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USING ROOT CAUSE ANALYSIS TO STUDY PROSECUTORIAL ERROR: A COLLABORATION BETWEEN THE MONTGOMERY COUNTY (PENNSYLVANIA) DISTRICT ATTORNEY'S OFFICE AND THE QUATTRONE CENTER FOR THE FAIR ADMINISTRATION OF JUSTICE

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I. INTRODUCTION

Prosecutors are expected to be more than advocates enforcing the criminal laws of a particular jurisdiction; they are ministers of justice.[1] District attorneys' (DA's) offices across the country constantly strive to manage their caseloads with the highest reliability, accuracy, and integrity, representing not only victims of crime and their families, but also the community at large. Many prosecutors' offices also oversee criminal investigations and provide legal guidance and charging decisions to law enforcement personnel. This provision of oversight and guidance requires the creation and maintenance of policies, procedures, and standards that enforce the laws, while protecting the rights of victims and the rights of those accused of crimes, and ensuring fairness to all. Put differently, it is not enough to charge and convict those who have committed crimes; any prosecutors' office must also maintain the highest ethical standards and conduct itself in a manner that is above reproach and complies with all laws and constitutional mandates.

In a criminal investigation related to the alleged rape of an unconscious victim, members of the investigative team misread a laboratory report. The interpretive error was presented during a court proceeding and to a Magisterial District Justice during a preliminary hearing. Once the interpretive error was discovered, the District Attorney concluded that the case presented to the court proceeding was unintentionally corrupted and could not proceed, notwithstanding her conclusion that there was sufficient independent evidence to support most of the charges. This conclusion led the District Attorney to withdraw the charges as filed. In addition, the District Attorney concluded that the interpretive error impaired the ability of the Montgomery County District Attorney's Office to prosecute the case or effectively serve as a minister of justice, causing the Office to refer the investigation to the Office of the Attorney General (AG) of the Commonwealth of Pennsylvania for consideration of whether new charges should be re-filed against the defendant.[2] In order to learn

1. *See* MODEL RULES OF PROF'L CONDUCT r 3.8 cmt. (AM. BAR ASS'N 1983), http://www.americanbar.org/groups/professional_responsibility/publications/model_rules_of_professional_conduct/rule_3_8_special_responsibilities_of_a_prosecutor/comment_on_rule_3_8.html [https://perma.cc/MD56-GYQQ] (noting prosecutors have obligations to see defendants get procedural justice, sufficient evidence is present to decide guilt, and innocents receive special precautions to prevent or rectify conviction).

2. *See* Martha Neil, *Prominent Attorney Now Faces AG Prosecution of Rape Case, After Charges Were Dropped in March by DA*, A.B.A. J., (Apr. 25, 2014, 4:15 PM), http://www.abajournal.com/news/article/prominent_attorney_now_faces_ag_prosecution_of_r

from this error, and in furtherance of the prosecutor's ethical obligations of (a) conviction integrity, (b) transparency and accountability, and (c) a culture of continuous self-improvement within the Office, the District Attorney partnered with the interdisciplinary Quattrone Center for the Fair Administration of Justice at the University of Pennsylvania Law School to conduct a Root Cause Analysis (RCA) of the error. The goal of the RCA was to identify specific activities, policies, procedures, and environmental factors that allowed the error to occur, and to implement changes that would prevent similar errors from occurring in the future. In this way, the District Attorney sought to promote the highest levels of accuracy, reliability, fairness, accountability, and integrity in the handling of criminal cases throughout her office and the law enforcement community.

A. *The Parties*

1. *The Montgomery County District Attorney's Office*

The Montgomery County District Attorney's Office (DA's Office) is comprised of forty-five attorneys, forty-two support staff, and fifty-seven detectives and investigators. The District Attorney is considered the Chief Law Enforcement Officer of the county in which he/she is elected to serve. Cases are referred to the District Attorney by forty-nine local police departments and the Montgomery County Detective Bureau (MCDB), which is a part of the DA's Office. In 2015, the Office brought 9,107 cases to final disposition, a number that has remained fairly stable for the past several years.

2. *The Quattrone Center for the Fair Administration of Justice*

A national leader in the application of a systems approach to error reduction in the administration of justice, the Quattrone Center for the Fair Administration of Justice at the University of Pennsylvania Law School comprises investigators from the fields of medicine, transportation, and law. Each member of the team has experience in conducting RCAs in his/her respective field.

