a company’s financial statements” while ratio analysis compares or contrasts “different items in a single company’s current financials … with analogous items in the financial of competitors or other companies operating in similar industries” (Tie). Trend analysis can be both vertical (two companies’ accounts side by side for one account) and horizontal (one company’s accounts over time). Ratio specifically compares the ratios that are calculated based on account balances of multiple companies. These analyses expose inconsistencies that could be signs of fraudulent activity and often lead to further investigation. Ratio and trend analysis is a standard technique used by professionals searching for anomalous information. Comparing one business’s numbers to another often reveals fraudulent information while saving time and resources.

Bernard Madoff was a legend on Wall Street with an impeccable reputation in the financial industry. He was also a master of the Ponzi scheme, a fraudulent operation where an investor uses money from new investors to pay returns to its old investors, and keeps the excess. By the time the $65 billion dollar scheme was revealed, Madoff had been stealing money from investors for over 20 years by scamming funds from over 350 companies in over 40 countries around the world (Jackson 46). Harry Markopolos was able to use mathematical analysis to prove that Madoff’s investment strategy was a giant scam. Jackson writes:

Proving Madoff was a fraudster took four hours of mathematical modeling. [Markopolos] ran least-squares regression and calculated some summary financial statistics related to risk-reward ratios, and it all came clearly into focus. [He] had run smack into the largest single fraud case in history (45).

Jackson notes how Markopolos outlined several mathematical proofs that proved Madoff’s hedge fund could not possibly exist, but since most of the examiners in the U.S. Securities and Exchange Commission (SEC) are untrained in finance, mathematics for financial transactions, and accounting (Jackson 45). As a result, ten years would elapse before the SEC challenged and accused Madoff. If previous auditors, examiners, and investors were on the lookout for red flags of fraudulent activity, the Ponzi scheme may not have lasted for over twenty years. Madoff’s business demeanor and behavior revealed a strong family influence and close associations with service providers, while some of the operational concerns included a lack of segregation amongst service providers, obscure auditors, lack of staff, and extreme secrecy (Gregoriou and Lhabiant 93-94). As many as 30 warning flags were identified in Madoff’s scheme (Jackson 45).
Understanding the basis of fraud can immensely help with analyzing potential fraudulent activity. It is important to know why fraud occurs and the characteristics that fraudsters likely portray. If management does not understand what drives a fraudster and how a company can be compromised with misappropriation and theft, how can they establish sufficient internal controls to protect its business and employees? Forensic accountants and fraud examiners must be able to recognize the motivations and opportunities behind fraud schemes and employ the appropriate tools to identify them. Mathematical and accounting analysis of fraud is built on the knowledge of patterns and comparisons, just as fraudsters follow similar patterns in committing their crimes. Applying Bernard’s Law and regression to figures is a science; however, so is understanding and recognize character flaws between employees and employers who are or are not committing fraud. Preventing, detecting, and deterring fraudulent activity becomes more efficient and reliable with the combination of education on the basics of fraud and mathematical analysis.

APPENDIX

Figure 1. Benford distribution of first and second digits - refers to the expected value and refers to the variance of the data

<table>
<thead>
<tr>
<th>d</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>$P(\hat{d})$</td>
<td>n.a.</td>
<td>0.301</td>
<td>0.176</td>
<td>0.125</td>
<td>0.097</td>
<td>0.079</td>
<td>0.067</td>
<td>0.058</td>
<td>0.051</td>
<td>0.046</td>
</tr>
<tr>
<td>$P(d)$</td>
<td>0.120</td>
<td>0.114</td>
<td>0.109</td>
<td>0.104</td>
<td>0.100</td>
<td>0.097</td>
<td>0.093</td>
<td>0.090</td>
<td>0.088</td>
<td>0.085</td>
</tr>
<tr>
<td>Var($d$)</td>
<td>3.440</td>
<td>6.057</td>
<td>4.187</td>
<td>8.254</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Figure 2. Sample data gathered from eight companies using fraud status and bankruptcy risk - the graph below represents the regression model for fraud risk with bankruptcy risk as the predictor variable

<table>
<thead>
<tr>
<th>Company</th>
<th>Fraud Status</th>
<th>Fraud Status Coding</th>
<th>Bankruptcy Risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Nonfraud</td>
<td>0</td>
<td>0.1</td>
</tr>
<tr>
<td>B</td>
<td>Nonfraud</td>
<td>0</td>
<td>0.2</td>
</tr>
<tr>
<td>C</td>
<td>Fraud</td>
<td>1</td>
<td>0.3</td>
</tr>
<tr>
<td>D</td>
<td>Nonfraud</td>
<td>0</td>
<td>0.4</td>
</tr>
<tr>
<td>E</td>
<td>Fraud</td>
<td>1</td>
<td>0.5</td>
</tr>
<tr>
<td>F</td>
<td>Fraud</td>
<td>0</td>
<td>0.6</td>
</tr>
<tr>
<td>G</td>
<td>Nonfraud</td>
<td>1</td>
<td>0.7</td>
</tr>
<tr>
<td>H</td>
<td>Fraud</td>
<td>1</td>
<td>0.8</td>
</tr>
</tbody>
</table>

Fraud Risk per Logistic Regression Model and Bankruptcy Risk


WORKS CITED


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Health Care Fraud Enforcement Following the Patient Protection Affordable Care Act of 2010
Amy Wise

Deception within the health care industry is an inescapable problem. Charlatans, quacks, and rogues peddling their quick fixes or miracle cure-alls are still in existence today. These fraudsters have exchanged promoting Dr. Williams’ Pink Pills for Pale People, nothing more than licorice with iron and potassium, for more complex schemes to defraud (Ainsworth 480).

Since the 1980s Congress has enacted new laws or revised existing legislation to combat fraud. The most recent example is the Patient Protection and Affordable Care Act (PPACA), which was signed into law on March 20, 2010, and is codified at 42 U.S.C. § 18001 et seq. (2010). The PPACA garnered national attention as a result of various coverage controversies. Scant attention, however, was paid to the changes to laws affecting the enforcement of health care fraud, specifically the False Claims Act (FCA) and the Anti-Kickback Statue (AKS).

The FCA was passed by Congress in 1863, with an original focus on combating procurement fraud (Helmer and Neff 35). It has since evolved into a compelling tool for other types of fraud (Bucy 57). The AKS is a more modern law, focused on the prevention of referral arrangements resulting in unethical or otherwise improper financial relationships (Leap 42).

There is strong evidence that amendments to the AKS under the PPACA have strengthened not only the existing statute but have also extended the reach of the FCA. Regrettably, changes to the public disclosure bar and the revised definition of “original source” instituted by Congress have failed to enhance the FCA.

HEALTH CARE FRAUD

Fraud occurs when the payer is presented with a false representation of services rendered, relies on that misinformation to process the claim, and is thereby deceived. In order to be fraud, the misrepresentation must be made about a material fact and the person making the statement must do so either knowingly or recklessly (Leap 22). For example, provider health care fraud occurs when the payer, such as Medicare, uses false information presented on a claim form to reimburse the claimant. Believing the claim to be accurate, Medicare is deceived into making a payment.

The most common health care provider fraud schemes are false billing and/or overutilization (Paschke 174). False billing may encompass unbundling, up-coding or billing for services not rendered. Up-coding is when a provider bills, “for a more expensive service than the one they provide[d] to the patient” (Taylor 17). One example could be billing for an extended office visit when the actual duration was brief. Unbundling occurs when one service is performed, as well as a second related service (Taylor 19). For example, billing for a stress test and billing for the interpretation of the results, when the proper billing code includes both services. Overutilization refers to billing for services not medically necessary (Paschke 174). One recent Maryland case involved Dr. John McLean. Dr. McLean was convicted of six charges of health care fraud, sentenced to eight years in federal prison, and ordered to pay restitution in the amount of $579,070 (Wood). Dr. McLean, a cardiologist with privileges at Peninsula Regional Medical Center (PRMC), implanted heart stents into his patients. While some procedures were proper and potentially lifesaving, a significant amount were not. As Shelly Wood reports, an internal investigation by PRMC revealed “as many as 25 stents” were placed “in patients who did not meet the clinical criteria for PCI” (Wood).

The health care industry is particularly vulnerable to fraud. Professor A. Craig Eddy explains that today’s fraud is a result of the 1965 decision to use the fee for service model exemplified by Blue Cross/Blue Shield for Medicare cases. Fee for service agreements create an environment where fraud is easy to commit and difficult to detect (179-180). Professor Pamela Bucy explains:

Health care fraud is unusually difficult to prove, whether criminally or civilly. Part of this difficulty is due to the chaos that characterizes the American health care system. The number of providers and claims submitted each year and the variety of reimbursement mechanisms, insurers and billing codes in use make it difficult to determine what happened, and it is even more difficult to prove that fraud, and not honest mistakes, occurred (59).

Under the fee for service model, the more services billed, the higher the reimbursement. As a result, this model enables a person to commit fraud easily, by hiding fraudulent claims within legitimate claims. Due to the vast amount of claims processed in addition to the subjective and sometimes imprecise nature of the practice of medicine, such fraudulent claims are not easy to identify.

The current state of health care fraud, is evidenced by the 2014 Department of Justice (DOJ) recoveries. On November 20, 2014, the DOJ issued a press release summarizing their recovery efforts for fiscal year 2014: $5.67 billion dollars from judgments and settlements under the FCA, with health care fraud accounting for $2.3 billion in recoveries (Dept. Justice Press Release 20 Nov. 2014). Of this amount, Johnson & Johnson (J&J), and their subsidiaries, Jansen Pharmaceuticals and Scios, paid $1.1 billion to settle civil allegations of kickbacks and off-label marketing; J&J paid $600 million to settle state Medicaid claims; and paid $485 million in criminal fines and forfeitures (Justice Department Recoveries).

Off-label marketing refers to the promotion of pharmaceuticals or medical devices for uses that the Food and Drug Administration (FDA) has not approved. Physicians may prescribe these medications or use these devices for an off-label condition, but sales representatives are prohibited from marketing a medication or device as such
THE FALSE CLAIMS ACT

Historical Background
On March 2, 1863, in the midst of the Civil War, Congress passed the FCA, to recoup losses and curtail ongoing procurement fraud against the Union Army (Helmer and Neff 35). There were multiple reports of boxes filled with sawdust instead of muskets (Harmon 5), and horses and mules sold and resold multiple times (Helmer and Neff 35). The FCA prohibited anyone from attempting to make a fraudulent claim against the government (Beck 555). Additionally, the FCA established that the penalties for such actions included a fine of $2000 plus double the amount of damages incurred by the government (Helmer and Neff 37). The FCA contained a qui tam provision, which permitted any individual to bring cases on the government's behalf (Beck 555). If the government prevailed, the relator was to receive one-half or fifty percent of the amount recovered (Beck 555). Senator Howard, a chief supporter of the FCA provided his reasoning for including a qui tam provision:

"to hold out to a confederate a strong temptation to betray his coconspirator [sic], and bring him to justice…I have based the qui tam provision upon the old-fashioned idea of holding out a temptation, and 'setting a rogue to catch a rogue,' which is the safest and most expeditious way I have ever discovered of bringing rogues to justice (Beck 556, Note 64)."

The phrase qui tam is an abbreviated form of, qui tam pro domino rege, &c., quam pro se ipso in hac parte sequitur, Latin for "[w]ho sues on behalf of the King as well as for himself" (Bucy 57-58). A private citizen or relator may sue on behalf of the government, in exchange for a reward or bounty. President Lincoln deemed such a provision as a necessity, as he did not have the government resources available today i.e. the DOJ or the Federal Bureau of Investigation (Helmer and Neff 35).

According to Professor J. Randy Beck, qui tam laws date back to the Roman Empire, when criminal statutes "offer[ed] a portion of the defendant's property as a reward for a successful prosecution" (566). In 695 A.D. King Wihtred of Kent prohibited working on a Sunday, by relying upon a qui tam based law (Beck 567). The statute stated, "if a freeman works during the forbidden time [between sunset on Saturday evening and sunset on Sunday evening], he shall forfeit his healsfang, and the man who informs against him shall have half the fine, and [the profits arising from] the labour" (Beck 567).

1943 Amendments
In 1943, Attorney General Francis Biddle was concerned about the "parasitic" nature of qui tams (Harmon 6). It was becoming common for people to file a false claim action that ultimately awarded a relator who simply used information obtained from a criminal indictment or a newspaper (Helmer and Neff 38).

The Supreme Court held in United States ex rel. Marcus v. Hess that under 1943 law there was no prohibition against filing a false claim action arising out of information already known to the government and/or public. Such opportunistic suits were problematic as they worked against the original purpose of the FCA, i.e. the relator was not combating fraud by providing the government with new information but was exploiting an anti-fraud statute (Paschke 166). Therefore, following the Supreme Court's decision in Marcus, Congress created the public disclosure bar. The result of the public disclosure bar mandated that a relator possess new information and not recite information already known (Harmon 9). If the government was previously aware of the fraud, a qui tam suit would be barred, even if there was no ongoing formal investigation.

The 1943 amendments included additional requirements and conditions. First, a relator was to disclose his or her knowledge of possible fraud to the government when filing a complaint. Second, the government had sixty days to determine if they would intervene. If the government chose to proceed with the case, the relator would become an inactive participant, merely watching the proceedings unfold as the government moved forward (Helmer and Neff 39-40). Third, the percentage of the relator's reward was reduced from 50 percent to a maximum of 10 percent, provided the government chose to intervene. If the government declined to intervene, the relator could move forward with the case, but was responsible for all costs. If the relator prevailed, any recovery was to be no more than 25 percent. The exact percentage awarded was left to the court's discretion (Helmer and Neff 39).

Due to these changes, few qui tam cases were filed as any incentive was removed. Those few who tried were usually dismissed under the "government knowledge" bar (Helmer 1271). While the FCA may have appeared to have vanished, fraud did not follow suit. By the 1980s, government contractors were once again deceiving the government, to recoup losses and curtail ongoing procurement fraud, and autism" prior to any pediatric approvals granted in 2006 (Justice Department Recoveries).

1986 Amendments
The second substantial amendments to the FCA were passed in 1986. The purpose was two-fold, first to improve the government's ability to discover and combat fraud, and second, to encourage the filing of qui tam suits by people who believed they may have discovered evidence of fraud against the government. To accomplish these goals, Congress instituted an "original source exception" thus repealing the public

(Ausness1254). For example, in the J&J case, the government alleged improper promotion of Risperdal, an antipsychotic medication. J&J is alleged to have marketed Risperdal for elderly patients with dementia, and for children with "attention deficit hyperactivity disorder, oppositional defiant disorder, obsessive-compulsive disorder and autism" prior to any pediatric approvals granted in 2006 (Justice Department Recoveries).
disclosure bar. This change allowed qui tam actions to proceed even if the allegations had been publicly disclosed, provided that the relator was the original source (Alexion 379).

Although the FCA always asserted that prohibited actions were “knowingly” committed, the statute had not previously defined the term (Bucy 61). As a result, there was a split among various courts as to the level of intent required. Congress addressed this by defining the terms “knowing” and “knowingly” in 42 U.S.C. §§ 3729(b)(1-3).

Essentially subsection 3729(b)(1) requires a person to possess “actual knowledge” of the information (Helmer and Neff 45). Further, the person acts in either “deliberate ignorance” according to subsection 3729(b)(2) or “reckless disregard” pursuant to subsection 3729(b)(3) (Helmer and Neff 45). Finally, under this subsection, “no proof of specific intent to defraud is required” (Bucy 61, Helmer and Neff 45).

Congress not only increased damages from double to treble but also increased the per claim penalty from its original amount of $2,000 to between $5,000 and $10,000 per claim (Helmer 1273-1274). In order to encourage individuals to file qui tam cases, Congress addressed this by defining the terms “knowing” and “knowingly” in 42 U.S.C. §§ 3729(b)(1-3).

In 1988, one additional amendment was made to section 3730(d)(3) (Ryan 134, Note30). Essentially the court had the discretion to lower a relator’s share if the relator was “[t]he person who planned and initiated the violation…” (Ryan 133-134). Additionally, if the relator had a prior conviction pertaining to the fraudulent scheme at issue, there would be no share paid to relator (Ryan 133-134).

2009 AMENDMENTS

On May 20, 2009, Congress passed the Fraud Enforcement and Recovery Act of 2009 (FERA) in response to recent financial scandals; section four addressed changes to the FCA and is titled, "Clarifications to the False Claims Act to Reflect the Original Intent of the Law" (Handwerker et al. 296). Unlike the previous amendments of 1943 and 1986, FERA’s focus was on judicial interpretations not the relator’s actions:

One of the most successful tools for combating waste and abuse in Governmentspending has been the . . . [FCA], which is an extraordinary civil enforcement tool used to recover funds lost to fraud and abuse. The effectiveness of the FCA has recently been undermined by court decisions limiting the scope of the law and allowing subcontractors and nongovernmental entities to escape responsibility for proven frauds. In order to respond to these decisions, certain provisions of the FCA must be corrected and clarified in order to protect the Federal assistance and relief funds expended in response to our current economic crisis. This section amends the FCA to clarify and correct erroneous interpretations of the law that were decided in Allison Engine Co. v. United States ex rel. Sanders, 128 S. Ct. 2123 (2008), and United States ex. rel. Totten v. Bombardier Corp., 380 F.3d 488 (D.C. Cir. 2004) (Handwerker et al. 296).

The most substantial amendment under FERA, which broadened the FCA, pertains to liability (Love 1137). The Supreme Court, in Allison Engine Co., Inc. v. U.S. ex rel. Sanders essentially created a “subcontractor loophole” (Love 1135). Under Allison Engine, a relator needed to show a “direct link” between the subcontractor’s submission of a false statement [to its prime contractor] and the government’s decision to pay” (Love 1135).

In Allison Engine, the Supreme Court ultimately held that, “While § 3729(a)(1) requires a plaintiff to prove that the defendant ‘present[ed]’ a false or fraudulent claim to the Government, the concept of presentment is not mentioned in § 3729(a)(2)” (671). The Court further explained the absence as evidence which “suggests that Congress did not intend to include a presentment requirement in subsection 3729(a)(2)” (Allison Engine 671). The Supreme Court narrowly interpreted the language contained in subsection 3729(a)(1), specifically “knowingly presents, or causes to be presented,” as a presentment requirement. Yet, the Supreme Court faltered in their approach with subsection 3729(a)(2), by focusing on the phrase “to get” out of context. As the Court states, “What § 3729(a)(2) demands is not proof that the defendant caused a false record or statement to be presented or submitted … but that the defendant made a false record or statement for the purpose of getting "a false or fraudulent claim paid or approved by the Government”(Allison Engine 671).

In response, Congress amended the language at issue in Allison Engine, and also renumbered subsections 31 U.S.C. §§ 3729(a)(1-3) to 31 U.S.C. §§ 729(a)(1)(A-C) (Love 1137). Congress revised the language of the statute so that subsection 3729(a) addresses how liability attaches, while 3729(b) focuses solely on definitions. Specifically, the language in subsection 3729(a)(1) that referenced presenting a claim to the government was removed. As revised, subsection 3729(a)(1)(A) stated liability would apply when a person, “knowingly presents, or causes to be presented, a false or fraudulent claim for payment or approval” (Handwerker et al. 299).

Having removed the presentment requirement, Congress addressed the intent requirement, in subsections 3729(a)(2) and 3729(a)(3). First, in subsection 3729(a)(2) the words “to get” were stricken and replaced with “material to” (Love 1137). The revised language of subsection 3729(a)(1)(B) stated, “a false record or statement material to a false or fraudulent claim” (Love 1137). The word
“material” was defined as “having a natural tendency to influence, or be capable of influencing, the payment or receipt of money or property” (Handwerker et al. 305). This definition resulted in a broader application of the FCA as a relator only needed to show the possibility of influencing a potential payment, not that the submission actually influenced the payment (Handwerker et al. 305). The definition of “claim” was redefined and expanded to include any monetary or property demand that “is made to a contractor, grantee, or other recipient, if the money or property is to be spent or used on the Government’s behalf or to advance a Government program or interest” (Handwerker et al. 315).

Second, subsection 3729(a)(3), now subsection 3729(a)(1)(C) replaced the language “conspire to defraud the Government” with “conspires to commit a violation” of the subparagraphs of 3729(a) (1) (Love 1137). This change created an enhanced definition of conspiracy, as liability would apply to anyone who conspired to violate any FCA liability provisions.

Although Allison Engine and its predecessor Totten were not health fraud cases, FERA is applicable to health care fraud. The Supreme Court’s interpretation of the FCA essentially precluded liability when a claim is submitted to a third party prior to being presented to the government for payment (Love 1137, Handwerker et al. 297). FERA reversed this judicial interpretation. As a result any individual or entity who has a business relationship with a recipient of federal funding would be liable under the FCA. In the health care context, this would apply to subcontractors who do business with hospitals receiving Medicare funding (Love 1130). The FCA is one tool available for the enforcement of health care fraud. An additional, complex statute is the Medicare & Medicaid Anti-Kickback Statute commonly referred to as the Anti-Kickback Statute (AKS).

**THE ANTI-KICKBACK STATUTE**

**Background**

In 1972, the Social Security Act was amended to include the Medicare & Medicaid Anti-Kickback Statute (Krause 1046). In its simplest form, the statute prohibits payments made in exchange for referrals (Leap 42). Originally the AKS was a misdemeanor focused on “kickbacks,” “bribes,” and “rebates,” that were either offered or received by those in the health care industry (Leap 42). The purpose was to address possible unethical behaviors which had the potential to subject patients to unnecessary procedures (Leap 42). In 1977, the statute was further amended in two significant ways. First, the offense was upgraded to a felony. Second, the word “remuneration” was added (Leap 43). The general definition of remuneration is payment for the receipt of services (Tomes 56). The definition within the context of the AKS is much broader, including “anything of value” (Tomes 56, Leap 43). The AKS was amended again in 1980, by adding that the action be committed “knowingly and willfully” (Rabecs 5, Note 9).

**Application to FCA and Health Care Fraud Allegations**

FCA actions containing AKS violations are premised on the theory that a false claim was submitted to the government. This application differs from typical FCA allegations, in that the claim is not false per se, the services indicated were most likely rendered. The claim is alleged to be false because, “[the claims] have been ‘tainted’ by the defendant’s improper conduct in paying or accepting kickbacks” (Rabecs 4).

One of the first courts to confront this proposition was the United States District Court for the Southern District. In United States ex rel. Roy v. Anthony, the court permitted a relator to file an FCA suit alleging violations of the AKS (Roy 1507, Rabecs 45). The court agreed with the defendants that the AKS did not contain a qui tam provision. The court also determined that the allegations, if true, constituted illegal actions. Citing the relator’s link between the submission of false claims due to the defendant’s conduct as ‘tenuous,” the court opined there was a “connection … sufficient to overcome” defendant’s motion to dismiss. (Roy 1507, Rabecs 45). While neither resounding nor overly confident, the court effectively opened the door to this concept of an anti-kickback as a type of false claim.