B. *Process*

Given the number and complexity of cases handled by any DA's office, it is to be expected that human errors will occur. There is no reliable source of data as to error rates for all criminal convictions. Given the relative lack of data regarding errors in law enforcement, a comparison can be drawn to a more robust dataset in healthcare. The Department of Health and Human Services Office of Inspector General found that 0.6% of Medicare beneficiaries had a National Quality Forum (NQF) Serious Reportable Event, 1.0% had a Medicare Hospital Acquired Condition (HAC) event, and 13.1% experienced an adverse

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ape_case_after_charges_were/ [https://perma.cc/MY9W-486G].

event resulting in one of the four most serious categories of patient harm.[3] Like healthcare and other complex industries (e.g., aviation), criminal justice professionals and those in the communities they serve should also strive for zero errors. Errors in the administration of justice may allow the perpetrator of a crime to escape accountability for his/her actions or could incarcerate an innocent person. Either of these outcomes is unacceptable.[4]

The current rate of human error in criminal justice is unknown, and reasonable minds may differ as to the acceptable rate of human error in the administration of justice. Even so, it seems clear that responsible criminal justice professionals should be dedicated to the goal of preventing such errors wherever possible, which requires learning from errors that do occur and putting in place processes to prevent or mitigate errors. Error-reduction strategies are thus one element essential to maintaining the trust and support of the public that law enforcement is sworn to serve.

In addition to actual errors with impact on the prosecutors, investigators and others involved, there is a related class of error, the near miss. A near miss may describe what the DA's Office experienced in this case. Since no one was wrongfully convicted, one could view this as a near miss; on the other hand, since an individual was charged, in-part, based on misinterpreted evidence, one could view this as an error. Either way, additional review was warranted to avoid repeating an undesirable result. A near miss in healthcare has been defined by the NQF as "an event or a situation that did not produce patient harm."[5] The National Transportation Safety Board has a similar definition in aviation: "[A]n occurrence . . . associated with the operation of an aircraft, which affects or *could affect* the safety of operations."[6]

The interpretive error during investigation of the criminal case described in this document, however, did affect the outcome in a very public manner. As a result, the Montgomery County District Attorney sought an objective and thorough review of the case, along with practical recommendations for process and environmental improvements that could be implemented within the Office. She requested that the Quattrone Center provide expertise in Root Cause Analysis (RCA) to satisfy these goals.

The Quattrone Center assembled an RCA team, consisting in-part of the authors of this paper, who collectively have experience in criminal procedure and in conducting RCAs in healthcare and transportation environments. The RCA team met with an investigation team created by the District Attorney, consisting of the District Attorney, First Assistant District Attorney (ADA),

3. *See* Daniel R. Levinson, *Adverse Events in Hospitals: National Incidence Among Medicare Beneficiaries*, DEP'T OF HEALTH & HUMAN SERVS. 15, (Nov. 2010), http://oig.hhs.gov/oei/reports/oei-06-09-00090.pdf [https://perma.cc/VD84-F2B9].

4. *See* THOMAS PYZDEK & PAUL KELLER, SIX SIGMA HANDBOOK 3 (4th ed. 2014) (discussing industrial concept of six sigma; that error rates greater than one in 3.4 errors per million opportunities are considered unacceptable).

5. *See NQF Patient Safety Terms and Definitions*, Nat'l Quality Forum, https://www.qualityforum.org/Topics/Safety_Definitions.aspx [https://perma.cc/2EY6-ZE9M] (last visited Nov. 13, 2016).

6. *See* 49 C.F.R. § 830.2 (2016) (emphasis added).

Chief County Detective, and Deputy Chief County Detective, to review the investigative and prosecutorial components of the case. Based on the facts provided by the DA's investigative team, and applying the principles of RCA and just culture event reviews articulated in this document, the RCA team identified specific areas for evaluation by the DA's Office and created a recommended action plan to reduce the possibility of future error. A primary focus was placed upon investigation management and supervision, evidentiary analysis, case workload, teamwork, and communication. The DA and her senior management reviewed the recommendations of the RCA team and consulted with the RCA team on issues of implementation and communication within the Office to ensure a contextual fit between the implementation of the recommendations and the culture of the Office.

II. PRINCIPLES OF QUALITY IMPROVEMENT AND THEIR APPLICATION TO CRIMINAL JUSTICE

Before proceeding to the application of RCA to criminal justice, it is useful to develop a vocabulary classifying various types of unintended outcomes that may occur in complex human systems, such as healthcare, that have benefitted from RCA as a quality improvement tool. *Error* can be either the failure of a planned action to be completed as intended or the use of a wrong plan to achieve an aim.[7] Defined in this way, errors are generally unintentional (negligent, accidental, or otherwise unavoidable), while misconduct can be thought of as the intentional or reckless conduct of an individual or group of individuals. In healthcare, the term *sentinel events* is used to describe unexpected occurrences—or the risk thereof—involving "death or serious physical or psychological injury."[8] Such events signal the need for immediate investigation and response, as does any process for which a "recurrence would carry a significant chance of a [similar] serious adverse event."[9] The terms error and sentinel event are not synonymous. Not all sentinel events occur because of an error, and not all errors result in sentinel events. A related definition is that of the *near miss*: a variation in process that did not affect—but for which a recurrence could increase—the chance of an undesired or adverse outcome.[10]

Applying these terms to the administration of criminal justice, it becomes clear that much of the research on errors in criminal justice to date has focused on errors at the conviction stage of a criminal adjudication. In a study conducted by Gould and associates, for example, two categories were defined for factually-innocent defendants who were indicted for violent felonies but subsequently relieved of all legal responsibility.[11] The paper used "erroneous

7. *See* JAMES REASON, HUMAN ERROR 9 (1990).