In addition to the off-label allegations discussed above, J&J was also alleged to have participated in an anti-kickback scheme: J&J essentially paid Omnicare’s consulting pharmacists to recommend to treating physicians that their dementia patients would benefit from Risperdal or other J&J drugs (Justice Department Recoveries). In exchange, J&J paid Omnicare, “millions of dollars in kickbacks … under the guise of market share rebate payments, data-purchase agreements, “grants” and “educational funding” (Justice Department Recoveries). As a result, Omnicare submitted “false claims to federal health care programs” (Justice Department Recoveries). J&J agreed to pay $149 million to settle these allegations (Justice Department Recoveries). Omnicare agreed to pay $98 million in 2009 to resolve allegations pertaining to acceptance of kickbacks from J&J and Jansen (Justice Department Recoveries).

**The Health Insurance Portability and Accountability Act of 1996 (“HIPAA”)**

The Health Insurance Portability and Accountability Act of 1996 (HIPAA), is a far-ranging statute that addresses both health care insurance issues, and health care fraud and abuse concerns (Faddick 77). HIPAA changed the AKS by making health care fraud a federal crime. In doing so, existing penalties were made more severe. Additionally, Congress authorized the use of safe harbors and the Office of Inspector General (OIG) advisory opinions as a way to educate providers regarding permitted or prohibited behavior. Finally, HIPAA increased funding to assist in the enforcement of health care fraud (Tomes 57).
By redefining health care fraud as a federal crime, Congress also included a much broader list of other traditional white collar crimes including but not limited to false representations, conspiracy, embezzlement, money laundering, and obstruction in connection with health care fraud crimes (Tomes 58 -59). As such, HIPAA increased penalties to include longer prison terms, higher fines, and mandatory exclusion from Medicare and Medicaid (Tomes 60). Prior to HIPAA, exclusion from Medicare and Medicaid was at the discretion of Health and Human Services (HHS) (Tomes 60).

Due to the complexity of health care regulations, and recognizing the potential for confusion over prohibited behavior both inside and outside of HIPAA, Congress instructed the OIG for the Department of HHS to issue safe harbors (Eddy 192). Safe harbors are specific payment activities permitted under the AKS (Eddy 192). HHS OIG also issues advisory opinions. Advisory opinions differ from safe harbors, in that these opinions are generated following specific questions (Eddy 192). Although an opinion is only binding on the party who requested the clarification, once it is issued, the opinion becomes public information. Eddy hypothesizes that the public nature of these opinions may be one reason so few have been published (192).

From an enforcement perspective, HIPAA changed the rules regarding investigative subpoenas. HIPAA now allows the DOJ to issue these administrative subpoenas, to obtain documents or testimony (Faddick 85, Tomes 59). HIPAA also included additional funding, part of which included the creation of the Medicare Integrity Program, which as Colleen Faddick explains, "authorizes HHS to contract with private companies to carry out fraud and abuse detection, cost report audits, utilization review, and provider payment determinations" (80).

**PATIENT PROTECTION AND AFFORDABLE CARE ACT**

On March 20, 2010, President Obama signed the Patient Protection and Affordable Care Act (PPACA) into law. Included within its provisions, the PPACA amends the FCA and the AKS. First, Congress revised the disclosure bar by redefining the meaning of original source in the FCA. Second, Congress clarified the level of intent needed to commit an AKS violation and its application to the FCA.

**False Claims Act**

1. **Public Disclosure Bar**

The PPACA amended subsection 3730(e)(4)(A), in three areas. First, disclosures may take three forms. Subsection 3730(e)(4)(A)(i) pertains to criminal, civil, or administrative hearings. Subsection 3730(e)(4)(A)(ii) pertains to congressional, administrative, or Government Accounting investigations (Alexion 395). The PPACA has narrowed the source of public disclosures by adding one word to these first two categories - *federal* (Harmon 11). Therefore, state and local investigations, hearings, and other proceedings for purposes of this statute are not public disclosures. As such, these disclosures may be used as the basis of a false claim action. Finally, subsection 3730(e)(4)(A)(iii) pertains solely to news media (Alexion 395).

The second change addresses the phrase “No court shall have jurisdiction” which has been removed and replaced with “The court shall dismiss an action or claim under this section unless opposed by the Government” (Harmon 11). Additionally, the phrase “based upon the public disclosure” has been changed to read, “if substantially the same allegations or transactions as alleged in the action or claim were publicly disclosed” (Harmon 11).

2. **Original Source**

Under the PPACA, the current language of subsection 3730(e)(4)(B) redefines the definition of original source to apply to a relator who “prior to a public disclosure . . . has voluntarily disclosed to the Government the information on which allegations or transactions in a claim are based” or “has knowledge that is independent of and materially adds to the publicly disclosed allegations or transactions, and who has voluntarily provided the information to the Government before filing an action.”

Christopher Alexion notes, the requirement for a relator to voluntarily disclose to the government their knowledge, prior to a public disclosure, may prevent parasitic suits from being filed. Unfortunately, in order for these two prongs to work cohesively, the subsequent prong of ‘independent knowledge’ that ‘materially adds’ to a public disclosure must be narrowly construed (402). This is a critical point since as written, provided either prong of the original source criteria is met, the case may proceed. One additional problem is Congress’ failure to properly define these phrases.

There is no legislative history for the PPACA. In 2009 Bill H.R.1788, The False Claims Act Correction Act of 2009 was introduced but not passed (Alexion 395). A reading of the House Report to accompany H.R. 1788 provides some background as to why Congress believed there was a need to revise the bar. House Report 111-97 reiterates that the Congressional intent behind the 1986 revisions to the public disclosure bar was “to bar only truly parasitic qui tam lawsuits” while attempting “to provide a balance between encouraging people to come forward with information and preventing parasitic lawsuits”(6).

Essentially, there were concerns that courts were misapplying the public disclosure bar. One case cited in the report is United States ex rel. Bly-Magee v. Premo. In this case, the Court of Appeals for the Ninth Circuit held that a state audit was a public disclosure for purposes of the FCA(919). The report does not provide any further explanation as to why Congress believed the court’s decision in Bly-Magee was improper. Congress instituted the public disclosure bar in 1986 as a barrier against parasitic suits. A case could not proceed if the allegations were previously publicly disclosed unless a relator could show she possessed “direct and independent knowledge” (Harmon 10). “The revision of the statute is of great procedural
importance, as it reforms the public disclosure bar from jurisdictional challenge to an affirmative defense” (Harmon 11). The defendant now had the burden to prove the existence of a public disclosure, which would negate the relator as an original source.

Nevertheless, the ambiguity of the phrase “knowledge that is independent of and materially adds to” will linger until courts are asked to interpret this language. The focus on this new definition has shifted towards the value of the information provided. By removing the direct knowledge requirement, the definition has been broadened.

**Anti-Kickback Statute**

1. **Intent**

Congress attempted to clarify a split among the courts as to the “degree of intent” necessary for a conviction, by revising the statute so that no specific intent is required. Specifically, subsection 3720(g) states “a person need not have actual knowledge of this section or specific intent to commit a violation of this section.” Jeffrey Hammond notes intent no longer matters with regard to remuneration, instead, “all that matters is that the offer, payment, or acceptance does lead to such federally reimbursed claims” (65).

2. **False-Certification Theory**

Congress established that AKS violations were also FCA violations under the False-Certification Theory. Newly added subsection 3720(h) states, “a claim that includes items or services resulting from a violation of this section constitutes a false or fraudulent claim for purposes of subchapter III of chapter 37 of Title 31.” As the court explained in United States ex rel. Pogue v. Diabetes Treatment Centers of America, claims may be either factually false or legally false. Relying on United States ex rel. Hockett v. Columbia/ HCA Healthcare Corp., such a claim, “may be factually false if it incorrectly describes the goods or services provided or … it may be legally false because of an express false certification or an implied false certification” (Hockett 57, Pogue 158). In Pogue, the court opined an AKS violation could be pursued under the FCA since “they would influence the Government’s decision of whether to reimburse Medicare claims” (159, Hammond 68, Note 173).

Essentially, all Medicare providers are required to certify compliance with all laws and regulations on all claim forms submitted (Rabecs 64-65). Under the False-Certification Theory, engaging in a kickback scheme renders certifications false. This is because while the service billed may have been provided and billed appropriately, were it not for the kickback, the service would not have occurred.

**Physician Payments Sunshine Act**

An additional provision of the PPACA, is the Physician Payments Sunshine Act (Sunshine Act). This act may be used as an additional enforcement tool in proving possible Anti-Kickback violations. The original purpose of the Sunshine Act was to inform consumers as to financial relationships between drug and device manufacturers, physicians and hospitals (Agrawal et al. 2054). The Sunshine Act requires both teaching hospitals and drug and device manufacturers to provide information pertaining to any single payment of at least $10 or total annual payments of more than $100 if the individual payments are less than $10 (Agrawal et al. 2055). As a result, all reported payments are available to the public on www.openpayments.gov. Such information may be used to prove or disprove kickback allegations.

**ANALYSIS**

An analysis of the available DOJ data for the number of cases received and/or opened is instructive. Between October 1, 1987, and September 30, 2010, 7,201 qui tams were filed, of which 1,246 remained pending. During this same time period, the department declined to intervene in 4,628 actions, or approximately 78 percent of cases (DOJ Fraud Statistics- 2010).

For fiscal year 2013, 753 qui tams were filed, of which, 500 were attributed to the Department of Health and Human Services. In addition to these cases, the Justice Department opened 93 new non-qui tam matters, of which 22 were designated as Department of Health and Human Services cases (DOJ Fraud Statistics- 2013).

The current percentage of declined cases is not available, however according to Table 1, it is clear that qui tams are filed with frequency. Health care fraud cases processed by the HHS far outweigh Department of Defense (DOD) or otherwise unspecified matters.

<table>
<thead>
<tr>
<th><strong>Table 1</strong></th>
<th>All Matters</th>
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<th>DOD</th>
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Table 1. Adapted from Department of Justice Fraud Statistics-Overview, October 1, 1987- September 30, 2013.

The PPACA made two changes which have broadened a relator’s ability to file while simultaneously creating the potential for parasitic suits. First, the definition of public disclosure for FCA purposes has been amended to pertain to only federal proceedings (Cohen 91). As a result, relators may rely upon public information at the state or
local level (Cohen 91). Second, the previous requirement that the relator possess direct knowledge of a previously disclosed fraud has been stricken from the statute. Therefore, under the newly worded statute any person who learns of potential fraud second hand may file a false claims action. One potential problem with this a scenario is that the individual may not have access to relevant materials to support the claim.

As a consequence of these changes, suits lacking any merit and/or parasitic suits are more likely to be filed. As the statistics above show, qui tams are still being filed in record numbers. Although it is unknown if the rate of declinations remains steady at 78 percent, it seems reasonable for this figure to change due to the language changes in the statutes. The reasons for declinations are not known. Certainly not all declined cases are parasitic, but the fact that declinations far outweigh interventions should be acknowledged by Congress.

Congress has recreated the loophole that the 1943 amendments sought to correct. As long as the information does not pertain to a federal investigation or hearing and the relator can show that his information, even if second-hand, is material to the allegations, the case will survive a public disclosure challenge. These changes are in direct opposition to the 1943 amendments which created the public disclosure bar. The vast amounts of data readily available to an entrepreneurial relator are staggering. If Marcus back in 1943 was able to copy a criminal indictment verbatim, there is currently nothing to preclude an individual from copying any state or local proceeding, and using the information to bring a qui tam suit. While Congress may have failed to strengthen the FCA, the same cannot be said with regard to the AKS. By removing the specific intent requirement Congress has created equilibrium between the AKS and the FCA, as both statutes have a general intent requirement. Furthermore, the new reporting requirements under the Sunshine Act will further assist investigation efforts in cases alleging kickbacks. This will bolster the AKS, which in turn will create the option of a false claim action, allowing the government additional avenues of investigation and possible resolution.

Defense counsel will surely warn of the truly innocent pursued by the government. Such arguments do not hold weight. As one can see, kickback schemes, similar to other white collar crimes are complex. They do not occur in a vacuum. While it is possible a health care provider could participate in a prohibited financial relationship, there are often other schemes at play.

In conclusion, the history of the FCA demonstrates Congress will amend the statute when they perceive a need. The purpose of the FCA is to find the balance between a proper whistleblower who can significantly assist the government, and the self-serving relator who is either looking for a payday or is exploiting an anti-fraud statute.

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Deterring Police Misconduct in Searches and Seizures: A Twofold Approach
Frank DiVincenzo

Fremont Weeks and Dollree Mapp are not considered household names. Generally, these individuals are spoken of merely in historical and legal contexts. Weeks and Mapp, born decades apart, became the two most influential persons in the development of the Fourth Amendment’s Exclusionary Rule. In 1911, local and federal law enforcement officers conducted a warrantless raid of Week’s home in Kansas City, Missouri (Weeks v. United States 386). Almost fifty years later, Mapp experienced a similar type of warrantless raid on her home in Cleveland, Ohio (Mapp v. Ohio 644-645). The Weeks v. United States case established the Exclusionary Rule, which eliminated illegally seized evidence from federal courts (398-399). Years later, Mapp v. Ohio expanded the Exclusionary Rule by prohibiting the use of illegally seized evidence in all state courts (655).

The outcomes of these cases forever changed the history of the judicial system in the United States as well as the Fourth Amendment’s protection against police misconduct in investigative searches and seizures. A little over a century later, despite the many criticisms and suggested replacements associated with the Exclusionary Rule, research demonstrates that the standard continues to persevere as the most effective tool for deterring police officers from conducting illegal searches and seizures. Thus, while Fremont Weeks and Dollree Mapp are deceased, the standard set in their cases lives on today.

POLICE MISCONDUCT AND THE EXCLUSIONARY RULE

Supreme Court Justices developed the Exclusionary Rule in an effort to deter police officers from unlawfully collecting evidence during searches and seizures (Oaks 668). It is not the evidence itself that makes it illegal or inadmissible in court. The evidence collected is typically considered to be reliable and authentic; however, the illegal methods used to collect such evidence are what cause judges to disqualify it in criminal court (Paulsen 255). Unlawful searches and seizures of evidence, which can constitute police misconduct in some cases, occur in a variety of ways. Lawful search and seizure requires two conditions to exist. First, a police officer must have probable cause or reasonable suspicion to believe a suspect has acted unlawfully. Second, a police officer is required to obtain a warrant from a judge prior to executing the search and seizing the evidence. Voluntary consent from the suspect can also permit a police officer to execute a search. Once police officers receive consent to search and they find contraband, they do not have to obtain consent to seize the evidence. Occasionally, extenuating circumstances can justify an unlawful seizure of evidence, such as when evidence in the suspect’s possession could be harmful to the surrounding public or when evidence is located in plain view (Mason). Otherwise, any deviation from the aforementioned search and seizure requirements would qualify as police misconduct.

Determining the most effective technique for preventing or deterring police misconduct in searches and seizures begins with an understanding of the frequency of wrongful police actions. Police misconduct has existed in the United States for at least a century, but research indicates that unethical and unlawful police practices are more prevalent now and unlikely to cease (Champion 17). During the post-Mapp era when the Exclusionary Rule became binding in state courts, Dallin Oaks (one of the first scholars to examine the Exclusionary Rule empirically) found that there was a substantial increase in motions filed by defendants to suppress illegally obtained evidence (683). An additional post-Mapp study by James Spiotto supported Oak’s research by finding that motions to suppress evidence increased in drug and weapon cases, while judges granted seventy-seven percent of these motions (246-248). Perhaps one major reason for the increasing amount of motions filed and motions granted is the development of new technology. For example, evidence stored on cell phones, tablets, computers, and the Internet presents new Fourth Amendment privacy issues (Weaver 1134). Additionally, law enforcement uses technology to investigate crimes—a practice that, in some cases, could violate an individual’s Fourth Amendment rights (Weaver 1134). Therefore, as technology continues to present new privacy issues, it is likely that defendants will file more motions to suppress evidence and judges will grant more motions.

The number of motions granted by judges are the key finding. Any defendant can file a motion to suppress evidence; however, this does not mean the motion to suppress evidence is the result of police misconduct. A judge must confirm whether the defendant’s argument is valid. Thus, the increasing number of motions granted is more significant than the increasing number of motions filed because it confirms that approximately three out of every four cases involving motions to suppress evidence actually include police misconduct (Spiotto 247). Nevertheless, the increasing amount of motions filed and motions granted supports the claim that police misconduct is a growing issue that is more rampant than ever before.

A 2004 study indicated that 30 percent of the performed searches and seizures were found to be illegal in a mid-sized and unspecified U.S. city (Gould and Mastrofski 331). In addition, the officers in this study were supervised while executing the searches and seizures, thus indicating that illegal searches and seizures perhaps occur more than thirty percent of the time in this city (Gould and Mastrofski 325, 331). Two factors may explain why thirty percent of the searches and seizures were illegal. First, a majority of the violating officers were young with fewer than three years of law enforcement experience (Gould and Mastrofski 339). A lack of experience and knowledge in the field can cause error. Second, the violating officers were supervised as they conducted the searches and seizures (Gould and Mastrofski 325). Supervision and inspections could have stressed the police officers. A stressed officer may not work accurately and efficiently. Therefore, a portion of these searches could have resulted from error, stress, and lack of knowledge. Despite the small sample size, the study does highlight the prevalence of unconstitutional searches and seizures.
As police misconduct has increased, so too has the challenge for the courts and police departments alike to deter unlawful police practices in Fourth Amendment searches and seizures. Over the years, the Supreme Court has grappled with determining the most effective technique for preventing police officers from unlawfully searching for and seizing evidence. Critics of the Exclusionary Rule have suggested various alternatives to include implementing administrative and civil sanctions for police officers; allowing a case to proceed with illegally obtained evidence but reducing the defendant's prison sentence; reducing or revoking police officers' compensation when their actions contribute to lost convictions; and requiring police officers to wear body cameras (Harris 359; Kamisar 135; Osborne 384; Spiotto 269-273).

However, the Supreme Court has continued to uphold the Exclusionary Rule as the primary method for deterring illegal searches and seizures, while introducing modifications (Kamisar 123). For example, in the 1984 case of United States v. Leon, the Supreme Court imposed the good-faith exception to the Exclusionary Rule that permits illegally obtained evidence in criminal court if the police officer acted in accordance with a search warrant that was later found to be defective (897). The rationale is that the officer intended to act lawfully and within the limits of the warrant's requirements (United States v. Leon 897). Similarly, in the 1984 case of Nix v. Williams, the Supreme Court modified the Exclusionary Rule by allowing illegally obtained evidence in criminal court if the evidence would have been discovered despite the illegal search (432). These modifications have given police officers more leeway when conducting searches and seizures. Although the Supreme Court has modified and upheld the Exclusionary Rule, costs and benefits still exist. A cost-benefit analysis provides the data necessary to form an educated and objective determination for the best approach to deter police misconduct in future Fourth Amendment searches and seizures.

THE EXCLUSIONARY RULE: BENEFITS AND COSTS

Exclusionary Rule proponents, including scholars and Supreme Court Justices, have presented a strong case in favor of prohibiting illegally obtained evidence in criminal trials. The Exclusionary Rule is beneficial because it ensures an individual's Fourth Amendment protection against unlawful searches and seizures (Wilson, National Institute of Justice N. pag.). As the Fourth Amendment is a protection against unlawful searches and seizures then the Exclusionary Rule is essentially an extension to the courts that protects individuals from being convicted based on unlawfully seized evidence. If the courts allow illegally obtained evidence to incriminate a suspect then they are interpreting an unlawful search and seizure as an acceptable police practice (Wilson, National Institute of Justice N. pag.).

When the courts do not suppress illegally obtained evidence, they contribute to devaluing a person's fundamental Fourth Amendment rights (Mapp v. Ohio 648). In the Mapp v. Ohio decision, Justice Tom Clark said, “Nothing can destroy a government more quickly than its failure to observe its own laws…” (659). When police officers and the judicial system do not respect and uphold a person's Fourth Amendment protection against illegal searches and seizures, the executive and judicial branches of government are undermined. Thus, the Exclusionary Rule is a benefit to government and society because it acts as a check and balance by holding police officers and the judicial system accountable in preserving a person's fundamental protection against unlawful searches and seizures (Wilson, National Institute of Justice N. pag.).

A second benefit offered by the Exclusionary Rule, is the idea that it deters law enforcement officers from committing misconduct during searches and seizures (Oaks 672). It is difficult to determine the Exclusionary Rule's true effect on preventing police misconduct in searches and seizures mainly because researchers are unable to calculate the number of illegal searches and seizures in states that did not adopt the Exclusionary Rule before Mapp made it a requirement (Alschuler 1368). Thus, it is impractical to measure whether illegal searches and seizures decreased after Mapp applied the Exclusionary Rule to all fifty states (Alschuler 1368). There is some research conducted that attest to the Exclusionary Rule's success in reducing illegal searches and seizures.

Bradley Canon, an empirical examiner of the Exclusionary Rule, measured the effects of the standard on police practices. His study revealed an increase of search warrants issued by judges after Mapp applied the Exclusionary Rule to the states (Canon 709). For example, in Cincinnati, Ohio, the number of search warrants issued by judges increased from seven in 1960 (before Mapp) to 113 in 1964 (after Mapp) (Canon 709). Indicative of this finding is that the Exclusionary Rule improved police performance by encouraging officers to obtain search warrants, thus contributing to more legal searches and seizures. Prior to Mapp, police officers did not appear concerned with following the warrant requirement outlined in the Fourth Amendment (Xie 99-100). After Mapp imposed consequences for illegal searches and seizures, it was apparent that police officers, by obtaining more search warrants, became more respectful and cognizant of the Fourth Amendment's protection against illegal searches and seizures. Thus, the states' adoption of the Exclusionary Rule had some success in encouraging police officers to respect and uphold Fourth Amendment protections while also discouraging police officers from conducting illegal searches and seizures.

Moreover, the Exclusionary Rule deterred police misconduct through indirect means. Steven W. Mason, retired Assistant Inspector General at The Social Security Administration with more than forty years of law enforcement experience, indicated that when a conviction is lost, the participating federal law enforcement officer is required to write a report detailing how he or she may have contributed to the lost conviction. In a roundabout way, the Exclusionary Rule requires
Where there are benefits, there are also costs. First, the Exclusionary Rule does eliminate reliable and incriminating evidence thus permitting guilty suspects to avoid conviction (Alschuler 1375). Research conducted by the National Institute of Justice revealed that more than half of those suspects acquitted via the Exclusionary Rule were repeat felons (Davies 671). Essentially, when the courts apply the Exclusionary Rule to cases, they exchange the safety and well-being of society for the protection of a suspect's constitutional rights. By releasing murderers, rapists, robbers, burglars, and other violent criminals to walk free on a technicality.

However, empirical research diminished this concern when a study in California discovered that the Exclusionary Rule resulted in lost convictions less than one percent of the time for cases involving homicides, rapes, robberies, burglaries, thefts, and assaults (Davies 640). Two inferences may be drawn from this finding: the weight of other evidence was sufficient to convict a suspect; police officers were more diligent when conducting searches and seizures in violent crime cases. In addition, critics of the Exclusionary Rule must consider placing blame on police officers for their unlawful actions rather than blaming the standard that protects against those actions. Ultimately, police officers endanger society by executing illegal searches and seizures that, for all intents and purposes, allow a violent criminal to return to the streets. Such misconduct by police officers contradicts the oath they take to serve and protect the public.

Another perceived cost of the Exclusionary Rule is that it encourages police perjury in an attempt to persuade judges to allow illegally obtained evidence in court (Orfield 1049). Instead of testifying truthfully, some police officers choose to lie on the stand. Alan Dershowitz, a famous New York attorney, termed this concept as "testilying" (Mason). Since the Exclusionary Rule eliminates illegally obtained evidence, police officers may lie about their search and seizure procedure in an effort to introduce incriminating evidence into court that will result in a conviction. Many police officers have admitted to committing perjury at least once during their careers (Orfield 1051). Consequently, Exclusionary Rule critics have suggested other alternatives, such as criminal and civil sanctions, to prevent police perjury (Slobogin 1048). If an officer was subject to criminal or civil discipline for illegally searching for and seizing evidence, then it is possible that an officer may commit perjury to avoid any discipline from the courts (Orfield 1055). This suggests that police perjury is an issue not limited to the Exclusionary Rule because it can occur as the result of other seemingly more appropriate alternatives.

Finally, the Exclusionary Rule can be costly because its serves as an indirect deterrent. Police officers are not always concerned if the person they arrest is convicted (Paulsen 257). Police departments measure success by the number of percentage of crimes closed by officers, otherwise known as the arrest rate or clearance rate (Spiotto 276). Basically, if a police officer arrests a suspect for committing federal law enforcement officers to write reports that could cause them to receive disciplinary action, such as a demotion. Essentially, the report is an admission of how the federal law enforcement officer illegally seized evidence that led to a suspect walking free of conviction (Mason). To avoid writing these reports and receiving discipline, it is not surprising that federal law enforcement officers have complied with the Exclusionary Rule while conducting searches and seizures. Additionally, perhaps increased knowledge and learning from the mistakes of others has caused federal law enforcement officers to act in accordance with the search and seizure requirements. Nevertheless, the Exclusionary Rule is beneficial because its consequence of a possible lost conviction appears to deter federal law enforcement officers from committing misconduct. This deterrent effect is limited to federal law enforcement officers because not all local and state departments require officers to write these reports (Mason).

Finally, the Exclusionary Rule upholds judicial integrity and improves police training. The judicial integrity rationale first surfaced in the 1928 Olmstead v. United States case. In his dissenting opinion, Justice Louis Brandeis indicated that the Exclusionary Rule was necessary "in order to preserve the judicial process from contamination" (Olmstead v. United States 484). In other words, removing illegally obtained evidence is essential to maintaining a fair and impartial justice system. Allowing the introduction of illegally seized evidence to incriminate a person violates the Fourth Amendment to the same degree as the illegal search and seizure performed by the police officer (Wilson, National Institute of Justice N. pag.). In essence, by approving the products of police misconduct, the courts are furthering the wrongful acts committed by police (Wilson, National Institute of Justice N. pag.). The Exclusionary Rule prevents police misconduct and enhances judicial integrity by forcing the courts to disallow illegally obtained evidence or other products of illegal police actions. Consequently, this creates and maintains a fair and just judicial system.

To ensure lawful searches and seizures are the norm, police departments learn from previous transgressions, modify procedures, and adapt responses in order to build the best possible case against a suspect (Mason). For example, the Federal Law Enforcement Training Center (FLETC) has incorporated mock trials into the training curriculum (Mason). FLETC has also constructed raid houses to train officers on how to appropriately search and seize evidence from a residence (Mason). Officer trainees are required to present the seized evidence in a mock trial where they may be subject to participate in an evidence suppression hearing (Mason). These examples are testaments to how police training has improved in light of the Exclusionary Rule and the prevalence of police misconduct. Although it is an indirect benefit of the Exclusionary Rule, the improvement of police training plays a key role in decreasing illegal searches and seizures.
a crime then that case is considered closed, regardless of whether the suspect is convicted in court. The goal of police officers is to close as many cases as possible by arresting suspects (Spiotto 276). Conversely, prosecutors are judged by the number of convictions they achieve, which the Exclusionary Rule can negatively affect. It appears that the Exclusionary Rule has more of a direct deterrent effect on prosecutors than it does on police officers. Although there is a belief that officers do not care about convictions, law enforcement surveys have indicated that a significant portion of officers hold stake in whether the suspects that they arrest are convicted because the officers’ reputations are on the line (Kamisar 136). Therefore, despite its indirect effect, the Exclusionary Rule still directly contributes to the deterrence of illegal searches and seizures.

**ALTERNATIVES TO THE EXCLUSIONARY RULE: BENEFITS AND COSTS**

The flaws associated with the Exclusionary Rule and the growing concern that it fails to deter police officers from illegally seizing evidence has generated support for replacing the standard with more direct alternatives. Supreme Court Justices and critics alike have advocated for alternatives to the Exclusionary Rule since the 1949 *Wolf v. Colorado* case (31). *Wolf v. Colorado* was the first case to examine whether the Exclusionary Rule should have been required on the state level (33). In holding that the Exclusionary Rule should not have been required on the state level (later overturned in *Mapp*), Justice Felix Frankfurter claimed that other alternatives could be just as successful as the Exclusionary Rule in deterring wrongful police actions (*Wolf v. Colorado* 31).

Although some of these alternatives appear viable, they remain flawed. Similar to the Exclusionary Rule, it is imperative to examine the benefits as well as the flaws of proposed alternatives in order to prove the notion that a combination of the Exclusionary Rule and its alternatives is the most effective method for deterring future police misconduct in searches and seizures. Supreme Court Justices and scholarly critics of the Exclusionary Rule have suggested numerous replacement alternatives; however, only the most popular alternatives will be discussed and analyzed.

First, a popular alternative is to directly punish police officers for violating the constitutional rights of others (Spiotto 273). The police discipline alternative was first proposed in *Wolf v. Colorado* when administrative, criminal, and civil sanctions were suggested in place of the Exclusionary Rule (41). Such sanctions are beneficial because they impose a direct deterrent effect on the violating officer, thus increasing the likelihood that the officer will abide by the necessary requirements for conducting a legal search and seizure. Administrative sanctions include suspension and, in some cases, termination for violating officers (Kamisar 137). Civil sanctions allow the illegally searched suspect to file a lawsuit against violating officers so that the suspect can collect restitution (Schroeder 1386). Criminal sanctions can include jail time or hefty fines for the violating officer (Schroeder 1396-1398). These penalties provide direct consequences for the police officer who violates an individual’s Fourth Amendment protection. Advocates for direct penalties presume that the penalties will outweigh the benefits and prevent police officers from committing illegal searches and seizures.

Administrative, civil, and criminal sanctions also have costs and unforeseen consequences. These include: excessive failure to arrest a suspect and failure to perform searches (Kamisar 137). The officer becomes too concerned with receiving disciplinary action and avoids any action which may result in administrative, civil, or criminal penalties (Kamisar 137). This alternative also requires a suspect or convicted criminal to file a lawsuit or press charges against a police officer (Kamisar 135). Judges and juries are hesitant when it comes to ruling in favor of a suspected or convicted criminal over a police officer (Schroeder 1389). Thus, civil and criminal sanctions may not successfully deter a police officer if he believes no charges will be filed and no judge or jury would rule against him.

Another suggested alternative includes reducing the convicted suspect's jail or prison sentence in exchange for allowing the use of illegally obtained evidence in court (Kamisar 135). The sentence reduction alternative provides an incentive for all parties involved, including the prosecutor, the defendant, and society. Allowing illegally obtained evidence into court strengthens the prosecution’s case and chance of conviction. The defendant serves a reduced a reduced jail or prison sentence. The public is protected as one more criminal is off the streets. If a reduced sentence for the criminal’s is a reality, police officers would conduct legal searches and seizures to ensure maximum length of imposed sentences (Kamisar 136).

Conversely, reducing a prison sentence can be costly because a majority of police officers are more concerned about gaining a conviction than they are about the length of the sentence imposed (Kamisar 136). If a judge allows illegally obtained evidence for use during trial then police officers would perhaps be more motivated to search and seize evidence by illegal means to simply gain a conviction. The reduced prison sentence is virtually irrelevant to officers who are satisfied with simply gaining a conviction. Consequently, there would be a very small deterrent effect for those police officers who care more about whether the convicted criminal merely receives a sentence rather than the actual length of that sentence (Kamisar 136). Moreover, the courts would fail to protect a suspect’s Fourth Amendment rights if they allowed illegally obtained evidence in court to incriminate that suspect. Therefore, allowing illegally obtained evidence into court in exchange for a reduced prison sentence proves costly because it would contradict the purpose and protection granted by the Fourth Amendment.

Furthermore, Exclusionary Rule critics suggest that modern alternatives would deter police officers from illegally seizing evidence.
One of these more modern alternatives involves compensating police officers based on their performance (Osborne 384). Internal affairs would measure an officer's performance by evaluating the number of cases worked resulting in conviction or non-conviction (Osborne 384). The Exclusionary Rule would suppress any illegally obtained evidence, thus increasing the probability of a lost conviction (Alschuler 1375). Internal affairs would evaluate the non-conviction to determine whether an officer should be compensated less or not at all (Osborne 384). Performance-based compensation is beneficial because it transforms the Exclusionary Rule into a direct deterrent because the consequence of losing income will likely motivate police officers to legally search and seize evidence so that a conviction sticks.

The practicality of implementing performance-based compensation has been unsuccessful to date. Agreements and contracts between police unions and police departments have either prohibited or made it difficult to implement salary penalties (Osborne 385). Law enforcement is a complex and dangerous occupation; therefore, it is understandable that police unions do not agree with a conviction-based compensation approach (Osborne 385). Lost or non-convictions do not always result from police practices. They may result from other errors: flawed prosecutorial methods, witness recanting testimony, jury bins, etc. Thus, it is unrealistic to evaluate a police officer's performance solely on the number of convictions to which he or she contributed.

Supporters for improving the deterrence of police misconduct in searches and seizures have frequently lobbied for police officers to wear body cameras that would capture the actions of officers on film (Harris 359). A police body camera can provide an actual recording of what transpired during the encounter. There are cases where a suspect may claim that a police officer violated the suspect's rights or that the police officer abused his or her use of force powers (Harris 363). When there is insufficient evidence to prove that a police officer engaged in misconduct, a police body camera would allow the courts to view what actually occurred. The rationale is that video evidence will hold police officers more accountable, especially when conducting Fourth Amendment searches and seizures (Harris 363). Although the application of these body cameras has been limited in the United States, research in England has verified that these cameras successfully deter police misconduct (Harris 364).

There are drawbacks associated with police body cameras. First, there is concern that the presence of a camera will discourage people from interacting with police officers (Harris 367). Consequently, this impacts the nature of law enforcement. Law enforcement depends on interaction with the public. Individuals can assist in investigations by providing tips, descriptions of suspects, or eyewitness accounts. Such reduced interaction between police and the public could weaken investigations. Furthermore, police body cameras may have a reverse effect because they could validate the actions of police officers rather than condemn these actions (Harris 367). Videos are subject to interpretation based on camera angle, quality, on-screen/off-screen encounters, etc. Thus not all judges or jurors may come to the same conclusion. One may interpret an act as police misconduct, but another person may interpret the same act as an appropriate police practice. Use of body cameras will require additional training, subject matter experts, and standard operating procedures.

EDUCATION’S EFFECT ON DETERRING POLICE MISCONDUCT

It is evident that the consequences of the Exclusionary Rule and its proposed alternatives can significantly affect the actions and behaviors of police officers. Although the Exclusionary Rule and proposed alternatives have impacted the prevention of police misconduct, it is important to consider the role that a police officer’s education and knowledge plays in whether he or she illegally searches for and seizes evidence or commits some other form of police misconduct. Scholars have often discussed whether police officers should be required to complete higher education prior to being hired, i.e. completing a two-year or four-year college degree (Lersch and Kunzman 161-162). Lersch and Kunzman found college graduates are less likely to be accused of police misconduct, while high school graduates violate legal policies with greater frequency (167). The more knowledgeable and educated a police officer is, the less likely he or she is to commit police misconduct. Criminal justice courses provide both the framework and the basis for proper execution of police duties. Higher education, in general, focuses on developing an individual’s ability to reason, identify inconsistencies, and learn how to think and react in complex situations.

Legal standards and regulations, including the Fourth Amendment and the Exclusionary Rule, can be very complex to understand (Lersch and Kunzman 161-162). Generally, professionals who possess Juris Doctor degrees, such as Supreme Court Justices, judges, and lawyers, implement and interpret these legal standards and principles. When deciding whether to modify the Exclusionary Rule or supplement it with other alternatives, it is imperative for the courts to consider whether it is appropriate to expect a police officer whose highest level of education is a high school diploma to understand and abide by complex legal standards that are established and interpreted by legal professionals who possess Juris Doctor degrees or other post-graduate degrees. Unintentionally, police officers may fail to follow legal requirements simply because they do not fully understand and comprehend what they are required to uphold. Education and knowledge, or the lack thereof, play significant roles in whether an officer comprehends legal requirements (Lersch and Kunzman 167). Therefore, the courts must be mindful of this when they decide to either modify or replace the Exclusionary Rule with other proposed alternatives.
DETERRING POLICE MISCONDUCT IN FUTURE FOURTH AMENDMENT SEARCHES AND SEIZURES

As police misconduct continues to be a societal concern, the question of what technique is most effective for preventing such misconduct lingers. Despite unique criticisms, challenges, and proposed replacements, the Exclusionary Rule has endured for over a century in the United States. It serves because it provides the benefits of preserving Fourth Amendment rights and deterring police misconduct; yet the Supreme Court has primarily upheld the Exclusionary Rule because other proposed alternatives have failed (Oaks 677). Prior to Mapp, many states chose to adopt other alternatives in place of the Exclusionary Rule; however, these alternatives proved to be less effective (Kamisar 126-127). The issue with the logic behind retaining the Exclusionary Rule simply because other alternatives failed does not necessarily validate the efficacy of the Exclusionary Rule (Oaks 677). It can also be argued that the Exclusionary Rule should not be abolished but considered a complement to future successful deterrents to police misconduct in Fourth Amendment searches and seizures.

There is a misconception exhibited by some Supreme Court Justices, scholars, members of the media, and the public that a one method solution is the answer, i.e. the Exclusionary Rule or a different alternative. A twofold approach which retains the Exclusionary Rule to protect the rights of suspects and a supplement that counters police misconduct is a reasonable option. Yale Kamisar, a respected scholar on the Exclusionary Rule, supports this combination by stating, "Nothing prevents the use of internal sanctions against the police simultaneously with the use of the Exclusionary Rule" (126). Essentially, there is no legislation, regulation, or policy that requires the Exclusionary Rule to work on its own. In fact, the Exclusionary Rule and proposed alternatives must work in accordance with one another if each is to be successful.

The Exclusionary Rule is effective primarily because it preserves an individual's Fourth Amendment rights, yet it is costly because it provides merely an indirect and conservative approach to deterring police misconduct (Paulsen 264). Suppressed evidence can damage the likelihood of a conviction, but it does not necessarily guarantee an acquittal. Sometimes, there is other legal evidence that is relevant and significant enough to cause the judge or jury to convict a defendant. In this case, the offending police officer would experience no consequences from the Exclusionary Rule for his or her wrongful actions because the ultimate goal of producing a conviction was achieved. Consequently, there would be no deterrent effect on the violating officer because he or she essentially avoided any consequences for his or her wrongdoing.

Such an example requires supplementing the Exclusionary Rule with a more direct deterrent, such as requiring police officers to wear body cameras so that actions of misconduct captured on video will lead to appropriate disciplinary sanctions for violating officers (Harris 359-360). A camera would likely prevent a police officer from committing misconduct because it would capture any unlawful police practice that could result in eventual suspension, termination, or conviction. The alternative of requiring police to wear body cameras may not succeed on its own because, in some cases, it could violate an individual's right to privacy (Weaver 1136). In steps the Exclusionary Rule to safeguard this right to privacy. The Exclusionary Rule would provide the benefit of preserving a suspect's constitutional rights by suppressing evidence obtained in violation of one's right to privacy. Disciplinary sanctions stemming from police body cameras would offset the Exclusionary Rule's cost of not providing a direct deterrent to police misconduct, and the Exclusionary Rule would offset the police body camera's possible cost of gathering evidence in violation of suspect's rights. Essentially, the Exclusionary Rule and disciplinary sanctions stemming from police body cameras would work in conjunction to supplement and strengthen each other.

This combination or twofold approach, which relies on different alternatives to prevent wrongful police practices and imposes a form of the Exclusionary Rule to uphold the rights of individuals, is used in several other countries. England and Scotland have implemented forms of the Exclusionary Rule where the courts use discretion to determine if evidence should be suppressed (Stribopoulos 85-90). Scottish and English courts use a form of the Exclusionary Rule where they evaluate the extent and degree of the illegal behavior committed by police to decide whether or not the evidence should be eliminated (Stribopoulos 89). This differs from the United States because judges are basically required to suppress illegally obtained evidence. The goal in England and Scotland is to provide fairness to the defendant (Stribopoulos 88). In an effort to deter police misconduct, Scotland and England have implemented other alternatives in combination with the discretionary standard, including boards or panels who review police complaints from citizens (Dawson 544). Although their Exclusionary Rules are discretionary, England and Scotland essentially use a twofold approach to maintain a fair judicial system and to deter police misconduct.

Likewise, Australia has implemented a discretionary Exclusionary Rule; however, the decision process is somewhat different from the approaches used in England and Scotland (Stribopoulos 92-93). Instead of basing decisions on the degree of illegal police actions, Australian courts consider society's interest in whether the defendant is convicted (Stribopoulos 92-93). In Australia's evidence suppression process, whether an officer violated a law is the basis of the decision rather than whether the officer violated an individual's rights (Stribopoulos 93). It is apparent that the United States judicial system prioritizes the rights of individuals more than the systems, as opposed to other countries. Moreover, similar to England and Scotland, deterrence is not the main goal for the Exclusionary Rule in Australia (Stribopoulos 93). Instead, Australia has relied on other alternatives.
to deter police misconduct even though these alternatives have not always succeeded (Stribopoulos 93).

The United States utilizes a mandatory Exclusionary Rule to protect the constitutional rights of individuals and to achieve the goal of deterring police misconduct in searches and seizures. Such an all or nothing approach can result in policy violations, non-convictions, and unintended consequences. Supplementing the Exclusionary Rule with other alternatives which act as reinforcements can more effectively achieve the twin goals of deterring police misconduct and protecting an individual's constitutional rights. As long as police misconduct exists, the Exclusionary Rule cannot effectively function in isolation nor can another alternative succeed. The success of England's discretionary Exclusionary Rule, in combination with police review boards to deter police misconduct, proves that such an approach can be effective in the United States (Dawson 544; Stribopoulos 85-87). As other countries have borrowed the United States' standard regarding the exclusion of evidence, the United States can learn from other countries to develop a twofold approach that includes supplementing the Exclusionary Rule with other alternatives so that police misconduct can be more effectively prevented.

CONCLUSION

A century after Weeks, police misconduct remains a common occurrence in the United States. Police misconduct has sparked public outrage and concern over what methods should be implemented to quell the behavior. All individuals residing in the United States are entitled to have their constitutional rights afforded to them by law enforcement—particularly the right to a legal and reasonable search and seizure. No one is above the law. When the Supreme Court implemented the Exclusionary Rule after Weeks, the standard was ahead of its time. Although police misconduct was not an overwhelming issue in the early 1900s, the standard was implemented to proactively ensure that law enforcement officers remained law-abiding (Champion IX-X). The Supreme Court implemented the standard to serve as a dual approach that would protect the rights of all individuals and deter officers from engaging in unlawful police practices (Wilson, National Institute of Justice N. pag.).

The Exclusionary Rule is still an effective solution for ensuring that defendants are not incriminated based on the wrongful actions of police officers. As society experiences increasing cases of police misconduct, a pervasive belief has developed citing the Exclusionary Rule as less effective in deterring such misbehavior (Champion 17-18). Certainly, change is necessary moving forward, but completely abolishing the Exclusionary Rule is not the answer. Removing the Exclusionary Rule would weaken the Fourth Amendment. Instead, strengthening and offsetting the Exclusionary Rule's indirect deterrent effect with other alternative deterrents, such as police body cameras and disciplinary sanctions, is the best option moving forward for decreasing the likelihood that police officers will partake in actions of misconduct.

The combined approach of the Exclusionary Rule and other proposed alternatives is a balancing act. The Exclusionary Rule balances out the alternatives by providing the benefit of safeguarding an individual's constitutional rights (Wilson, National Institute of Justice N. pag). The proposed alternatives, such as police body cameras and disciplinary sanctions, balance out the Exclusionary Rule by providing direct deterrents that are beneficial to preventing police misconduct (Harris 359; Spiotto 269-273). This dual approach of the Exclusionary Rule working in conjunction with other alternatives would check all the necessary boxes. Therefore, it is clear that this combination is the most effective technique to use for preserving constitutional rights and for deterring police officers from committing unlawful acts in the future.

Realistically, police misconduct will continue to exist because there will always be a few police officers who choose to commit unlawful acts. It would be unrealistic to believe that every single police officer will remain law-abiding. Every police officer is ultimately accountable for the choices that he or she makes at the individual level, whether to protect or to violate an individual's rights. Although actions of police misconduct in searches and seizures may never be completely eliminated, these acts can be contained by supplementation. The focus and attention now shifts to whether the Supreme Court and legislators will revisit and strengthen the effectiveness of an age-old standard that is essential for preserving constitutional rights and for deterring unlawful police practices, especially in Fourth Amendment searches and seizures.

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Identification of a Novel Strategy for Preventing Filicide

Jennifer C. Lewis

The specific aim of this research is to identify a novel strategy for preventing filicide, the murder of one's own child. Filicide accounts for the majority of murders in young children. By definition, the perpetrator of the crime is a parent, stepparent, or guardian of the child. With this knowledge, a strategy can begin to be developed based upon common characteristics of parents who kill their own children. Recognizing these factors in a parent before the crime is committed is the key to saving these children. The strategy identified in this paper involves the administration of questionnaires at prenatal and postnatal visits. The Prenatal and Postnatal Environment Questionnaires focus on identifying filicide risk factors in the family environment during pregnancy and after childbirth, respectively. If evaluation of the patient’s answers indicates the presence of filicide risk factors, the medical provider may refer the patient to a psychologist or psychiatrist. Successful therapy with the patient may ultimately result in a safer family environment with reduced risk of filicide.

This paper progresses through several topics relevant to filicide to lay the foundation for the development of the questionnaires. The author’s rationale for focusing on filicide for this research rather than all child murder is explained through an analysis of child murder data: a unique dynamic exists between victim age and victim-offender relationship. Studying age distribution in filicide victims allows a prevention strategy to be targeted to the most vulnerable time period in a child’s life. Filicide incidence for more than three decades is analyzed in an attempt to estimate the number of children in the United States killed by their parents each year, observe trends in recent years, and demonstrate the need for intervention. A path from studying cases of parents who have killed their own children to development of a targeted prevention strategy that utilizes the Prenatal and Postnatal Environment Questionnaires is proposed. This paper reviews the research on filicide to describe the motives most commonly associated with the act of killing one’s own child. In turn, these motives are used to identify questions that could be included in the Prenatal and Postnatal Environment Questionnaires to reveal the presence of filicide risk factors. It is further shown that questions on the typical obstetric patient questionnaires may not be sufficient to uncover filicide risk factors and a method of expanding these questions is offered.

FILICIDE AS A SUBSET OF CHILD MURDER

According to the Uniform Crime Reports, 12,253 people were murdered in the United States in 2013. Of those victims, 1,027 were under the age of eighteen years (United States, Federal Bureau of Investigation). Some of these victims were killed by their parents, while others were killed by siblings, other family members, acquaintances, friends, boyfriends, girlfriends, strangers, etc.

The distribution of the number of child murder victims per age group is unique (see fig. 1). The data in figure 1 are distributed in a “U-shaped” curve. The age groups at either end of the distribution account for most of the child murder victims in 2013. One underlying reason for the observed distribution in victim age is the dynamic of the victim-offender relationship. The Bureau of Justice Statistics reported in Special Report: Murder in Families, “A parent was the assailant in the majority (57%) of family murders involving victims under 12 [years of age]” (5). This accounts for the majority of victims on the left side of the chart in figure 1. Accounting for a majority of the victims on the right side of the chart, teenagers are increasingly killed by acquaintances.

The Bureau of Justice Statistics reported in Child Victimizers: Violent Offenders and Their Victims, “The victim-offender relationship in child murder varies with the age of the victim: In most murders of a young child, a family member killed the child, while in most murders of an older child, age 15 to 17, the perpetrator was an acquaintance to the victim or was unknown to law enforcement authorities. About 1 in 5 child murders were committed by a family member” (iv). For this reason, certain family members may be regarded as suspects when a child has been killed. “Moreover, when it comes to child homicide victims, especially for younger children, perpetrators often appear as parents” (Eke et al. S143). In essence, most young child victims are killed by their parents, while most teenage victims are killed by acquaintances.

Although all child murder victims need to be protected from harm, this research focuses on finding a novel strategy for preventing filicide. Filicide was chosen because it accounts for the majority of murders in young children. With filicide, the perpetrator of the crime is the parent, stepparent, or guardian. With this knowledge, a method can begin to be developed based upon common characteristics of parents who kill their own children. Recognizing these factors in a parent before the crime is committed is the key to saving these children.

AGE DISTRIBUTION IN VICTIMS OF FILICIDE

In a recent study utilizing the Federal Bureau of Investigation’s Uniform Crime Reports spanning a thirty-two year period from 1976 through 2007, Timothy Y. Mariano, Heng Choon Chan, and Wade C. Myers stated, “Given that filicide and parent-child relationships do not end when offspring reach age 18, we have included all victim ages to portray the epidemiology of this phenomenon most accurately” (47). As depicted in figure 2, Mariano, Chan, and Myers reported in their study, which included 15,691 filicide victims of all ages, that 82.4% of filicide victims were under the age of eighteen (48). Infants, i.e., children under the age of one year, accounted for 33.1% of all filicide deaths in the study (48). Additionally, children from the ages of one through six represented 38.6% of all filicide deaths in the study.
Filicide occurrence is on a downward trend overall. The data presented in figures 3 and 4 can be compared. Overall, filicide incidence decreased from an average of 493 victims annually (1976-1995) to 441 victims annually (2004-2013). It appears that filicide incidence decreased from an average of 493 victims annually to approximately 450 and remained relatively stable at this rate for a period of ten years (1996-2005). Then, for a period of sixteen years (1996-2011), the average number of filicide victims per year remained close to 450. Finally, in the last two years available for study (2012 and 2013), the number of filicide victims remained close to 400 each year. It appears that filicide incidence has decreased in a stepwise fashion over a period of thirty-eight years from 1976 through 2013.

Although the incidence of filicide has been decreasing over the past few decades, filicide still remains a problem that results in the tragic death of hundreds of children every year. Thus, a prevention strategy like the administration of Prenatal/Postnatal Environment Questionnaires is needed so that an attempt to save at-risk children can be made.

The Federal Bureau of Investigation’s Uniform Crime Reporting Program generates reliable crime statistics for the nation and publishes these statistics in the Uniform Crime Reports. The Federal Bureau of Investigation has reported the number of violent crimes and property crimes, as well as supplemental information regarding those crimes, on an annual basis since 1930 (“Uniform”). The victim-offender relationship is included in the reports; therefore, acts of filicide can be discerned in the reports through the relationship of the victim to the offender. Filicide is the killing of a child of any age by a natural parent, stepparent, or guardian, so the relationship of the victim to the offender is son, stepson, daughter, or stepdaughter for each homicide in the reports that can be identified as filicide.

Examining filicide occurrence over a broad time period can reveal trends. In a recent study utilizing Uniform Crime Reports spanning a thirty-two year period from 1976 through 2007, Mariano, Chan, and Myers reported that an average of 490 filicides occurred annually during the study period (49). The average number of filicide victims per year for six consecutive five-year blocks of time from 1976 through 2005 is displayed in figure 3. Interestingly, the average number of filicide victims per year remained relatively stable at approximately 500 for a period of twenty years (1976-1995). Then, the average number of filicide victims per year decreased to approximately 450 and remained relatively stable at this rate for a period of ten years (1996-2005).

Based upon the author’s analysis of the most recent data available in the Uniform Crime Reports at the time of writing, an average of 441 filicides occurred annually in the United States during the ten-year period from 2004 through 2013 (United States, Federal Bureau of Investigation). As visualized in figure 4, the occurrence of filicide has remained relatively stable over this ten-year period, with a slight downward trend recently.

The data presented in figures 3 and 4 can be compared. Overall, filicide incidence decreased from an average of 493 victims annually (1976-2005) to 441 victims annually (2004-2013). It appears that filicide occurrence is on a downward trend overall.
Schizophrenia is a debilitating mental illness that has been associated with the killing of one’s own child (Valenca et al. 551). Symptoms of schizophrenia include persecutory delusions, auditory hallucinations, and visual hallucinations. The distorted sense of reality that results from these symptoms can have dire consequences for schizophrenics, as well as for their families, friends, and others. Individuals with schizophrenia might be unable to properly care for themselves, while being suspicious of anyone who attempts to help. Parents afflicted with schizophrenia may believe their own children will harm them. Voices in the minds of these parents may instruct them to kill their own children. Without proper diagnosis and medication, the condition might continue to worsen until the voices become so loud and insistent that resisting their instructions becomes nearly impossible.

Alexandre M. Valenca et al. studied two particular cases of women presenting with psychotic symptoms. One case involved a woman who attempted to murder her three young children by throwing them into a river near her home. The children, a four-year-old girl, a three-year-old boy, and a one-year-old boy, were immediately rescued by a bystander. The woman had been abandoned by her partner approximately a year before the incident. The second case involved a woman who killed her one-year-old son by throwing him out of a window. She was arguing with her sister. In both cases, the women were subsequently diagnosed as paranoid schizophrenic, found not guilty by reason of insanity, and committed for involuntary treatment (552). Case studies such as these portray the “. . . emotionally evocative and complex . . . ” nature of maternal filicide, the killing of a child by his or her mother (Mugavin).

In the Eke study previously cited, it was reported that only twenty of the seventy-four defendants (27.0%) were diagnosed with schizophrenia or another psychotic disorder. This finding reveals that “. . . maternal filicide is not able to be explained only on the premise of psychotic symptoms” (Eke et al. S150). Filicide would be an easier phenomenon to understand if it was solely based upon the irrational act of a mentally ill parent, but it is not. Filicide occurs for a variety of reasons, and it is a complex phenomenon that is difficult to comprehend.

Factors precipitating the acutely psychotic filicide could be discovered through the Prenatal/Postnatal Environment Questionnaires. Questions like the following could reveal some of these factors: Do you feel you need to protect yourself or your child from harm in the home environment? Are you or your child a victim of family violence? Are you contemplating suicide? If so, what are your intentions concerning your child? After an evaluation of her answers, the patient could be referred to a psychologist or psychiatrist who could connect her with local resources to help her escape the violence in a safer manner than filicide-suicide. Also, if the patient is suicidal, she can receive appropriate therapy to recover. In this way, some cases of altruistic filicide can be prevented through the use of the Prenatal/Postnatal Environment Questionnaires.

Altruistic Filicide

Altruistic filicide occurs when a parent kills a child “because it is perceived to be in the child’s best interest, which may be secondary to either psychotic or nonpsychotic reasoning” (qtd. in West, Friedman, and Resnick 463). Parents who commit this type of filicide do so out of a misguided “love” for their children.

In a recent Turkish study conducted by Salih Murat Eke et al., seventy-four cases of suspected maternal filicide were analyzed. The ages of the victims ranged from newborn to six years old. A total of 20.3% of the cases analyzed were categorized under motives that are consistent with altruistic filicide. Of these altruistic filicides, 10.8% occurred to “protect the lonely child from the harm and badness after suicide” and 9.5% occurred because of “pity” (S143). A woman who lives in a home plagued with family violence might contemplate suicide and the killing of her child in a misguided effort to end their suffering.

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Acutely Psychotic Filicide

Acutely psychotic filicide occurs when “the parent, responding to psychosis, kills the child with no rational motive” (qtd. in West, Friedman, and Resnick 464). Psychosis is a loss of contact with reality. Psychotic depression and schizophrenia are two mental illnesses marked by psychosis that can result in the mentally ill parent killing his or her own child.

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Factors precipitating the acutely psychotic filicide could be discovered through the Prenatal/Postnatal Environment Questionnaires. Questions like the following could reveal some of these factors: Have you ever been diagnosed with a mental illness? Are you currently experiencing any psychiatric symptoms? After an evaluation of her answers, the patient could be referred to a psychologist or psychiatrist who is better equipped to make a psychiatric diagnosis and manage symptoms for the welfare of the mother and child. Also, if the patient is suicidal, she can receive appropriate therapy to recover. In this way, some cases of acutely psychotic filicide can be prevented through the use of the Prenatal/Postnatal Environment Questionnaires.

Unwanted Child Filicide

Unwanted child filicide occurs when “the parent kills the child who is regarded as a hindrance” (qtd. in West, Friedman, and Resnick 463). Parents who commit this type of filicide do so out of a misguided “love” for their children.

Unwanted child filicide occurs when “the parent kills the child who is regarded as a hindrance” (qtd. in West, Friedman, and Resnick 463). Parents who commit this type of filicide do so out of a misguided “love” for their children. Voices in the minds of these parents may instruct them to kill their own children. Without proper diagnosis and medication, the condition might continue to worsen until the voices become so loud and insistent that resisting their instructions becomes nearly impossible.

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The child could be unwanted for a variety of reasons. A woman who finds that she is facing a pregnancy alone could commit filicide. She may feel that she is unable to financially support the baby on her own or that she lacks a supportive family. Unemployment or a lack of resources available to care for the child is a factor involved in some cases of filicide (Eriksson et al.; West, Friedman, and Resnick 466; Eke et al. S147). Alternately, a woman who has been raped may find herself unable to bond with the child out of resentment of the man who sexually abused her. She, too, could commit filicide. The Bureau of Justice Statistics revealed in its Special Report: Murder in Families that some parents commit filicide because they “have difficulty handling the responsibility of child rearing” (6). This represents yet another reason that a parent might regard a child as unwanted.

In the Eke study previously cited, the motive was “to get rid of unwanted babies” in 24.3% of the cases analyzed (S143). This was the most frequently occurring motive for filicide in the group studied. Factors precipitating the unwanted child filicide could be discovered through the Prenatal/Postnatal Environment Questionnaires. Questions like the following could reveal some of these factors: Is the father of the child involved with the pregnancy? Do you have a support system, or do you feel isolated? Do you feel ready for the financial and parental responsibility of supporting this child? Was this pregnancy planned or unplanned? Do you feel that you want this child? Are friends and/or family willing to help you with child care? After an evaluation of her answers, the patient could be referred to a psychologist or psychiatrist who could help her work through her emotions and connect her with local resources for additional assistance. These resources could make her feel better equipped to handle the responsibilities involved with raising a child. She may realize that she wants the child after all. Additionally, if the child is truly unwanted, the counselor can talk to her about alternatives like adoption. In this way, some cases of unwanted child filicide can be prevented through the use of the Prenatal/Postnatal Environment Questionnaires.

"Accidental" Filicide/Fatal Maltreatment
"Accidental" filicide/fatal maltreatment occurs when “the parent unintentionally kills the child as a result of abuse or neglect” (qtd. in West, Friedman, and Resnick 464). Child abuse is widespread in the United States. “Three million cases of child abuse are reported in the United States each year” (Berthea 1577). Some of these children are “accidentally” killed as a result of serious physical injuries inflicted by a parent. According to the Bureau of Justice Statistics in its Special Report: Murder in Families, the death of a child can also result as an “unintended consequence of the commission of another crime (lethal conflict between the parents)” (6). A child that is neglected, i.e., the child's basic needs are not met, can suffer from a range of symptoms, and ultimately the child may die of starvation or another malady.

In the Eke study previously cited, a total of 17.6% of the cases analyzed were categorized under “fatal child abuse and neglect” motives (S143). The number of deaths as a result of abuse outnumbered those as a result of neglect. “Only a small fraction of the mothers in this group caused the death of their children by depriving them of basic life necessities; instead, the majority of them caused the death of their children due to uncontrolled or harsh abuse while they were beating or battering their kids” (Eke et al. S150). It seems that preventing cases of child abuse and neglect will prevent some cases of filicide. Efforts should be made in diagnosing child abuse and neglect.

If the child is seeing a pediatrician regularly, physical abuse may be visible on or within the child's body, e.g., broken bones, bruises, cuts, and burns. Also, neglect may be indicated if the child “fails to thrive.” This might be apparent by height, weight, and head circumference measurements which are routinely made in the pediatric clinical setting. These will “drop off” in a child that suffers from malnutrition (Lewis). Due to the severe consequences of child abuse and child neglect in the United States, the pediatrician must be aware of the risks and carefully evaluate the condition of each child to detect its occurrence.

Factors precipitating the “accidental” filicide/fatal maltreatment could be discovered through the Prenatal/Postnatal Environment Questionnaires. Questions like the following could reveal some of these factors: Do you feel you need to protect yourself or your child from harm in the home environment? Are you or your child the victim of family violence? Do you or your partner shake or hit the child for any reason? Are you able to meet the basic needs of your child? After an evaluation of her answers, the patient could be referred to a psychologist or psychiatrist who could connect her with local resources to help her ensure the safety of her child. In this way, some cases of “accidental” filicide/fatal maltreatment can be prevented through the use of the Prenatal/Postnatal Environment Questionnaires.

Spouse Revenge Filicide
Spouse revenge filicide occurs when “the parent kills the child as a means of exacting revenge upon the spouse/other parent” (qtd. in West, Friedman, and Resnick 464). These children are used as instruments to inflict pain on a partner instead of being respected as human beings.

In the Eke study previously cited, a total of 12.2% of the cases analyzed were categorized under a “to get revenge” motive (S143). Some parents are unable to deal with negative emotions in a healthy manner, and instead direct them towards innocent children in a lethal manner. In this type of filicide, the hatred, anger, jealous, or desire to retaliate against the spouse is unleashed on the child. The child is killed so that the spouse will be overcome with grief.

Factors precipitating the spouse revenge filicide could be discovered through the Prenatal/Postnatal Environment Questionnaires. Questions like the following could reveal some of these factors: How would you describe your relationship with your partner?
Are there significant ill feelings in the relationship? How would you describe your bond and your partner’s bond with your child? After an evaluation of her answers, the patient could be referred to a psychologist or psychiatrist for therapy. In this way, some cases of spouse revenge filicide can be prevented through the use of the Prenatal/Postnatal Environment Questionnaires.

**EXPANSION OF TOPICS TYPICALLY FOUND IN PATIENT HISTORY QUESTIONNAIRES TO REVEAL FACTORS INVOLVED WITH FILICIDE**

An interview with Dr. Adam B. Lewis was conducted by the author on February 23, 2015, to gain an understanding of current clinical practices relevant to this research. This information could enable an important question to be answered, “Could the implementation of the Prenatal/Postnatal Environment Questionnaires be a useful tool in helping to prevent filicide?” Dr. Lewis, a General Practitioner licensed in the Commonwealth of Virginia, has completed an internship in General Surgery and is currently a resident in Adult Neurology. He wishes to keep his affiliation confidential. Additionally, Dr. Lewis has had basic training in the fields of obstetrics, pediatrics, and family practice as required to receive his medical degree. This training included clinical experience with obstetric patients before, during, and after childbirth. After Dr. Lewis graduated from medical school, he continued to gain clinical experience with pediatric and obstetric patients in a variety of inpatient and outpatient settings. Most recently, he has worked with postpartum patients in psychiatry and neurology treating depression and headaches.

It was learned from Dr. Lewis during the interview that screening for maternal psychological health and safety is a standard practice in all clinical settings. Particularly in obstetrics and family practice, clinicians treating mothers will screen for safety at home and risks for postpartum depression (Lewis). An analysis of typical screening methods utilized in the care of obstetric patients was conducted by the author to determine whether these methods had the potential to uncover risk factors of filicide. The analysis revealed that screening methods currently utilized by doctors are adequate to diagnose postpartum depression. Unfortunately, standard screening methods do not reveal many other filicide risk factors.

Typical screening methods in the Obstetrics and Gynecology (OBGYN) setting include a patient history questionnaire. Several topics relevant to filicide are touched upon in the patient history questionnaire, but are not explored in depth. These topics include the following: marital status and other demographic information, psychiatric symptoms, history of abuse or domestic violence, substance abuse, and recent significant life changes. A more detailed discussion of what is learned from standard screening methods follows. Additionally, specific examples of how these standard screening methods can be expanded to reveal filicide risk factors will be described for each topic beginning with marital status and ending with recent significant life changes.

**Marital Status and Other Demographic Information**

The typical patient history questionnaire includes questions about marital status, occupation, and family size. It may also include questions about the father of the child. Does the patient know who the father of her unborn baby is? Questionable paternity is a factor involved in some cases of filicide (West, Friedman, and Resnick 463). One fairly standard question clinicians ask prenatal patients personally is, “Who lives in the home with you?” (Lewis). Knowing who lives in the home will reveal who has regular opportunity to affect the lives of the mother and child in a positive or negative manner. These questions reveal only a limited amount of information. The clinician needs to explore the information on the typical questionnaire further.

In light of discovering that the patient is single, widowed, or divorced, questions should be asked to determine if she has a supportive network of people in her life. Dr. Lewis stated that questions regarding whether the prenatal patient was feeling undue pressure, experiencing the pregnancy alone, or lacked family support were generally part of the clinical interview and not standardized. If the father of the child is not involved with the pregnancy, the woman might feel depressed, anxious, or abandoned. Parental separation and divorce is a factor involved in some cases of filicide (Brown, Tyson, and Arias; West, Friedman, and Resnick 466; Eke et al. S144).

If the father of the child is involved, the clinician should ask about the nature of the relationship. A high rate of stressors in the home and problems with a spouse are factors involved in some cases of filicide (Eke et al. S147). Troubled relationships can be a precipitating factor in cases of filicide in which revenge against a spouse is the motive (West, Friedman, and Resnick 463). Is the patient’s relationship with the baby’s father harmonious or troubled? How would she describe her relationship with her partner? Is there tension in the relationship? Is she able to work out arguments with her partner amicably? Dr. Lewis stated that these types of questions are generally part of the individual provider as there is no standardized method. Unfortunately, doctors are under a significant amount of pressure to limit the time they spend with patients while still providing quality care. This may result in some important questions not having an opportunity to be asked.

A study performed by Eke et al. analyzed “socio-demographic factors of 74 filicide cases of women in Turkey” (S143). Several interesting statistics were generated in the study. For filicide offenders whose marital status was known, 73.0% were married. For filicide offenders whose occupation was known, 86.5% were housewives at the time of the offense. For those cases in which economic conditions were known, low economic conditions were present in more than three
times the number of filicide cases as middle and high economic conditions combined. Most of the filicide offenders with a known number of children had one child at the time of the offense. A total of 90.5% of filicide offenders did not kill more than one child at the same time. A total of 95.9% of filicide victims were biological children. Approximately one-third of filicide victims were killed within the first year of life (S144). The statistics just described offer a glimpse into some of the characteristics that may be common among female filicide offenders, but these factors alone are not enough to develop a screening method for filicide risk. It has been shown here that expanded demographic information will be important to include on the Prenatal/Postnatal Environment Questionnaires.

**Psychiatric Symptoms**

The typical patient history questionnaire includes questions about a history of psychiatric symptoms. More specifically, these questionnaires ask the patient to disclose a history of anxiety/panic, depression, difficulty sleeping, and/or an eating disorder. If the patient was seen by a psychologist or psychiatrist in a comprehensive medical care facility in which different specialties are linked, the patient’s electronic medical record would be available to the provider. If psychiatric symptoms are present after childbirth. Postpartum depression, as the name implies, is a type of clinical depression that affects women after childbirth. Interestingly, it can affect men, as well. Symptoms of postpartum depression are similar to those for depression itself: prolonged sadness, crying, mood swings, anxiety, loss of appetite, and trouble sleeping. The depressed individual may feel overwhelmed and withdraw from his or her newborn. This affected individual may even contemplate hurting himself/herself or the newborn. According to S. H. Friedman and P. J. Resnick, untreated postpartum depression could result in “poor bonding with the infant, lack of self care [sic], infant neglect and infanticide.”

Postpartum psychosis, as opposed to postpartum depression, is marked by a break with reality. A case reviewed by Dorothy Sit, Anthony Rothschild, and Katherine Wisner vividly describes the onset and symptoms of postpartum psychosis experienced by one particular woman:

Ms. A. is a 27-year-old physician who delivered her baby 7 days before evaluation at a teaching hospital. She underwent an uncomplicated delivery, and her baby boy was full term and healthy. This was a planned pregnancy, and the family was excited about the birth. Within 2 days of delivery, she told her husband that she thought he was poisoning her food and that the baby was staring at her strangely. She thought she smelled horses and heard them galloping out-side [sic] her bedroom. She could not fall asleep even when her mother came to the house to care for their newborn and allow the patient to rest. At home, Ms. A. was able to sleep only 2–3 hours nightly. Her husband noticed that she would gaze out the windows in their apartment for hours without explanation. She had not bathed for 6 days. She required much help in simple tasks, such as diapering her baby. She expressed guilt about being a terrible mother and felt she did not deserve to have her family. She told her husband that she heard voices commanding her to go with her infant son to the subway and jump in front of the train; these hallucinations terrified her and became stronger after she returned home from the hospital. The husband became very concerned and brought his wife to the emergency room. (353)

Dr. Lewis explains, “When someone is clinically suspected, or is positive on the screen, he or she is referred to a psychologist or psychiatrist.” A standardized method of detection allows clinicians to efficiently and effectively evaluate all patients chosen for screening purposes. One particular screening form for postpartum depression is the Edinburgh Postnatal Depression Scale (EPDS).
“The Edinburgh Postnatal Depression Scale (EPDS) is a widely used 10-item questionnaire for postpartum depression that was developed in 1987, and has been extensively validated for antepartum and postpartum depression, with multicultural applicability” (Castle 148). Because it has been validated, it is a reliable indicator of postpartum depression. “The ten brief items from the EPDS assess sadness and tearfulness, loss of interest, anxiety and worry, sleep deficit, self-blame, sense of being overwhelmed, and suicidal ideation” (Castle 148). Postpartum depression is a factor involved in some cases of filicide (Koenen and Thompson). The EPDS is an effective indicator for a risk factor of filicide: postpartum depression. As such, its inclusion in the Postnatal Environment Questionnaire would be useful.

The EPDS also demonstrates the utility of a self-reported questionnaire in the clinical setting. Risk factors of postpartum depression are evaluated from the completed questionnaire, and an appropriate treatment plan can be implemented, if necessary. In most cases when a treatment plan is indicated, the patient will be referred to a psychologist or psychiatrist. In a similar fashion, the Prenatal/Postnatal Environment Questionnaires are proposed to be self-reported questionnaires utilized in the clinical setting. Risk factors of filicide are evaluated from the completed questionnaires, and an appropriate treatment plan can be implemented, if necessary. In most cases that a treatment plan is indicated, the patient will be referred to a psychologist or psychiatrist. The similarity of the two screening methods likely indicates the favorable application of the Prenatal/Postnatal Environment Questionnaires. In order for the Prenatal/Postnatal Environment Questionnaires to be successful, though, risk factors associated with filicide need to be identified.

History of Abuse or Domestic Violence
The typical patient history questionnaire includes questions about a history of abuse or domestic violence. One such question is, “Have you been emotionally or physically abused by your partner or someone close to you?” In addition, the clinician needs to ascertain whether the patient is currently experiencing any abuse in her life: verbal, physical, emotional, and/or sexual. Verbal abuse involves inappropriate criticism of the victim which results in damage to her self-esteem and self-worth. Physical abuse involves the threat and/or infliction of physical pain. Emotional abuse involves the emotional manipulation of the victim, usually to gain compliance with the abuser’s wishes. Sexual abuse involves unwanted sexual contact forced on a victim by the abuser.

Domestic violence and abusive relationships pose a threat to the patient and the unborn child. Domestic violence is a factor involved in some cases of filicide (West, Friedman, and Resnick 467; Eke et al. S150). A known history of child abuse, repeated violence, prior legal charges and/or convictions is a factor involved in some cases of filicide (Eriksson; West, Friedman, and Resnick 466). Discovering whether abuse is present in the patient’s life is of critical importance to her safety and that of the child. “Despite the importance of these topics, they are generally deferred to the behavioral health realm when discovered. Again, in a clinical setting, a provider is always keeping his or her mind open to these possibilities while interviewing and evaluating patients” (Lewis). The Prenatal/Postnatal Environment Questionnaires can include questions regarding abuse in the family.

If the pregnancy is a result of rape or sexual abuse, the baby may be unwanted; the child may be unwanted for other reasons, as well. The provider will normally ask whether the pregnancy is planned or unplanned. This question needs to be expanded to reveal risk factors of filicide. The patient should be asked whether the baby is wanted or unwanted. Additionally, it should be ascertained whether the pregnancy is a result of rape or sexual abuse. A patient will be asked if her pregnancy is a result of rape in situations that the provider is concerned; this is not a standard question (Lewis).

Cases of unwanted pregnancies should be referred to the psychologist or psychiatrist. Therapy could increase the chance of a favorable outcome. Adoption may be a viable option for the patient facing an unwanted pregnancy. Additionally, counseling may help the mother of the baby realize that she does, in fact, want to have the baby despite unfavorable circumstances surrounding the baby’s conception. In one particular study, twenty of twenty-seven defendants (74.1%) who committed filicide did not want the pregnancy to continue before the child was born, and the child was subsequently killed by the mother after the birth (Eke et al. S144). A better outcome to these unwanted pregnancies may be possible with early detection that the pregnancy is, in fact, unwanted.

The provider may be able to encourage the patient to disclose whether the pregnancy is unwanted simply by asking her. “There is an art to getting patients to open-up in a clinical setting, and often it is left to the clinical skill of the provider. However, the biggest barrier is simply asking. The more you ask, the better you get at it. I am constantly surprised at the information I am able to obtain by simply asking the ‘right question’” (Lewis).

Providers sometimes avoid asking, “Do you have thoughts of harming yourself or the baby?” Although patients are routinely asked about bringing harm to themselves, they are not routinely asked about bringing harm to the baby. Filicide is a subject that inspires uneasiness. It must be addressed in the clinical setting for filicide prevention to be possible. If the Prenatal/Postnatal Environment Questionnaires are to be effective, patients need to be asked directly about intentions concerning their children.

Sometimes abuse occurs with no overt signs like broken bones, bruises, or scars. In cases like these, it is important that the provider establish trust with the patient. She will likely feel scared to disclose information if her controlling partner is present at the appointment, and even if he isn’t. In some circumstances, the provider might want
to interview the patient alone (Lewis). The provider will do this if he suspects that abuse might be an issue. Steps like this can encourage the patient to be as truthful as possible in answering questions without fear of repercussions.

**Substance Abuse**

The typical patient history questionnaire includes questions about substance abuse, i.e., drug and alcohol abuse. Patients are often asked to disclose their use of drugs and alcohol. Drug and alcohol abuse are factors involved in some cases of filicide (Eriksson et al.; West, Friedman, and Resnick 466). These questions should be expanded to include whether anyone in the home has substance abuse problems. Violence and neglect become more probable when drug or alcohol abuse is involved.

**Recent Significant Life Changes**

The provider should explore whether the patient has had any recent significant life changes that might negatively impact her health or the health of the newborn. For example, if the previously employed pregnant woman was fired from her position, she may be under an increased amount of stress and suddenly worrying about being able to support her child. A careful evaluation of these changes is only possible if the provider has the information. The Prenatal/Postnatal Environment Questionnaires can include questions regarding life changes.

**Utility of the Prenatal/Postnatal Environment Questionnaires**

Dr. Lewis pointed out that it is the provider’s responsibility to ask questions that could uncover risk factors of filicide during the appointment itself, “It is incumbent upon the providers to ask these questions in the clinical setting . . . .” Because time with each patient is limited for the provider in the clinical setting, there may be little time available to uncover filicide risk factors by personally asking the patient relevant questions. Additionally, most providers might not be extensively familiar with filicide risk factors; this means that warning signs could go unnoticed. Dr. Lewis estimates that less than four hours were associated with this topic in the didactic portion of his medical training.

In Dr. Lewis’s medical opinion, the Prenatal/Postnatal Environment Questionnaires could prove useful in the clinical setting to alert the provider of the presence of filicide risk factors in his or her patient. “Simply asking these questions that would indicate that someone is at-risk will help practitioners think about it routinely and provide an indicator of a percentage of at-risk patients.” Dr. Lewis recommends that the questionnaires be provided to patients while they are waiting to be seen and then evaluated by nurses or physicians. This will allow the patient’s answers to be shared with the provider in the most efficient way possible. Additionally, because current screening methods are not standardized, the implementation of a standardized screening method like the proposed Prenatal/Postnatal Environment Questionnaires could ensure that the questions are asked and answered in as many cases as possible.

The utilization of a standardized questionnaire has had great success in the clinical pediatric setting. The Ages and Stages Questionnaire (ASQ) is designed to screen children for developmental delays in five areas: communication, gross motor, fine motor, problem solving, and personal-social. Parents of the child play a vital role: making observations of the child and completing the simple questionnaire based upon those observations. As an example, a parent sees his or her child pick up a Cheerio. The parent would answer affirmatively that the child has the ability to do this. The doctor would infer that the child’s fine motor skills are progressing. These questionnaires are administered at certain milestones in a child’s development over the first five years of life. The ASQ allows for early detection of developmental delays and behavioral problems; this improves outcomes. In a similar fashion, the Prenatal/Postnatal Environment Questionnaires could be used in the clinical setting for the early detection of filicide risk factors, i.e., before and after birth, so that better outcomes are possible.

**CONCLUSION**

Hundreds of children are killed by their parents every year in the United States. As such, a strategy needs to be developed that can prevent this crime from occurring. In developing a prevention strategy, similarities in filicide cases need to be explored. As described in this paper, risk factors of filicide can be determined based upon commonalities in filicide cases, filicide offenders, and filicide victims. In identifying the optimal time in a child’s life to focus a prevention strategy, it must be determined when children are most at-risk. The prenatal and postnatal time period is an optimal time to ascertain dangers in the family environment because most children who are victims of filicide are killed when they are young. Because a majority of women who are pregnant seek out medical care, it becomes the opportune time to ensure the safety of the home environment before and after the baby is born. Providers in the clinical setting are ideally situated to evaluate patients for early warning signs of filicide. “Individuals working with families and children should be trained to recognize risk factors and intervene to protect endangered children” (Koenen and Thompson). In light of all of this information, a novel strategy emerges: the Prenatal/Postnatal Environment Questionnaires. Each can be used as a clinical screening method to detect filicide risk factors in the family environment of the obstetric patient. Subsequently, the patient can be referred to a psychologist or psychiatrist for counseling in an effort to eliminate any filicide risk factors present. Perhaps this will enable better outcomes for the newborn.


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Capability – A Crucial Element in Fraud Detection and Prevention
Shelby Lamb

“The company’s failure in 2001 represents the biggest business bankruptcy ever while also spotlighting corporate America’s moral failings. It’s a stark reminder of the implications of being seduced by charismatic leaders, or more specifically, those who sought excess at the expense of their communities and their employees. In the end, those misplaced morals killed the company while it injured all of those who had gone along for the ride.” This quote published in the article, “Enron, Ethics and Today’s Corporate Values,” succinctly summarized the Enron scandal. The executives of Enron used their positions, knowledge, egos, and coercion skills – all capability components – to hide billions of dollars of company debt from the public, employees, shareholders, and auditors. The coercive acts of the executives resulted in the largest audit failure in corporate history, but only for a matter of time. In October of 2001, the fraud was finally revealed, leading to Enron’s demise. Based on the audit investigations of the Enron scandal, legislators passed the Sarbanes-Oxley Act which increased penalties for anyone tampering with audit records or falsifying information provided to shareholders.

Enron is only one of several high dollar frauds perpetrated by executive management teams who used their capabilities of position and personality factors to sway others for their purpose i.e. to commit fraud. Several frauds each year do not follow the framework of the fraud triangle theory and are not committed because there are financial pressures on the perpetrators, but merely because they are capable of pulling it off. Yearly statistics provided by the Association of Certified Fraud Examiners (ACFE) and multiple case studies reveal there is strong evidence linking executive level fraud and the capability factors of a fraud perpetrator. This evidence confirms the capability element that completes the Fraud Diamond Theory proposed by David T. Wolfe and Dana R. Hermanson (38). Capability is a crucial element of the Fraud Diamond analysis and should be the standard practical theory for fraud detection and prevention going forward.

An analysis was performed to confirm the efficiency of the Fraud Diamond Theory presented by Wolfe and Hermanson. This paper provides the results of that analysis as outlined in the sections below. The first section provides an historical look at the theory of the fraud triangle created to detect and analyze fraud perpetrators, which is industry standard today. The second section discusses the theory of the Fraud Diamond, specifically the element of capability, along with the components required to achieve the capability element for fraud perpetrators. The third section analyzes fraud statistics from the 2012 and 2014 ACFE Report to the Nations to reveal trends in executive level frauds. The analysis concludes by providing multiple case studies in which the perpetrators exhibited qualities consistent with the capability element described in the fraud triangle. This paper provides recommendations to include the capability element C-score into fraud detection analytics and recommendations to companies on how to modify their current fraud programs to include capability elements when evaluating individuals.

HISTORY

Fraud is perpetrated in an attempt to benefit oneself or an organization. Most fraud is categorized as employee fraud or management fraud (Albrecht et al. 34). Fraud detection came into existence as a result of Donald Cressey’s Fraud Triangle Theory (see figure 1).

![Figure 1. Cressey’s Fraud Triangle](image)

According to Cressey, there are three factors that must be present at the same time in order for an ordinary person to commit fraud:
- Pressure
- Opportunity
- Rationalization

Source: ACFE website explains the three sections of the Fraud Triangle initially presented by Donald Cressey. (Wells, Joseph T)

This hypothesis provides three elements that must be present for frauds to occur: pressure, rationalization, and opportunity (Albrecht et al. 35). The fourth edition of the Fraud Examination textbook contains guidelines as to what each element means. Pressure indicates that the person committing the fraud is subject to outside financial or vice pressures. Outside financial pressure can be linked to financial greed, living beyond one’s means, high bills, personal debt, poor credit, and unexpected expenses (Albrecht et al. 36) whereas vice pressures are due to addictive behaviors i.e. drugs, alcohol, gambling, or extramarital affairs.

The second element on the Fraud Triangle theory is opportunity (Albrecht et al. 39). Opportunity arises when shortfalls in an organization’s control environment and accounting systems are
discovered by the perpetrator(s). For employee fraud these shortfalls are often discovered accidentally. The fraud examination text lists “(1) lack of controls that prevent and/or detect fraudulent behavior, (2) inability to judge quality of performance, (3) failure to discipline fraud perpetrators, (4) lack of access to information, (5) ignorance, apathy, and incapacity, and finally (6) lack of an audit trail” (Albrecht et al. 39) as opportunity examples.

The final element in the Fraud Triangle Theory is rationalization (Albrecht et al. 39). Rationalization refers to how the perpetrator deems the fraud acceptable. The fraud examination text states, “Most fraud perpetrators are first-time offenders who would not commit other crimes. In some way they must rationalize away the dishonesty of their acts” (Albrecht et al. 50). There are multiple scenarios perpetrators could rationalize. The most common scenarios are that “the organization owes it to me,” “I deserve more,” “I am the only one borrowing the money and will pay it back,” and “we’ll fix the books as soon as we get over this financial difficulty” (Albrecht et al. 50). Perpetrators rationalize that their behaviors are acceptable, and what should be done for their own and/or their respective company’s health.

Within the Fraud Triangle Theory, all three elements must be present concurrently (Albrecht et al. 35). Today, most fraud detection and prevention methods based on the Fraud Triangle Theory are used to detect the accidental fraudster who is not seeking solely to commit fraud. The accidental fraudster cases typically fall under the employee fraud umbrella. Joseph Wells, founder of the Association of Certified Fraud Examiners (ACFE), stated in his Corporate Fraud Handbook, “Cressey’s classic fraud triangle helps explain the nature of many – but not all – occupational offenders…Our sense tells us that one model – even Cressey’s – will not fit all situations. Plus the study is over half a century old. There has been considerable social change in the interim, and today many antifraud professions believe there is a new breed of occupational offender – one who simply lacks a conscience sufficient to overcome temptation”. The fraud triangle does not address the new type of offender: the fraud predator. This individual contains specific personality capabilities in conjunction with position in the workplace (often at the executive level) to put him on the front lines of potential fraudulent activity.

**CAPABILITY**

The capability element was proposed by David T. Wolfe and Dana R. Hermanson. This element determines how an individual’s capability plays a role in fraud perpetration with or without the three standard elements of pressure, opportunity, and rationalization. According to Wolfe and Hermanson, “Many frauds, especially some of the multibillion-dollar ones, would not have occurred without the right person with the right capabilities in place. Opportunity opens the doorway to fraud, and incentive and rationalization can draw the person toward it, but the person must have the capability to recognize the open doorway as an opportunity and to take advantage of it by walking through, not just once, but time and time again” (38-39). Capability is added as a factor to pressure, opportunity, and rationalization to complete the Fraud Diamond. (Figure 2.)

The capability element looks at a person’s ability to both recognize the fraud opportunity and then to act upon the opportunity to commit actual fraud. Wolfe and Hermanson explain a fraudster’s thought process as “Incentive: I want to, or have a need to commit fraud; Opportunity: There is a weakness in the system that the right person could exploit, fraud is possible; Rationalization: I have convinced myself that this fraudulent behavior is worth the risks; Capability: I have the necessary traits and abilities to be the right person to pull it off. I have recognized this particular fraud opportunity and can turn it into reality” (39). By failing to examine a fraudster’s capability to recognize fraud potential, many high dollar and large scale frauds remain undetected for far longer than they should. The Enron case is a classic example of the capability factor in action. The executive management team coerced employees to execute deals that did not ensure long term success, but falsely enhanced the present financial statements. Additionally, Enron executives coerced the auditors of Arthur Anderson into signing off on the misstated financials. The Enron executives recognized the opportunities and had the education, coercion skills, and ability to lie in order to perpetrate the fraud for an extended period of time.

The Fraud Diamond capability element outlines specific qualities within an individual to determine if they have the required traits that would deem them susceptible to committing fraud, should the opportunity arise. Wolfe and Hermanson define this as one who has
both positional and personality components i.e. brains, confidence, coercion skills, effective lying skills, and immunity to stress (40). In analyzing the history of executive level frauds, these six positional and personality components remain consistent.

The first capability component is position, "the person's position or function within the organization may furnish the ability to create or exploit an opportunity for fraud not available to others" (40). An executive such as a CEO or CFO has authority to make adjustments or influence decisions either outside of company controls and policies, or the ability to override them. Employees in lower positions often do not have the same authorities as those in executive level positions.

The second capability component is brains or knowledge. According to Wolfe and Hermanson, "the right person for a fraud is smart enough to understand and exploit internal control weaknesses and to use position, function, or authorized access to the greatest advantage" (40). A CEO or CFO is well educated, often with postgraduate degrees and professional certifications, as well as a vast amount of experience. In order to execute a fraud, the executive team member uses their position, but also has an in-depth knowledge and grasp of the systems and procedures required to orchestrate the fraud.

Ego is the third component. A person with a large ego is often overly confident and self-absorbed, "... or the person believes that he could easily talk himself out of trouble if caught" (40). An overly confident or egotistic person in the right position in a company executive is a potential red flag. Wolfe and Hermanson posit that the potential fraudster will conduct a cost-benefit analysis. An overly confident or egotistic person might see the personal cost of committing fraud as low, thus encouraging the fraudulent behavior (40). The next capability is coercion. A person who coerces others does so by convincing another to act on the coerser's behalf to cover up unacceptable actions. This type of person engaging in bulling behavior and "makes unusual and significant demands of those who work for him or her, cultivates fear rather than respect ... and consequently avoids being subject to the same rules and procedures as others" (40). The Enron executives responsible for the fraud scandal used their coercion skills to manipulate coworkers and auditors into contributing to and covering up the fraud.

The fifth component is effective lying. In order to be an effective liar, a perpetrator has mastered the twin abilities of maintaining both believable lies and consistency within the lies to ensure the story remains plausible. Enron's executives were well versed in lies and deceit. The executives constantly lied about the financial well-being of the company, deceived employees by encouraging them to purchase stock while simultaneously selling their own for high profits before the stock price crashed.

Immunity to stress is the final component. Wolfe and Hermanson stated, "Committing a fraud and managing the fraud over a long period of time can be extremely stressful. There is the risk of detection, with its personal ramifications, as well as the constant need to conceal the fraud on a daily basis" (40). An executive level position within a company is already an extremely stressful position as the successes and failures of the company are dependent on the correct decisions being made. Adding a fraud scheme into the equation that requires constant coercion, lying, and added knowledge greatly increases the stress factors.

A person possessing the capability factors outlined above has the potential to commit fraud and should be flagged. Current fraud detection programs focus solely on pressure, opportunity, and rationalization. While an opportunity may exist, the individuals within the company who exhibit the capability factors should become prime suspects. This is critical in financial statement fraud cases where history demonstrated executive management positions have been responsible for past fraud crimes. Financial statement fraud is one of the least common types of fraud committed, but it results in the highest amount of dollar loss amongst all frauds perpetrated.

STATISTICS

Every other year, the Association of Certified Fraud Examiners releases the Report to the Nations on Occupational Fraud and Abuse. This article contains information from the 2012 and 2014 reports, and highlights statistics regarding executive level fraudulent activity which demonstrates a need to use the capability element as illustrated in the Fraud Diamond. The Fraud Diamond provides greater detection of executive level frauds and the statistics within the Report to the Nations validates this finding.

The 2012 ACFE Report to the Nations on Occupational Fraud and Abuse is based on 1,388 known occupational fraud cases reported by more than one thousand certified fraud examiners from all over the world. The Report to the Nations is divided into five sections: (1) the costs associated with fraud; (2) fraud schemes; (3) detection of the fraud; (4) victims; and (5) perpetrators of those frauds. Fraudulent activity each year costs an organization an average of five percent of its revenues and takes an average of eighteen months to be detected. The median loss to fraud in a company was $140,000, although at least one fifth of the frauds reported in the 2012 ACFE Report were over one million dollars in losses (ACFE 2012: 4). In the 2012 ACFE Report, there were three categories of fraud: (a) asset misappropriation; (b) corruption; and (c) financial statement fraud. Among the three, asset misappropriation had the highest frequency in number of cases at 86.7 percent, but the lowest median loss at $120,000. Financial statement fraud only comprised 7.6 percent of cases, but the median loss for this type of fraud was $1,000,000 (ACFE 2012: 10-11). Asset misappropriation is often linked to employee fraud while financial statement fraud is linked to executive level frauds.
The 2012 Report to the Nations further states that over 40 percent of all financial statement fraud cases were detected by an anonymous tip, 14.3 percent detected by notification of police, and 14.3 percent were detected by internal audit. Only 5.7 percent of cases were detected by external audit (ACFE 2012: 14-15). The 2012 Report indicates that the highest numbers of fraud victim organizations (60%) are in the United States, with financial statement fraud comprising only 7.2 percent of those cases. When looking at the causes, the largest factor was a lack of internal controls, followed by an override of existing controls, lack of management review, and poor tone at the top (ACFE 2012: 20-21). The latter three factors are pertinent to the capabilities discussion i.e. position, coercion, knowledge, and lying to bypass controls or convince auditors that a management review is unneeded or simply not performed for executive level or above positions.

The 2012 Report also reveals that over half of all frauds reported were perpetrated by a manager level or above, 17.6 percent of those being an owner or executive. The median loss for an owner or executive level was $573,000, and was the highest category of median loss for all seven regions with reported losses, including Europe, Africa, and Latin America. The highest frequency and median loss were caused by male perpetrators between the ages of 51-55 who had obtained a postgraduate degree. Perpetrators within executive or upper management comprise 11.9 percent of all cases with a median loss of $500,000 (ACFE 2012: 38-51).

The 2014 ACFE Report to the Nations on Occupational Fraud and Abuse is based on 1,483 known occupational fraud cases. The median loss to fraud in a company was $145,000; 22 percent of those cases in the 2014 Report were over one million dollars in losses. In the 2014 ACFE Report, asset misappropriation again had the highest frequency in number of cases at 85 percent, but the lowest median loss at $130,000. Financial statement fraud had a median loss of one million dollars (ACFE 2014: 4).

Both the 2012 and 2014 Report to the Nations studies support trends in executive level management and high dollar losses to fraud, often linked to financial statement frauds. These statistics reveal issues with current fraud prevention and detection methods. Financial statement frauds consistently cost companies millions of dollars annually. Average executive level fraud detection occurs over an eighteen to twenty-four month time frame. By analyzing capability factors, detection time and fraud costs can be significantly reduced.

CASE STUDY

This case study focuses on four companies and people associated with financial statement and accounting frauds within the United States: Enron, WorldCom, Lehman Brothers, and Barry Minkow. In each of these cases, losses exceed the statistical one million dollar average loss due to fraudulent activity. Each case defines the circumstance of the fraudulent activity, the person(s) responsible, and assumptions of how the elements of the Fraud Diamond apply, specifically the capability element. Table 1 provides a summary of the findings.

<table>
<thead>
<tr>
<th>Company/Person</th>
<th>Total losses</th>
<th>Pressure</th>
<th>Opportunity</th>
<th>Rationalization</th>
<th>Capability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enron</td>
<td>74 Billion</td>
<td>X</td>
<td>X</td>
<td>-</td>
<td>X</td>
</tr>
<tr>
<td>WorldCom</td>
<td>180 Billion</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Lehman Brothers</td>
<td>50 Billion</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Barry Minkow</td>
<td>100 Million+</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

Source: Table created by the author provides a visual summary of the cases, losses, and Fraud Diamond elements

Enron was an energy company with losses around $74 billion of shareholder value. According to William Thomas in the Journal of Accountancy article, “The Rise and Fall of Enron,” the two biggest contributors to the losses were the use of market-to-market accounting and related parties and complex special purpose entities. The use of market-to-market accounting allowed Enron the opportunity to overstate income statements with unrealized gains. In addition, Enron’s CFO Andrew Fastow used special purpose entities that he created to aid in overstating the financials while personally profiting from the partnerships.

The Enron executives were responsible for the company’s financial statement fraud. The company’s CEO Jeff Skilling and former CEO Kenneth Lay, in collusion with the CFO Andrew Fastow were the three main perpetrators. As the executive team, they had the opportunity to commit the fraudulent activity by manipulating
WorldCom was known to be the biggest bankruptcy filing in history as of 2002. WorldCom was once a telecommunications industry giant. The Securities and Exchange Committee (SEC) began its investigation of WorldCom after the company announced in 2002 that it had overstated financial statements by $3.85 billion. Later the company produced a write-off for an additional $80 billion in book value assets (Beresford et al.). The bankruptcy also led to the loss of thousands of jobs. According to the SEC investigation, WorldCom used reduction of reported line costs and exaggerated reported revenues within their financial statements as the method of fraud. In addition to the faulty financial statements, the executives of WorldCom, Bernie Ebbers and Scott Sullivan, provided loans and large financial gifts to other executives and managers within the company. The SEC investigation stated, “In 2000 and 2002, Ebbers personally loaned Ron Beaumont, the Chief Operating Officer, a total of $650,000 over a sixteen month period: a $250,000 loan in October 2000 and a $400,000 loan in February 2002. Both loans were still outstanding as of October 2002” (Beresford et al.). WorldCom, like Enron, was able to circumvent detection of financial wrongdoing by influencing both internal and external auditors.

WorldCom also used Arthur Anderson as the external auditing firm. The SEC investigation claimed, “Certain members of WorldCom’s management altered significant documents before providing them to Andersen, with the apparent purpose of hampering Andersen’s ability to identify problems at the Company” (Beresford et al.). Each of these instances of fraudulent activity are factors in the Fraud Diamond. The WorldCom executives were under pressure to meet growth and revenue goals; opportunity was present with systemic shortfalls and lack of access to information; and the team rationalized that making the revenue goals by any means would only benefit the company. All six components of capability are present in each of the executives responsible for the fraud. Their positions in upper management allowed them to have the authority to make final decisions; all had education and knowledge of the systems and processes; the executives had proven to be overly confident by knowing the employees followed their every whim; the executive team maintained the lie to the employees, investors, auditors, and the public; and finally the executives were immune to the stress that the fraud scheme placed on them daily.

Gray areas within market-to-market accounting. The pressure for the executive team was to grow the earnings and keep financial statements reflecting a positive outlook. The team rationalized their behavior by thinking they were not doing anything wrong and only benefiting the company. All six components of capability are present in each of the executives responsible for the fraud. Their positions in upper management allowed them to have the authority to make final decisions; all had education and knowledge of the systems and processes; the executives had proven to be overly confident by knowing the employees followed their every whim; the executive team maintained the lie to the employees, investors, auditors, and the public; and finally the executives were immune to the stress that the fraud scheme placed on them daily.

Lehman Brothers investment bank was the fourth largest in the industry in its prime. The company specialized in mortgage loans and had acquired several mortgage companies. In 2008, Lehman Brothers filed for bankruptcy citing $619 billion in debt with over $50 billion of that debt disguised as sales, making it the largest bankruptcy in history. In “Lehman Brothers: Accounting Left to Interpretation,” Certified Fraud Examiner Mandy Moody noted, “Lehman recognized a loophole in the accounting standard language regarding repurchase agreements (repos) and took advantage of it. . . Liabilities were not recorded for these asset transactions, but rather assets were taken off its balance sheet and the cash received was then used to repay other debt, effectively lowering its leverage”. By completing these transactions, Lehman Brothers misstated both the company’s assets and debts. “Lehman Brothers was able to complete their due diligence by finding a legal firm that would give the okay to these sales despite the accepted accounting standards in the U.S. No law firm in the U.S. wanted to give an opinion on what they wanted, so Lehman’s went opinion-shopping: they traveled across the pond and found a U.K. law firm to provide the opinion letter they needed” (Moody). Lehman’s CEO Richard Fuld and the executive team used knowledge and coercion to circumvent accounting standards by finding a firm to condone the fraud.

Lehman Brothers executives were under pressure to meet financial goals. The company leaders rationalized the fraud by believing that they would bring back the repos at a later date. They had the opportunity to commit the fraud by finding the accounting loophole allowing them to perform the repos. Each of the executives responsible for the fraud exhibited the capability factor components. Their positions and knowledge were used to circumvent processes as well as the coercion of the overseas firm providing Lehman’s approved opinion.

Barry Minkow is a well-known fraudster beginning with the ZZZZ Best fraud. Roger Parloff in Fortune summarized Minkow’s fraud career. He began his career in high school when he started the company ZZZZ Best doing carpet cleaning and restoration. Minkow’s seemingly successful company was merely a huge Ponzi scheme costing investors over one hundred million dollars. The company shut down in 1987 and Minkow was sentenced to twenty five year in prison based on multiple counts of fraud. After his release in 1995, Minkow went on to become Pastor and Director of a church in California as well as working to uncover millions in accounting frauds with the Fraud Discovery Institute. Later in 2011, Minkow was convicted of practicing insider trading with Lennar, a homebuilding company he previously had investigated for fraud. During this time, he was also suspected of theft from the church in which he pastored. Minkow was again sentenced to prison and hit with large fines. He was also convicted of running the Fraud Discovery Institute with church funds and stealing thousands of dollars from the church.
Barry Minkow is a conman with the capability to lie and coerce people into trusting him to run businesses and manage money. He learned early how to perpetrate a fraud, enabling him to pocket millions of dollars over time. Eventually Minkow was caught, sentenced to prison, and fined for each fraud committed; but well after the damage was done. This skilled con artist exercised his capability personality factors to commit fraudulent acts throughout his life by understanding the processes and systems and ways around them. Minkow continues to show his mastery in the art of lying by convincing others to allow him in the positions where he is able to manipulate others and steal their money.

Each of these cases represents fraud predators. These cases were not accidental frauds but intentional based on the fraudsters’ capabilities. While each case had pressure, opportunity, and rationalization, each person possessed the capability components. Barry Minkow used his capability to commit fraud on multiple occasions. Each executive involved also committed the frauds despite their already high salaries. Each case presented proves the crucial need for the capability element in the Fraud Diamond. Had the Fraud Diamond elements been used in both prevention and detection programs, these frauds could have been either prevented or significantly reduced.

RECOMMENDATIONS

The capability element of the Fraud Diamond has proven to be a crucial element. There are several ways to incorporate identification of capability factors as part of fraud detection and prevention programs. These methods can be used by both internal and external auditors as well as hiring managers and human resources personnel. One current method of detecting fraud is using analytics. The Fraud Magazine article “Fraud Triangle Analytics: Applying Cressey’s Theory to E-Mail Communications” describes using keywords within company email to look for red flags to potential frauds. The article states, “Routine Fraud Triangle Analytics can simplify procedures while reducing investigation and litigation expenses by catching fraud in its earliest stages” (Torpey et al.). Routine analytics can be periodically run based on both incoming and outgoing emails to look for keywords or phrases related to pressure, opportunity and, rationalization. Some of these identified keywords are: problem, committing, misconduct, conditional, figure out, and does not make sense (Torpey et al.). Within these analytics, any person exhibiting red flagged behavior would be given P, O, and R scores depending on the elements of pressure, opportunity, and rationalization keywords. These scores are then added to determine each person’s specific fraud risk.

The Fraud Triangle Analytics can incorporate capability to provide a more complete analysis. Within e-mail communications, capability factors can be flagged by keywords related to position, knowledge, ego, coercion, lying, and stress. These capability keywords would also then generate a C-score. By using a C-score to aid in determining a person’s fraud risk, fraud detection programs would be able to not only identify those showing signs of pressure, opportunity, and rationalization, but also those with the capability to commit the fraudulent act.

Capability analytics can be used to prevent the hiring of potential fraud predators during the employment screening processes. These analytics would be used by a company’s human resources department as part of pre-employment screening, especially for management level positions and above. Similar to email screenings, capability element related keywords and phrases would be scanned in an applicant’s resume, background checks, and previous employment checks to determine any red flags. Personality questions determining the capability components could also be asked during the interview process to raise any potential red flags. Similar to the detection method, the C-scores would then be added for the hiring candidates to determine each person’s capability specific risk. The applicants with a high capability risk would be removed from the hiring process.

In addition to analytics for fraud detection and employment screening processes, it is crucial to assess the capability risk of the executive management team as well as other key managers on a recurring basis. Wolfe and Hermanson state, “The audit committee member corporate accountant, or auditor should focus on the personality traits and skills of top executives and others responsible for high-risk areas when assessing fraud risk or seeking to prevent or detect fraud” (40). By recognizing the capability factors as a fraud element, both internal and external auditors have additional tools to assess fraud risk. Wolfe and Hermanson also suggest spending adequate time with each member of the executive team to obtain information regarding their specific personality traits and how they may relate to fraud capability (42). This will allow the auditors the ability to learn about the executives on both a personal and business level. The auditors would also look for key phrases and behaviors of the executives to determine a fraud risk C-score.

Once the auditors have met with the executive team, the auditors would then fully assess any capability risk within the executive team. Wolfe and Hermanson state, “A key to mitigating fraud is to focus particular attention on situations offering, in addition to incentive and rationalization, the combination of opportunity and capability. In other words, do we have any doorways to fraud that can be opened by people with the right set of keys? If so, these areas are especially high risk, because all the elements are in place for a fraud opportunity to become reality” (42). It is crucial for fraud risks of opportunity and capability to be identified – especially with executive management – and for those risks to be mitigated as quickly as possible to prevent or decrease the amount of loss. Once the current risks are mitigated, the detection and prevention processes should be restarted. Capability risks in an organization are constantly changing with management turnover and promotional processes.
Based on the high cost of fraud to organizations, prevention and detection methods need to be high priority for every company. Adding the capability element as depicted in the Fraud Diamond is crucial for successful prevention and detection programs. A person with specific positional and personality qualities is needed to make the fraud opportunity a reality, especially in financial statement frauds where position, knowledge, coercion, and ability to lie effectively are common. The ACFE Report to the Nations shows that year after year the average loss for financial statement fraud is over one million dollars with an average detection time of twenty-four months.

Capability factors were present in the Enron, WorldCom, and Lehman Brothers frauds as well as the multiple fraudulent acts committed by Barry Minkow. These frauds may have been either prevented or losses decreased if the respective companies had incorporated capability factors into their fraud detection programs. Using fraud risk analytics to include capability factors will transform fraud detection and prevention programs in allowing companies to see risk scores for all relevant elements of fraud: pressure, opportunity, rationalization, and capability.

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SHELBY LAMB

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Small Businesses: “Fraud? It Can’t Happen Here”
Yessica Weaver

According to the Association of Certified Fraud Examiners (“ACFE”), “Fraud is ubiquitous; it does not discriminate in its occurrence. And while anti-fraud controls can effectively reduce the likelihood and potential impact of fraud, the truth is that no entity is immune to this threat. Unfortunately, however, many organizations still suffer from the ‘it can’t happen here’ mindset” (6). Small businesses, which are defined as those organizations with fewer than 100 employees (ACFE 25), generally lack the necessary financial and human resources that its larger counterparts have (Hrncir and Metts 61). The lack of resources is one of the distinguishing factors that differentiate small businesses from others in regard to their susceptibility to fraud (Hrncir and Metts 61). However, another factor which is not quantifiable can have an even greater effect on a small organization’s susceptibility to fraud: employee trust. According to Chris Gagliardi, CPA, there are five common misconceptions among small business owners: their employees are too loyal to commit fraud, the company is too small to be at risk of fraud, the owners have complete control, there is no need for internal controls, and the dollar impact of fraud on a small business is minimal (11). These misconceptions have led owners of small businesses to assume the “it can’t happen here” mentality as noted by the ACFE. This research paper illustrates the causes of small business financial losses due to fraud occurrences and proposes the most effective fraud prevention methods.

Since 1996, the ACFE has released its Reports to the Nations on Occupational Fraud and Abuse biennially, highlighting research performed and case investigations that outline fraud costs and trends (ACFE 6). Consistent with previously issued reports, the 2014 Report to the Nations on Occupational Fraud and Abuse indicated that small businesses accounted for 28.8 percent of occupational fraud cases reported to the ACFE, which is the greatest percentage of occupational fraud in contrast to larger businesses. In 2012 and 2010, small businesses accounted for 31.8 percent and 30.8 percent respectively of occupational fraud cases reported (ACFE 25). In 2014, the average loss per fraud scheme for a small business was valued as $154,000, which can be detrimental to businesses with fewer than 100 employees (ACFE 20). When surveys and research were conducted regarding the implementation of anti-fraud controls, small businesses had few if any anti-fraud controls compared with larger businesses (ACFE 32). Despite fewer capital resources, small companies can still implement fraud prevention methods. The first step is recognizing that even its most trusted employee is capable of committing fraud.

Occupational fraud or employee theft is defined as: “the use of one’s occupation for personal enrichment through the deliberate misuse or misapplication of the employing organization’s resources or assets.” (Hrncir and Metts 62). Despite an owner’s misconception of possessing complete control over and full knowledge of business operations, studies indicate that 34.2 percent of occupational fraud cases were actually detected through tips. The main source for those tips in the detection of fraud came from the organizations’ employees themselves (Gagliardi 11). In fact, only 18.8 percent of fraud cases in small businesses were detected through management review of accounts and financial statements (ACFE 23).

Occupational fraud can be carried out by employees in a variety of forms. The method an employee chooses depends upon the degree to which the employer has placed trust in them. An employee who has been granted access to the company's trusted assets will have greater means to perpetrate fraud than an employee with no form of access to assets (Hrncir and Metts 64-65). According to the ACFE’s report, 33 percent of fraud scheme cases in 2014 involved corruption with billing and check tampering (26). Corruption is one of the three major types of occupational frauds and includes illegal forms such as bribery, kickbacks, and collusion (2015 US Fraud Examiners Manual 1.601). Corruption schemes are difficult to detect because they can include more than one form and may involve more than one employee (2015 US Fraud Examiners Manual 1.601).

Employees who steal do not fit a stereotypical criminal profile nor do they typically have a history of committing fraud in the workplace. According to the ACFE’s 2014 report, only 5 percent of the fraud perpetrators had previously committed occupational fraud (58). This percentage includes both small and large businesses. Based on the fraud triangle theory, an employee is more likely to commit fraud given the opportunity. The fraud triangle includes three elements that predominantly contribute to fraud: pressure, opportunity, and rationalization (2015 US Fraud Examiners Manual 1.260). These fraudsters consist of employees who have a sterling reputation within the company and established tenure (ACFE 54). Accordingly, surveys indicated a correlation between the length of an employee’s tenure with the average of loss from fraud. Employees with more than ten years tenure within a company were able to steal on average $289,000 (ACFE 53). Such an employee may also have a pronounced understanding of the company’s existing anti-fraud controls or have reached a higher level of authority (Gagliardi 11), which correlates with amount of losses per fraud occurrence (ACFE 53).

Work relationships are built upon trust. Such trust is earned through numerous years of hard work and dedication within a company or through affiliation i.e. family member. Small business owners place a great deal of trust in their employees because it is essential to the survival of their business, especially if an employee has provided years of exceptional and valuable service (Hrncir and Metts 63). However, this reliance can hinder the employer from recognizing the reality that a trusted employee is defrauding the company, hesitating to confront said employee, and questioning their own assumptions. Conversely, a false accusation undermines the trusted work relationship. This mentality has provided countless opportunities for employees to commit fraud (Hrncir and Metts 63).
In order for an employer to better assess which employees may be involved in schemes to defraud the company, the fraud triangle may be applied. Employees can face pressure related to almost any facet of their life. Pressures such as medical, addiction, lifestyle, and financial can all contribute to employee fraud. Opportunities to commit fraud occur when an organization has weak internal controls, incomplete accounting records, a lack of segregation of duties, lack of supervision, or too much trust has been established. Finally, employees rationalize their actions: contempt for their employer, sense of entitlement, in adequate compensation for their work and financial pressure. These employees assess the pressures they are experiencing, against the risk of being caught and rationalize fraud as beneficial (Hrncir and Metts 64).

Accordingly, as small businesses do not have as much capital as larger counterparts, the risks of downsizing, lay-offs, salary cuts, and inadequate benefits are significant. The risks that small businesses face during periods of turmoil makes it easier for employees to rationalize such actions. Situation pressure can incentivize the most loyal of employees to pursue alternate means for economic satisfaction. As a trusted employee, a simple motive may be needing financial help and given the opportunity and rationale, a trusted employee can easily commit fraud. Still, there are several red flags that can alert managers and owners of small businesses for possible instances of employee theft, most notably, behavioral red flags. In 2014, the ACFE reported 43.8 percent of cases (inclusive of small and large businesses) identified that the fraudster was living beyond their means and 33 percent of cases exhibited financial difficulties as a behavioral red flag (ACFE 59). Oftentimes, behavioral red flags are overlooked or ignored, despite their blatancy (Hrncir and Metts 63). Employees may display a range of behaviors that generally warrant suspicion. Aside from financial difficulties, employees can display control issues, an unwillingness to delegate responsibilities, addiction problems, social isolation, divorce/family problems, an unusually close relationship with vendors or customers (ACFE 59), refusal to take leave, change in work hours, and countless more (Long 49). Behavioral analysis helps prevent and deter occupational fraud. Management must set the tone at the top. According to the ACFE, “Tone at the top refers to the ethical atmosphere that is created in the workplace by the organization’s leadership” (ACFE “Tone” 1). Tone at the top is an essential component of a company’s control environment and every company has this component whether the tone was established deliberately or unintentionally by management (Bishop 68). Management’s behavior can either deter or facilitate fraud. An upper management team that is actively involved with its subordinates is more likely to reduce the risk of employee animosity. Employees feel less contempt if management is working as “part of the team” and not as an independent, uninterested third-party (Ostrowski 36). Additionally, if management emphasizes ethics and integrity, then employees are more likely to perform their job responsibilities in an ethical manner. Conversely, if management is focused on profit at the expense of morale, then employees will notice the lack of emphasis on ethics and become inclined to commit fraud (ACFE “Tone” 1).

Tom Horton explains that according to the Committee of Sponsoring Organizations of the Treadway Commission’s (COSO) study titled, “Fraudulent Financial Reporting: 1987 – 1997”, the Securities and Exchange Commission (SEC) was tasked with investigating 200 instances of suspected financial fraud due to overstatement of revenues (8). The findings were unexpected. Instead of the suspected involvement of collusion amongst employees, researchers found that the Chief Executive Officer (CEO) and/or Chief Financial Officer (CFO) were knowledgeable about the fraud and even helped to facilitate the fraud in approximately 83 percent of the cases (Horton 8). As expected, the majority of the cases involving financial reporting fraud mentioned above were perpetrated by small companies. For this reason, it is especially important for small companies to instill a positive, ethical tone within the company.

Management who are driven to corporate greed usually create a stressful environment for their employees by expecting employees to attain certain financial goals, which may not be achievable. By doing so, management is essentially “forcing employees” to act in an unethical manner in order to make a profit for the company (ACFE “Tone” 1). According to the ACFE’s presentation, meeting analysts’ expectations, compensation and incentives, and pressure to attain financial goals are three factors that contribute to fraud with regard to “tone at the top” (ACFE “Tone” 2-3). When a company has bonus compensation or incentives for attaining certain financial results, the threat of fraud increases substantially. Instead of acting in the interest of the company i.e. focus on yielding profits benefiting the majority, management focuses on themselves in order to obtain personal bonuses. The ACFE noted pressure to reach goals as a fraud factor i.e. amount of stress an employee feels when trying to obtain a financial result for management. Employee stress leads to committing fraud by pursuing any action to alleviate the pressure of possibly not attaining a financial goal (ACFE “Tone” 3).

Despite employee stress experience, few actually report the unethical conduct exhibited by their superiors. According to the ACFE, employees with a company for less than three years and younger than 30 years of age, were least likely to report any unethical conduct by management. Employees believed that if they reported management for unethical behavior, they would experience retaliation from individuals within the company. According to the Ethics Resource Center (ERC), in 2009, 62 percent of employees who acted as “whistleblowers” were the victims of retaliation to include exclusion by management from department meetings and important company decisions (4); 60 percent experienced complete disregard or “cold shoulder” from other employees; 55 percent experienced verbal abuse from management; 4 percent experienced actual physical harm to
In addition to fear of retaliation, the National Business Ethics Survey (NBES) found that employees did not report misconduct because they believed no remedial actions would occur. In the 2005 NBES study, 59 percent of the employees believed no remedial actions would be taken, and thus did not report misconduct (ACFE "Tone" 4). Whistleblowers are more confident in reporting misconduct when they believe that their information will be investigated thoroughly. The ERC found an interesting anomaly as well. Most employees are satisfied knowing that their report was taken seriously regardless of the eventual outcome (Ethics Resource Center 11). The remaining 41 percent of employees who did not report misconduct stated they had the impression there was no confidentiality or did not know who to contact. In an effort to alleviate employee concerns, management should make attempts to assure employees that their privacy will be upheld and proper procedures will be followed upon the report of misconduct. By doing so, the company will instill confidence in employees and gain their trust when it comes to delicate matters such as reporting misconduct from upper management. The NBES study found that employees were more likely to report misconduct in companies which emphasized ethics and adhered to code of conduct policies (ACFE "Tone" 3). The Ethics Resource Center study supports this finding as approximately 73 percent of employees are more likely to report fraud occurrences in companies with ethical work environments and active ethical participation by management while only 55 percent of employees would do so in those companies which do not have a strong ethical environment (11).

The work environment plays a critical role by influencing employee behavior and reinforcing managerial tone. A negative work environment is susceptible to acts of employee theft. The ACFE describes a negative work environment as one where "there will be low or nonexistent levels of employee morale or feelings of loyalty to the company" (AFCE "Tone" 5). Managerial traits contributing to a negative environment include: lack of attention to or appreciation of above par work performance, failure to reward excellence, non-competitive wages and benefits, non-existence or substandard employee training, ineffective communication between employees and organization, and a constant stream of negative feedback. According to the ACFE, companies create positive work environments by implementing recognition programs for employees’ achievements, allowing for equal opportunities in all facets of the organization, providing team building opportunities and projects, offering adequate training programs, and providing competitive salaries and benefits (AFCE "Tone" 6). Additionally, small companies can establish a positive tone at the top by creating a culture that generally emphasizes open communication, a secure method for employees to report misconduct, and management which “walks the talk” (Bishop 72).

Setting the tone at the top can help deter fraud in a cost-effective manner. To assist in doing so, a small business owner sets an ethical tone, is actively involved with the employees, implements a detailed code of ethics, and enforces it. In order to alleviate employee concerns with regard to reporting misconduct, management should establish a whistleblower policy which conceals the identity of the employee reporting the misconduct. By adhering to the whistleblower policy and conducting investigation in a discreet manner, management builds trust with employees and encourages an ethical environment (AFCE "Tone" 7, 9).

According to the 2014 Report to the Nations on Occupational Fraud and Abuse, there is a correlation between occupational fraud and non-fraud related workplace transgressions. The ACFE reported that of 908 responses, 38 percent (inclusive of both small and large businesses) indicated the employee who committed fraud had been involved in at least one form of non-fraud related misconduct. Non-fraud related misconduct included: 16.6 percent bullying or intimidation tactics, 14.4 percent excessive absenteeism, and 8.1 percent excessive tardiness. (ACFE "Report" 63). The ACFE report noted a relationship between occupational fraud and human-resources-related red flags i.e. of the 1,000 responses received, 25 percent (inclusive of both small and large businesses) indicated the employee was involved in a human-resource-related event either during or just before the perpetrated fraud. Human-resource-related red flags included: poor performance evaluations (11.4 percent), fear of job loss due to downsizing (7.4 percent), pay cuts, reduction of benefits, demotion, and reduction of work hours with actual job loss due to downsizing (3.1 percent), and a human-resource-related event (25 percent) as catalysts (ACFE "Report" 63). Although non-fraud related misconduct and human-resource-related behaviors are not the most effective way to deter fraud, they provide indicators and many serve as warnings for small businesses.

In order to minimize the number of fraud occurrences and amount of losses small businesses should focus on implementing effective fraud prevention controls. The five common misconceptions discussed previously highlighted the absence of internal controls (Gagliardi 11). This is a costly misconception for small business owners as the lack of internal controls is one of the prime reasons for the increase in the number of fraud occurrences within a company. A lack of internal controls was present in approximately 36 percent of companies with fraud occurrences while 20 percent of those companies had instances where existing internal controls were circumvented by employees, according to the 2012 ACFE study (11). In 2014, the ACFE compared anti-fraud controls in small businesses versus large businesses and found the larger businesses implemented fraud prevention controls at a higher rate than those of small businesses. Some of the anti-fraud controls that do not require high capital expenditures, include implementing: a code of conduct, management review procedures, fraud awareness training and an
anti-fraud policy (ACFE “Report” 32). The following statistics are noteworthy: 48 percent of small businesses versus 88.2 percent of large business establishments had a code of conduct; 33.6 percent of small businesses versus 73.8 percent of large businesses instituted management review; 21.8 percent of small businesses versus 57.7 percent of large businesses created a fraud training; 18.5 percent of small businesses versus 55.6 percent of large businesses implemented an anti-fraud policy (ACFE 32). Small businesses are failing to implement effective fraud prevention controls to help deter the number and amount of fraud occurrences. By implementing any one of the above mentioned, non-costly, fraud prevention controls, small businesses can reduce fraud occurrences and the median loss of $147,000.

First and most important, small businesses must set an ethical, positive tone at the top by implementing various anti-fraud controls within the company. By doing so, management demonstrates that the company takes fraud prevention seriously and actively works to maintain an ethical business. One of the best and most effective anti-fraud controls is a written code of ethics or conduct; “a clear statement of management’s philosophy,” which should include, “concise compliance standards that are consistent with management’s ethics policy relevant to business operations” (ACFE “Tone” 7). This code includes guidance regarding conflicts of interest, illegal acts, related-party transactions, company communications, fraud, confidentiality, harassment, and an explicit statement regarding management’s monitoring of employee compliance (Bishop 74-75). Once the company has adopted this code of ethics or conduct, it should make every reasonable effort to have each employee, including contractors who work for the company, read and acknowledge by signature that they understand the contents of the code of ethics and conduct (Apple 10). This code serves a vital purpose, and can be considered an asset in that it sets forth the “cultural norms” within a company and provides an immense amount of information and answers regarding a potentially unethical situation (Bishop 76).

Small businesses should implement anti-fraud training for all employees including management. Anti-fraud training consists of awareness of the types of fraud and how these relate to job responsibilities, (Apple 10) discussion on methods to prevent and detect fraud, reinforcement of the company’s position on compliance, ethical conduct, and all employees’ obligation to report fraudulent behavior (AFCE “Tone” 8). Anti-fraud training required for all employees and management of the company to ensure that every employee and management personnel has the same level of understanding. Although a code of ethics or conduct is important and effective, the code alone will not ensure that every person has the same understanding (Bishop 77). Hence the requirement for a mandatory training. Moreover, as a requirement of anti-fraud training, the company should administer testing and occasional refresher courses throughout the year to constantly remind employees and management of their ethical requirements (Bishop 77).

Another inexpensive, yet effective anti-fraud control that can be implemented by small businesses is creating sound hiring policies. By hiring morally-sound employees, a company can properly set a positive and ethical “tone at the top” (ACFE “Tone” 7). According to the ACFE, an effective hiring policy should include past employment verifications, background checks (criminal, civil, and educational), drug screenings and reference checks (ACFE 77). Financial background checks are critical for any employee who will fill a financial position (Hrncir and Metts 68), whether it is handling cash or preparing financial statements (Bishop 80). Reference checks can yield valuable insight on a prospective employee. Previous employers are more likely to divulge information regarding a prospective employee’s integrity, job performance, and work place conduct (ACFE “Tone” 8). Background checks should also be performed on existing company personnel who may be under consideration for promotion to a position of trust, or personnel who already fill a position of trust (Bishop 80). A company that performs continuous background checks reiterates its commitment to setting an ethical tone within the company. Sound hiring policies are complemented by assigning employees with appropriate job responsibilities and authorities. Small businesses should provide detailed job descriptions and attainable performance goals (ACFE “Tone” 8).

A fourth anti-fraud control that should be implemented by small businesses is to instill an operative fraud reporting process i.e. private and secure methods for employees or whistleblowers to report potential misconduct within the company. According to the 2014 Report to the Nations on Occupational Fraud and Abuse, an effective fraud reporting process includes ensuring employees understand how to communicate concerns regarding fraudulent behavior, providing an anonymous reporting systems, assuring confidentiality of reports without fear of retaliation, and guaranteeing that employees’ reports of misconduct will be thoroughly investigated (ACFE 76). Anonymous, anti-fraud hotlines are effective. Researchers reported that approximately one-third of occupational fraud cases within small businesses were discovered through tips from employees. Since tips are the most common method of fraud detection, small businesses should include a hotline in order to make it easier for employees to report any noted misconduct (Rosten 9). Nevertheless, according to the ACFE, only 18.4 percent of small businesses with fraud occurrences in 2014 implemented hotlines as an anti-fraud control (ACFE 32). By fostering the use of anti-fraud hotlines, small businesses, convey an ethical tone within the company to help deter occupational fraud (ACFE “Tone” 9) and recognize potential misconduct issues in a timely manner thus decreasing potential liabilities (Bishop 78).

In conjunction with anti-fraud hotlines, establishing an effective whistle-blower protection program can inspire additional confidence and encourage employees to report fraudulent misconduct. Indicators
of well-designed whistle-blower program include hotlines available to employees and outside customers, vendors, and the general public (Bishop 79). Small businesses should ensure that the hotlines are properly staffed with qualified interviewers who are available at all hours, seven days a week (ACFE "Tone" 9). Additionally, management should emphasize their zero tolerance for any form of reprisal against whistleblowers by other employees to include supervisory personnel within the company. A well-established program includes proper training of employees on how to utilize the hotline, an explanation of how reports and complaints are handled, and emphasizes on the company's secure methods for receiving and following up on reports (Bishop 79). The company should protect the employee's confidentiality and anonymity by providing the employee with a unique case identifiers when calling the anti-fraud hotline. The phone system should not provide any form of caller identification capabilities, e-mail tracking, or any other methods of identifying the whistleblower (ACFE "Tone" 9).

In addition to implementing the operative fraud reporting process, small businesses should minimize employee pressures i.e. personal circumstances that may incite an employee to commit occupational fraud. Assisting with employees' financial concerns, family issues or addictions management can proactively prevent fraud from occurring. Management can achieve this by establishing open-door policies, fair personnel policies and procedures, and employee support programs (ACFE 2015 US Fraud Examiners Manual sections 4.614 - 4.615). An open-door policy allows employees to speak with management about pressures they may be experiencing, without fear of judgment. Similarly, fair personnel policies and procedures eliminate the sense of injustice by certain employees, used as a rationalization for committing fraud (ACFE "Manuel" section 4.614). According to the ACFE, the human resource manager is assigned the responsibility of fostering a moral culture through the facilitation of proper employee training, various career development opportunities, special events for employees, and rewards and recognitions for excellent job performances (2015 US Fraud Examiners Manual 4.615). Employee support programs aid in minimizing pressure by including assistance for alcohol and drug abuse, gambling addictions, mental or emotional instability, or even financial issues (ACFE 77). Nonetheless, in 2014, only 24.7 percent of small businesses subject to fraud carried out employee support programs, compared to 62.4 percent of large businesses (ACFE 32). By offering assistance programs, management demonstrates both care and commitment to employee well-being and, ultimately reduces employee rationalizations to commit fraud (2015 US Fraud Examiners Manual 5.615).

Finally, implementing segregation of duties, to include job rotations and mandatory vacations is a critical component of an effective anti-fraud program. Proper segregation of duties requires one employee to deposit customer checks and another to apply cash receipts to accounts receivables. Both responsibilities should not be performed by the same individual. Similarly, an employee with the authority to approve payments should not be permitted to perform bank reconciliations (Apple 10). Segregation of duties can be difficult to achieve within a small business due to limited personnel and resources. To offset this obstacle, employees can be cross-trained and able to assume other duties during mandatory vacation periods and job rotation assignments. As of 2014, only 9.6 percent of small businesses had implemented mandatory vacation and job rotations despite being victims of fraud (ACFE 32). By requiring mandatory vacation, management and auditors (either internal or external), will be able to easily identify inconsistencies within daily transactions. Most fraud depends on altering financial data through manual intervention. Therefore, when the perpetrator is absent, those manual overrides will not occur causing fluctuations in several financial reports (2015 US Fraud Examiners Manual 4.608). Job rotation prevents fraud by instilling an awareness of fraud detection and establishing standard operating procedures. If management requires employees to cross-train and rotate jobs, maintaining manual overrides to commit fraud becomes increasingly difficult because the perpetrator no longer has sole access nor authority to perform certain financial functions (2015 US Fraud Examiners Manual 4.608). Employees who do not take mandatory vacations or rotate job positions, may be concealing unethical acts.

Despite lack of resources, there are numerous inexpensive fraud prevention controls that can be implemented. Small businesses should alter the managerial mindset, implement a code of ethics or conduct, impose initial and refresher mandatory anti-fraud training, establish sound hiring and screening policies, create reporting system methods i.e. hotlines and whistle-blower protection programs, maintain a robust employee assistance program and mandate segregation of duties to include job rotation and mandatory vacation. These are proven cost-effective methods for preventing and curtailing fraud occurrences within small businesses. By implementing any of the above controls and altering the small business owner's mindset from "it can't happen here" to "it won't happen here" fraud losses will be minimized and small businesses more viable (Association of Certified Fraud Examiners 6).

**WORKS CITED**


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The Influence of Accreditation: The Impact of Accreditation on Forensic Laboratories
Diamond Spedden

The field of forensics is continuously evolving due to various scientific and technological advancements which result in new standards and procedures. All reputable forensic laboratories must possess unquestioned reliability and enforce stringent standards. Many accrediting organizations have formed in order to provide standard requirements and procedures for forensic laboratories to follow and maximize the work quality. This paper explores the potential advantages and disadvantages to determine if accreditation has an impact on the success of forensic laboratories. Factors to include reported errors, shortcomings, media attention, trial outcomes, and funding of accredited and unaccredited forensic laboratories will be explored in depth. Ultimately the argument will be made that accreditation has a significant impact on the success of forensic laboratories and it is beneficial for all states to mandate accreditation for forensic laboratories.

Accreditation is the process whereby an independent, third-party, organization or accrediting body evaluates a forensic science service providing agency, in order to verify compliance with national and/or international standards regarding policies, management, equipment, etc. An accredited laboratory is one that demonstrates adherence to an accrediting body's standard procedures regarding the collecting, storing, testing, and reporting of criminal evidence. The standards also include performing specific types of testing, measurement, and calibration. At present, accreditation is a voluntary process. The purpose of the accreditation process is to reassure the public sector of the quality, competency, and reliability of forensic science casework. Additionally, it permits transparency, consistency, and higher accountability (Consortium of Forensic Science Organization 1).

Accreditation applies only to the agency, not the individual analyst, and should not be confused with the certification. Certification refers to the process analysts and technicians undergo to obtain various work-related credentials based on qualifying education, experience, etc. Not all accrediting bodies require analysts or technicians to obtain specific certifications. A forensic science service provider is defined as “having at least one full-time analyst, however named, who examines physical evidence in criminal and/or investigative matters and provides reports or opinion testimony with respect to such evidence in United States courts of law” (National Science and Technology Council 3). In this paper, the term forensic science service provider may be used interchangeably with forensic laboratory.

BACKGROUND

While obtaining accreditation is a voluntary process, nine states have developed some requirements for accreditation: California, Hawaii, Indiana, Maryland, Missouri, Nebraska, New York, Oklahoma, and Texas. According to the DNA Identification Act of 1994, a forensic laboratory must, at a minimum, have the DNA unit accredited in order to receive federal grants and participate in the Combined DNA Index System (CODIS). In addition to the requirements included in the DNA Identification Act, the “FBI’s Quality Assurance Standards do require some forms of certification for DNA analysts at laboratories that participate in the CODIS” (Niland Part 1, 1).

Largest Accrediting Bodies

There are multiple accrediting bodies, the largest is the American Society of Crime Laboratory Directors/Laboratory Accreditation Board (ASCLD/LAB), Forensic Quality Services (FQS), and the American Association for Laboratory Accreditation (A2LA). While the debate over forensic laboratory accreditation is a relatively new discussion, the accreditation of forensic laboratories dates back to the late 20th century. A2LA was founded in 1978 and offers forensic laboratory accreditation using the ISO/IEC 17025 standard. ASCLD/LAB began offering accreditation to forensic laboratories in 1982, and later converted to the international standard ISO/IEC 17025 in 2004. In 2001 FQS began offering accreditation to forensic laboratories based on the ISO/IEC 17025 standard. In addition to the various forensic laboratory accrediting bodies, there are also organizations that accredit discipline-specific units/agencies such as the National Association of Medical Examiners (NAME) in 1974, the College of American Pathologists (CAP) in 1989, and the American Board of Forensic Toxicology (ABFT) in 1996.

The ISO/IEC 17025 International Standard

The ISO/IEC 17025 is the “General Requirements for the Competence of Testing and Calibration Laboratories.” The ISO/IEC 17025 is the primary standard accrediting bodies apply to the accreditation of testing laboratories. The standard was developed by the International Organization for Standardization, which was founded in 1947 as an independent, non-governmental membership organization. The organization is considered the largest developer of voluntary international standards in the world. Although the organization develops standards for many areas such as the environment, food safety, and energy management, the organization’s mission is to develop and provide universal standards to facilitate the international exchange of goods. Forensic laboratories fall into this category because crime does not have international boundaries; thus there is a need for international exchange of forensic services. The ISO/IEC 17025 standard covers several aspects of laboratory practices including, but not limited to, valid testing methods, testing procedures, testing facilities, and equipment.

National organizations which are members of ISO or the International Electrotechnical Commission (IEC) as well as governmental, non-governmental, and international organization in liaison with ISO and IEC participate in developing international standards. The respective organizations create technical committees to address the specified field, in this case the field of conformity assessment. The ISO Committee on Conformity Assessment (CASCO) is responsible for establishing international standards and guides for this particular field.
The draft of international standard 17025 was completed and circulated to both ISO and IEC for voting. International standards require the approval of at least 75 percent of the national bodies casting a vote. ISO/IEC 17025 received approval from both organizations. The first edition of this standard was developed in 1999 and is revised every five years. The standard “covers testing and calibration performed using standard methods, non-standard methods, and laboratory-developed methods [and] is applicable to all organizations performing tests and/or calibrations… regardless of the number of personnel or the extent of the scope of testing and/or calibration activities” (ISO 17025:2005). Management and technical requirements are included in the standard and consist of procedures such as document control, corrective and preventative actions, internal audits, measurement traceability, sampling, test and calibration methods, and result reporting.

Two national ISO standards are used as a guide or basis by accrediting bodies when developing standards: ISO/IEC 17020, “General Criteria for the Operation of Various Types of Bodies Performing Inspection” and ISO/IEC 17011, “Conformity Assessment—General Requirements for Accreditation Bodies Accrediting Conformity Assessment Bodies.” The former is more widely used because it includes procedures applicable to units such as Crime Scene Investigators whereas the ISO/IEC 17011 procedures are not as universal (Tilstone 1). Forensic laboratories undergo assessments conducted by accrediting bodies. Oversight, accreditation, or evaluation of those accrediting organizations is achieved by the use of ISO/IEC 17011, the standard for the accrediting body itself. It is the accrediting bodies’ equivalent of the forensic laboratories’ ISO/IEC 17025 and 17020 standards (Tilstone 1). The evaluation is conducted by the International Accreditation Cooperation (ILAC).

The Accreditation Process
Accrediting bodies utilize the international standards in addition to widely accepted local or country-specific forensics requirements, criteria, and procedures. ASCLD/LAB, imposes specific forensic science laboratory supplemental requirements that laboratories accredited by their organization must follow. The exact process for each accrediting body may vary from organization to organization and each organization may have unique accrediting characteristics but the processes have general commonalities. The first steps a forensic laboratory should take in the accreditation process is a self-evaluation of its policies, manuals, management credentials, etc. and conduct an internal audit. Once the organization believes it meets the necessary requirements, a report or application will be submitted to the desired accrediting body who will conduct an external audit. If the external audit discovers deficiencies, the laboratory will have an opportunity to correct them before a final accreditation decision is made. Laboratories which participate in the national DNA database, CODIS, must meet the Quality Assurance Standards set by the Federal Bureau of Investigation and undergo routine audits.

The Reason for Debate
As noted above, not all states require their forensic laboratories be accredited. Uncredited forensic science service providers are potentially at a higher risk for errors and unreliability, evidence dismissed due to a technicality, or a defendant wrongfully accused due to improper examination procedures. The issue of whether states should mandate accreditation is a topic of discussion in the field of forensics. Many factors play a role in the practicality of all states mandating accreditation. To date few comprehensive studies have been conducted to evaluate the advantages and disadvantages of such mandatory accreditation.

The theory behind a forensic laboratory going through the process of becoming and maintaining accreditation is sound; however there have been reports of scandals involving accredited laboratories. This discrepancy of accreditation reliability is one of the primary reasons for states’ and laboratories’ skepticism and doubt in the overall efficacy of accreditation. Despite these shortcomings eight states have applied for accreditation during the past ten years.

Theoretically, if all forensic science service providers were accredited it could essentially eliminate inconsistencies by creating standard procedures for all forensic science service providers to employ. Additionally, accreditation provides a third party to inspect and certify the laboratory is functioning as it should. Recent reports have not supported this theory. Being accredited does not equal perfection as human error is still possible. However, if evidence exists to suggest that states with mandated accreditation report fewer deficiencies than states that do not mandate accreditation, a case can be made for mandatory accreditation for all states.

RECOMMENDATIONS AND PROGRESS
The 2009 National Academy of Science (NAS) report outlined thirteen recommendations; number seven, cited a need for mandatory accreditation of forensic science service providers. The report states that “all laboratories and facilities (public and private) should be accredited.” (National Science and Technology Council 3). The report also noted that the recognized international standards, published by ISO, should be taken into account when establishing suitable standards and requirements for accreditation.

The Bureau of Justice Statistics (BJS) determined in 2005, there were 389 publicly funded forensic laboratories operating in the United States. The National Science and Technology Council Committee on Science’s Subcommittee on Forensic Science (SoFS) identified an additional 86 forensic laboratories. Of the total 475 forensic laboratories, SoFS reported only 86 non-accredited forensic laboratories (National Science and Technology Council 5). By 2009 ASCLD/LAB had accredited 320 forensic laboratories and FQS had accredited 56 (National Science and Technology Council 5).
data obtained by SoFS includes both publicly and privately funded laboratories. These statistics are great news when discussing the progress towards unanimous accreditation for publicly accredited laboratories; however publicly funded laboratories do not make up even the majority of all forensic science service providers. This disparity consequently poses a problem for the overall progression toward all forensic science service providers becoming accredited.

Initially, only three states, Texas, New York, and Oklahoma, mandated accreditation for their forensic science service providers. By 2011 nine states had passed legislation mandating accreditation and/or other oversight requirements for forensic science service providers: Texas, Maryland, California, Hawaii, Indiana, Missouri, Nebraska, New York, and Oklahoma. In California, Hawaii, Indiana, and Nebraska only forensic laboratories conducting DNA analysis are required to be accredited (National Science and Technology Council 5). By focusing solely on DNA analysis as a requirement for accreditation it implies that errors only occur in DNA units or laboratories with DNA units and other testing services are not as complex or as important as DNA analysis. It should be noted DNA analysis reflects less than ten percent of all testing conducted by forensic laboratories.

In 2003, Texas House Bill 2703 was passed making Texas the first state to require forensic laboratory accreditation by law. The Texas Department of Public Safety’s Texas Crime Laboratory System was tasked with oversight responsibility for the accreditation of Texas forensic laboratories (Hueske and Wayland 136). In 2011, the University of North Texas conducted a study by utilizing Texas forensic laboratories to gather feedback regarding the Criminal Justice and Forensic Science Reform Act of 2011— a proposed law intended to establish regulatory standards and accreditation requirements for all forensic laboratories in the United States. The Act would require all federally funded forensic laboratories to be accredited and their personnel certified (Hansen 1). Four issues were not addressed in the Criminal Justice and Forensic Science Reform Act of 2011: funding, increased time demands, contextual bias, and the appropriate regulating body. Of the four issues, only one raised a previously unidentified problem, i.e. contextual bias which is prior knowledge about the circumstances surrounding the evidence being analyzed and its impact on the examination results. The Criminal Justice and Forensic Science Reform Act of 2011 did not address nor eliminate this issue.

While the issues were acknowledged, the overall responses obtained by the study indicated that in Texas, mandated accreditation had been a vital aspect in forensic laboratory development. The general consensus of the forensic laboratories studied was, despite the initial resistance, the laboratories’ staff now support mandated accreditation. It was agreed that accreditation is not only necessary, but also has a major impact on developing internal and external credibility (Hueske and Wayland 136).

Other states continue to move toward mandated accreditation. "Louisiana appropriated funds to maintain its state laboratories’ ASCLD/LAB accreditation. Missouri law requires all forensic laboratories that submit evidence or testimony to a court in its state to be accredited by an organization approved by its state Department of Public Safety. North Carolina enacted a law that pushed back a deadline for all municipal laboratories in the state to become accredited from July 2013 to July 2016” (National Conference of State Legislatures 1). Maryland is an example of a state which does not formally mandate accreditation but chartered a committee, under the Department of Health and Mental Hygiene, to oversee those forensic science service providers who are not accredited. By 2012 all unrequired laboratories performing forensic services were required to be licensed by the Office of Health Care Quality’s Forensic Laboratory Unit. The unit responsibilities include: investigating complaints, addressing self-reported incidents, reviewing proficiency tests, and conducting on-site inspections. Although the Unit is responsible for overseeing the regulation of both accredited and unaccredited forensic laboratories, its primary concern and focus is on the regulation of unaccredited laboratories.

CHALLENGES

Several factors create challenges for achieving nationwide standard mandatory accreditation. One of the challenges is the diversity that exists among the twenty plus specific disciplines. The disciplines focus on a range of evidence analysis to include firearms, tool marks, impressions, arson and explosives, fibers and hairs (trace evidence), DNA and serology, questioned documents, and fingerprints. In addition to the various disciplines the setting in which these services are conducted also varies. Forensic science services can exist in a multitude of venues i.e. medical examiners’ (or coroners’) offices, public and private laboratories, academic communities, and individual practitioners.

The field of forensic science is fragmented. “There are approximately 7,000 to 10,000 forensic units employing 35,000 to 50,000 individuals. These employees are predominantly in law enforcement agencies which provide limited forensic services,” (Manzolillo 8). As a result of the vast number and types of entities conducting forensic analysis, there has not been a reliable and all-inclusive registry created to determine how many meet the definition of forensic science service provider. Based on current state policies and statutes, if a forensic science service provider does not fit into an explicitly stated category (medical examiner, public/private laboratory, etc.) the provider may not be required to become accredited and potentially exempted from other forms of oversight. The NAS has acknowledged that insufficient data exists regarding the number of forensic examiners who are not employed by a publicly funded forensic science service provider.
Another challenge to having all states mandate accreditation is the potential financial burden. The process of acquiring and maintaining accreditation is costly and could deter states from mandating accreditation (See Table 1). The process and maintenance require establishment of quality management systems which results in the commitment of a significant amount of financial and human resources.

Establishing and maintaining quality management systems impacts the forensic laboratory because the systems must operate while the personnel simultaneously comply with government policies regarding purchasing, hiring, budgets, etc. Forensic laboratories could eliminate or limit their services in order to reduce the number of new requirements imposed by the accrediting body and/or stay within their budget. The eliminated and limited services could result in outsourcing and additional backlog. As a result of cost-benefit analysis some states may choose to forgo accreditation to save money and resources thus sacrificing the quality of their forensic services and lowering conviction rates.

LABORATORY SCANDALS

One of the worst forensic laboratory scandals to date was the North Carolina State Crime Lab (also referred to as the SBI Forensic Laboratory) scandal in 2010. It was discovered that over the course of sixteen years “examiners had systematically withheld or tampered with evidence in an attempt to secure convictions in at least 230 cases” (Engel 1). Of these cases, ten defendants were sentenced to death, five remain on death row, and three were ultimately executed. Gregory Taylor was the first to be freed by the North Carolina Innocence Inquiry Commission, receiving a $4.6 million settlement for the seventeen years he spent incarcerated as a result of a murder conviction based on falsified blood test results.

During the time of the scandal the state laboratory was accredited by ASCLD/LAB which responded by stating that “it was well known to forensic serologists that the Takayama test, which was widely used as a confirmatory test for blood, often and for a variety of reasons, produced false negative results,” and, “while a positive Takayama test result confirmed the presence of blood, a negative Takayama test did not prove the absence of blood,” (Giannelli 4). As in most cases, it was ultimately the laboratory’s responsibility to accurately report the results, including the above information, in the final report. In response to public concern regarding the laboratory, North Carolina passed the Forensic Sciences Act in 2011, which required “for a report to be admissible in court without the testimony of the analyst, it must be produced by a lab accredited by an accrediting body which is a signatory to the ILAC Mutual Recognition Arrangement for Testing” (Niland 3).

At the time, the North Carolina State Lab was accredited by ASCLD/LAB under its “Legacy” program which only required inspections once every five years. In 2004 ASCLD/LAB implemented the ASCLD/LAB International which includes all of the forensic requirements of the legacy program but has more rigorous requirements, to include annual inspections. After 2009, applications for the legacy program were no longer accepted; however, 125 laboratories remain in the legacy program and are required to apply for the new program until their current accreditation expires (Hansen 1).

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In 2007, the Maryland State Police Forensic Sciences Division was informed that a recently retired firearms unit supervisor who committed suicide, falsified and forged statements regarding his credentials. A state public defender working with the Innocence Project, raised questions regarding the validity of the examiner's credentials whereupon the examiner promptly retired and committed suicide. The examiner had an extensive background in the field, spanning 37 years of experience. During his career he worked criminal cases in Delaware, Pennsylvania, Virginia, and all 24 of Maryland's jurisdictions, both on the state and federal level. Many of his cases were reopened and/or reviewed. While some departments, including the State's Attorney's Office, chose not to review the examiner's previous cases there were still precautions taken. Superintendent Timothy Hutchins, Maryland State Police ordered that the laboratory be subjected to an internal audit to validate the qualifications of employees conducting forensic science work. The Federal Bureau of Alcohol, Tobacco, Firearms and Explosives was also asked to review all pending violent crime cases the examiner had worked on. Maryland U.S. Attorney Rod Rosenstein, ordered a review of criminal cases in which the examiner may have "played a role for federal prosecutors" (McMenamin 1).

In 2011, the Nassau County forensic laboratory was shut down shortly after being placed on probation for the second time in four years by ASCLD/LAB. The probation was due to the discovery, made by public officials, that there were known serious deficiencies within the drug analysis unit that went unreported. There were 26 areas documented as being noncompliant with ASCLD/LAB standards ranging from "desirable" to "essential." The problems primarily affected the drug chemistry and latent print units. The issues included "improper maintenance of equipment and instruments, failure to properly mark and store evidence, and failure to secure the lab and adequately maintain records" (Hansen 1).

In 2013, a Massachusetts state forensic laboratory chemist was indicted on 27 counts of obstruction of justice, tampering with evidence, perjury, and other charges based on drug cases worked on over the course of nine years employment. The chemist was "accused of faking test results, intentionally contaminating and padding suspected drug samples, forging co-workers' signatures on lab reports, and falsely claiming to have a master's degree in chemistry," (Hansen 1). The laboratory was ultimately shut down as a result and hundreds of convicted drug offenders were released from prison.

Ralph Keaton, former executive director of ASCLD/LAB, is an advocate for accreditation. He agrees with the idea that accreditation should be heavily enforced and monitored, but is also aware of the issues and scandals that have been brought to light. Keaton categorized two types of forensic laboratory scandals: "those involving fraud or other egregious misconduct; and those based on human error," (Hansen 1). According to Keaton, the scandals representing the former category suggest a breakdown or lack of morality within the agency, while the scandals represented in the latter category are common, but easy to correct.

These are clear examples where accreditation's influence would be minimal. Accreditation is intended to provide an outsider's perspective, ensure best practices are used, and quality management systems are in place to prevent or correct human error. Analysts intending to engage in misconduct questions the integrity of individual analyst, not the efficacy of accreditation. To combat this issue, it is imperative that forensic science service providers implement thorough hiring procedures to include more detailed background checks, and maintain intensive and proactive oversight techniques.

In 2013, the St. Paul, Minnesota police department forensic laboratory ceased forensic examinations in its drug analysis and fingerprint examination sections. The shutdown was due to concerns raised about the laboratory's testing practices. Independent sources noted deficiencies to include: "dirty equipment, a lack of standard operating procedures, faulty testing techniques, illegible reports, and a woeful ignorance of basic scientific principles," (Hansen 1). According to Lauri Traub, Assistant Public Defender, the laboratory "had no written operating procedures, didn't clean instruments between testing, allowed technicians unlimited access to the drug vault, didn't know what a validity study was, [and] used Wikipedia as a technical reference" (Hansen 1).

The Minnesota laboratory issue is an example of a problem that could be resolved by adopting and adhering to accreditation standards. The problems identified can be summed up as: negligence, ignorance, and lack of oversight, all of which accreditation can remedy. The concerns identified in the Minnesota case are type 2 i.e. human error. Rather than type 1 intentional misconduct (which would need to be addressed on the basis of the individual). Neither the Massachusetts nor the Minnesota laboratories were accredited.

The Disclaimer
The NAS report also acknowledged “accreditation does not mean that accredited laboratories do not make mistakes, nor does it mean that a laboratory utilizes best practices in every case,” (National Science and Technology Council 4). Obtaining and maintaining accreditation does not make a laboratory perfect or immune from human error. The FBI forensic laboratory has long been regarded as the nation's leading forensic science service provider, yet it too has been a victim of public scandal. The FBI's forensic scandals have specifically affected the explosives, DNA, comparative bullet-lead analysis, and hair microscopy units. The NAS was and is still aware of this yet the recommendation for mandatory accreditation was still made.

Several factors may cause a forensic laboratory to become involved in legal disputes. One factor is the deviation procedure of laboratory protocol. Deviation procedures are authorized steps taken in order to digress from a standard accepted procedure. In a forensic laboratory
that is not accredited there may not be an established protocol for deviating from a standard procedure; or, since the laboratory is not accredited there may be difficulties justifying the deviation in court. In addition to situations related to the transparency of standard operating procedures, other legal issues accredited forensic laboratories may face can include: disclosure of proficiency test, validation, audit, or accreditation results. These issues are generally not matters that can be resolved through laboratory standards i.e. the laboratory’s accreditation status would not have an impact on whether a laboratory encounters such problems. Any forensic science service provider, regardless of accreditation, could potentially face legal matters of this caliber.

A study conducted by Minnesota State University determined DNA analysts at an accredited forensic laboratory are able to complete nearly thirteen more analyses per year than their non-accredited counterparts (Granberg-Rademacker, Scott, and Bumgarner 87). Accreditation requires certain standards be met, standards which affect the efficiency of the laboratory and its examiners. Study conclusions found: accreditation had a positive influence on the performance of the forensic analysts; and managerial expectations positively influenced analysts’ performance. In an accredited laboratory, managerial expectations are often based on the standards and requirements of the accrediting body, thus analysts performing in accordance with set standards would have a positive relationship with his/her manager. The study specifically evaluated DNA analysts but based on the findings the results could be extrapolated to include other forensic professionals.

**POTENTIAL MEANS OF IMPLEMENTATION**

Presently, there is no single Federal entity assigned the responsibility to oversee states mandating accreditation. The Federal Government has primary responsibility for ensuring the work quality performed in Federal forensic laboratories; however the power of the federal government to oversee or control state and local forensic science service providers remains limited. This is an issue because state and local facilities comprise the overwhelming majority of forensic science service providers in the United States. Matters are further complicated because without a single responsible entity, there are multiple federal agencies conceived with the reliability of forensic laboratory testing i.e. the Department of Justice, National Institute of Standards and Technology (Commerce Department), Department of Homeland Security, and Department of Defense. Any effort to implement the NAS recommendation would require the cooperation of these agencies as well as other stakeholders to include but not limited to: non-Federal organizations (such as the accrediting bodies previously mentioned), advocacy groups, and stakeholders within the private sector. Other non-federal organizations include the Uniform Law Commission (ULC), National Conference of State Legislatures (NCSL), and National Governors Association (NGA). This major obstacle is one that has slowed the progression toward all states mandating accreditation.

SoFS is a subcommittee of the Office of Science and Technology Policy, an office within the Executive Office of the President, which is responsible for scientific integrity across the Executive Branch. SoFS has developed four potential means of implementation to facilitate making forensic laboratory accreditation mandatory across the nation. To date, a formal and extensive evaluation of the strengths and weaknesses of these proposals has not been conducted, but the approaches will be discussed nonetheless.

The first proposal involves the cooperation of Congress to pass legislation requiring forensic lab accreditation to be accomplished within a certain period of time. Legislation has actually been crafted in previous years but never enacted (National Science and Technology Council 8). This approach is time consuming and challenging. Funding, bill sponsors, urgency, and necessity, further complicate the process. The advantage is that accreditation for forensic science service providers would be mandated nationally rather than on a state-by-state basis.

The second proposal focuses on state-level stakeholders who collaborate to create a uniform law mandating the accreditation of forensic science service providers (National Science and Technology Council 8). The ultimate goal would be for all states to adopt this law. Limitations include such variables as differences in climate, landscape, budgets, and current statutes. The challenge would be in crafting a uniform law applicable and practical for all fifty states and then persuading those states to adopt the new legislation.

The third proposal would require the Department of Justice (DOJ) to mandate accreditation for all laboratories under its immediate control. Additionally, accreditation would be mandated for those laboratories not under the direct control of the DOJ, but wish to participate in certain benefits (National Science and Technology Council 8). These benefits could include financial or training opportunities. This is similar to additional federal standards imposed when laboratories participate in CODIS. An advantage of implementing this method would be the incentives an accredited laboratory would receive, especially these laboratories which are underfunded. The drawbacks include: DOJ inability to reach all forensic science service providers; and lack of resources available for all participating laboratories.

The fourth proposal combines proposals 1-3. This combined approach would need to be well-integrated, and require collaboration with the federal, state, local, private, and non-governmental stakeholders (National Science and Technology Council 8). As this method is not established, design and implementation would be required such that fifty different versions did not exist. Finding the balance or best possible combination of the proposals would mean numerous
CONCLUSION

Forensic science service provider employees are motivated by a desire to serve; a desire that is fueled by the feeling of justice, public appreciation, and confidence in the services provided. The best way to improve the field of forensic science is for all providers to become accredited to the appropriate ISO/IEC and supplemental forensic science standards. Providers would be defined as all federal, state and local government agencies, single or digital evidence units, private, part-time, traditional, and one person forensic science service providers. Accreditation is a powerful and supportive management tool. These tools give structure to the process of monitoring areas of non-conformance and facilitating continuous improvement. The tools also aid in providing confidence in the quality of work for customers and the public.

The deficiencies within the accredited laboratories have led to the argument that mandated accreditation is not necessary. The issue of whether or not states should mandate accreditation for their forensic laboratories has led to a series of questions and concerns, which can only be answered after more research and field studies have been conducted. Currently, at least 83 percent of all forensic laboratories are accredited, this includes 97 percent of state level forensic laboratories, 76 percent of county level forensic laboratories and 56 percent of local forensic laboratories (National Conference of State Legislatures 1). The NAS report specifically stated that the quality of forensic services varies because there is a lack of “adequate rigorous mandatory accreditation programs,” (Hansen 1). As with any new law, there will be challenges, complications, and flaws. While issues with mandating accreditation for all states have been identified, these are beneficial in creating the best possible solution. Stakeholders and law makers have the opportunity to be proactive rather than reactive by incorporating the solution to these problems into crafting a comprehensive law.

Accreditation is one issue to be addressed in order to improve the field of forensic science. An all-inclusive solution would work to restrict law enforcement agencies and prosecutors’ offices from having administrative control over any forensic laboratories; develop standard terminology (for reporting), increase funding, and establish routine quality/safety control and assurance measures. Many of the measures needed to improve the field of forensics evolve over time but nation-wide mandatory accreditation is a critical first step to increase confidence and improve quality in forensic science services.

WORKS CITED


National Conference of State Legislatures, 2013.


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Influence of Accreditation: The Impact of Accreditation on Forensic Laboratories

By Diamond Spedden

According to the Association of Certified Fraud Examiners (“ACFE”), “Fraud is ubiquitous; it does not discriminate in its occurrence. And while anti-fraud controls can effec-

In 2010, the Patient Protection and Affordable Care Act (PPACA) was signed into law on March 23, 2010, and codified at 42 U.S.C. § 18001 et seq. (2010). The PPACA garnered national attention and was a key step in advancing health care reform. The PPACA included measures to address fraud and abuse within the health care industry. By expanding auditors and their employees. In the end, those misplaced morals killed the company while it injured all of those who had gone along for the ride.” This quote published in the article, “The Company’s Failure in 2001 represents the biggest business bankruptcy ever while also spotlighting corporate America’s moral failings and their employees. In the end, those misplaced morals killed the company while it injured all of those who had gone along for the ride.” This quote published in the article.

Police misconduct and the Exclusionary Rule

Supreme Court Justices developed the Exclusionary Rule in an effort to deter police officers from unlawful collection of evidence during searches and seizures. Under the Exclusionary Rule, if evidence is obtained in violation of the Fourth Amendment, it cannot be used in a criminal proceeding. The rule is designed to ensure that law enforcement officers follow the law and respect the rights of individuals.

The Exclusionary Rule is based on the concept of “fruit of the poisonous tree.” If evidence is obtained in violation of the Fourth Amendment, any evidence derived from that evidence is also inadmissible. This is because the illegal collection of evidence taints the entire investigation.

The Exclusionary Rule has been applied to criminal proceedings at all levels of the court system. The rule has been applied to both federal and state courts, and has been applied to both civil and criminal proceedings.

The Exclusionary Rule has been applied to evidence collected through warrantless searches, illegal searches, and searches made in violation of the warrant requirement. The rule has also been applied to evidence collected through searches conducted in violation of the knock and announce requirement, and evidence collected through searches conducted in violation of the plain view doctrine.

The Exclusionary Rule has been applied to evidence collected through searches conducted in violation of the forfeiture requirement, and evidence collected through searches conducted in violation of the suppression of evidence requirement. The rule has also been applied to evidence collected through searches conducted in violation of the self-incrimination privilege, and evidence collected through searches conducted in violation of the right to counsel.

The Exclusionary Rule has been applied to evidence collected through searches conducted in violation of the right to a fair trial, and evidence collected through searches conducted in violation of the right to an impartial jury. The rule has also been applied to evidence collected through searches conducted in violation of the right to be free from unreasonable searches and seizures, and evidence collected through searches conducted in violation of the right to be free from unreasonable detentions.

The Exclusionary Rule has been applied to evidence collected through searches conducted in violation of the right to be free from unreasonable seizures, and evidence collected through searches conducted in violation of the right to be free from unreasonable detentions. The rule has also been applied to evidence collected through searches conducted in violation of the right to be free from unreasonable searches, and evidence collected through searches conducted in violation of the right to be free from unreasonable detentions.

By applying the Exclusionary Rule, the Supreme Court has sought to deter police officers from conducting illegal searches and seizures. The rule is designed to ensure that law enforcement officers follow the law and respect the rights of individuals. The rule has been applied to evidence collected through searches conducted in violation of the Fourth Amendment, and has been applied to evidence collected through searches conducted in violation of the warrant requirement, the knock and announce requirement, the plain view doctrine, the self-incrimination privilege, the right to counsel, the right to a fair trial, the right to an impartial jury, the right to be free from unreasonable searches and seizures, and the right to be free from unreasonable detentions.

In summary, the Exclusionary Rule is a powerful tool that the Supreme Court has used to deter police officers from conducting illegal searches and seizures. The rule is designed to ensure that law enforcement officers follow the law and respect the rights of individuals. The rule has been applied to evidence collected through searches conducted in violation of the Fourth Amendment, and has been applied to evidence collected through searches conducted in violation of the warrant requirement, the knock and announce requirement, the plain view doctrine, the self-incrimination privilege, the right to counsel, the right to a fair trial, the right to an impartial jury, the right to be free from unreasonable searches and seizures, and the right to be free from unreasonable detentions.

The Exclusionary Rule has been applied to evidence collected through searches conducted in violation of the fourth amendment, and has been applied to evidence collected through searches conducted in violation of the warrant requirement, the knock and announce requirement, the plain view doctrine, the self-incrimination privilege, the right to counsel, the right to a fair trial, the right to an impartial jury, the right to be free from unreasonable searches and seizures, and the right to be free from unreasonable detentions. The rule has also been applied to evidence collected through searches conducted in violation of the right to a fair trial, and evidence collected through searches conducted in violation of the right to an impartial jury.

In summary, the Exclusionary Rule is a powerful tool that the Supreme Court has used to deter police officers from conducting illegal searches and seizures. The rule is designed to ensure that law enforcement officers follow the law and respect the rights of individuals. The rule has been applied to evidence collected through searches conducted in violation of the fourth amendment, and has been applied to evidence collected through searches conducted in violation of the warrant requirement, the knock and announce requirement, the plain view doctrine, the self-incrimination privilege, the right to counsel, the right to a fair trial, the right to an impartial jury, the right to be free from unreasonable searches and seizures, and the right to be free from unreasonable detentions. The rule has also been applied to evidence collected through searches conducted in violation of the right to a fair trial, and evidence collected through searches conducted in violation of the right to an impartial jury.