8. *See NQF Patient Safety Terms and Definitions*, *supra* note 5.

9. *See id.*

10. *See* Larry E. Poniatowski, *Patient Safety and Error Reductions Standards: The JCAHO Response to the IOM Report*, in THE PATIENT SAFETY HANDBOOK 131 (Barbara J Youngberg & Martin J Hatlie eds., 2004).

11. *See* Jon B. Gould et al., *Predicting Erroneous Convictions: A Social Science*

convictions" to describe defendants exonerated after conviction,[12] and defined "near misses" as those cases in which defendants had charges dismissed or acquitted before conviction on the basis of "factual innocence."[13] Factual innocence, in turn, required both acknowledgement that the defendant did not commit the crime and evidence that would convince a reasonable person that the individual did not commit the crime.[14]

To improve the criminal justice system, errors in criminal justice should be defined more broadly than the academic focus to date might suggest. This broader definition would include as error, for example, an incorrect allegation of criminal behavior that prevented law enforcement from further investigation of that behavior, as occurred in the case discussed *infra*, whether such allegation was "wrongful" in the sense of being intentional or reckless or merely "erroneous" in the sense of being inaccurate but made in good faith at the time it was made. In both instances, an adverse event—an outcome unintended by a perfectly efficient criminal justice system—occurred. To identify the appropriate actions necessary to effectively prevent the future recurrence of the adverse event, a more detailed understanding of the actors, the environment, and the motives behind the decisions made that led to the adverse event is required.

III. ROOT CAUSE ANALYSIS

Although systems and processes may need to be tailored to customs within local organizations, the basic principles of systems improvement have proven to be generalizable not only across organizations, but across industries, and lessons learned from their application have proven to be widely applicable. RCA has been used productively not only throughout the healthcare industry, but also in aviation, manufacturing, and other quality-minded industries to conduct event reviews that lead to actionable change of policies and procedures to reduce the occurrence of adverse events.[15] The use of RCA in healthcare is more recent, beginning with its use by the U.S. Department of Veterans Affairs (VA) and the Joint Commission in the mid-1990s.[16] With implications for law

Approach to Miscarriages of Justice 38–39 (Dec. 2012), https://www.ncjrs.gov/pdffiles1/nij/grants/241389.pdf [https://perma.cc/7QFT-JX6Y] (identifying ten factors that reportedly separated conviction errors from near misses).

12. *See id.*

13. *See id.*

14. *See id.*

15. *See generally Root Cause Analysis*, AGENCY FOR HEALTHCARE RES. & QUALITY (July 2016), https://psnet.ahrq.gov/primers/primer/10/root-cause-analysis [https://perma.cc/9275-675Z] (discussing root cause analysis in healthcare industry); FAA OFFICE OF AVIATION MED., *Root Cause Analysis of Rule Violations by Aviation Maintenance Technicians* FED. AVIATION ADMIN. (May 31, 2002), http://www.faa.gov/about/initiatives/maintenance_hf/library/documents/media/human_factors_maintenance/root_cause_analysis_of_rule_violations_by_aviation_maintenance_technicians.pdf [https://perma.cc/5LF2-4EZ8] (discussing root cause analysis in aviation industry).

16. *See* Albert W. Wu et al., *Effectiveness and Efficiency of Root Cause Analysis in Medicine*, 299 J. AM. MED ASS'N 685, 685 (2008); *see also* James P. Bagian et al., *The Veterans Affairs Root Cause Analysis System in Action*, 28 JOINT COMM'N J. QUALITY

enforcement at the state and federal level, the Veterans Health Administration (VHA) has mandated that all VA RCA be submitted to the National Center for Patient Safety (NCPS), so that the NCPS can review and analyze data about serious adverse events from RCA data from across the country.[17]

The goal of RCA is to learn from adverse events and "near misses" and to implement proactive change in order to reduce further similar events that might compromise—in the case of the law—lab report or opinion integrity.[18] An important feature of the RCA is that it is a blame-free analysis: "[b]laming and punishing for errors that are made by well-intentioned people . . . drives the problem of iatrogenic harm underground and alienates people who are best placed to prevent such problems from recurring."[19] Given its formality, RCA is typically reserved for high- to moderate-impact events occurring with occasional to moderate frequency.[20] The primary concept of RCA is to identify underlying systems problems ("blunt-end errors") that increase the likelihood of errors, while avoiding the trap of focusing on mistakes by front-line individuals who participated in the event ("sharp-end errors").[21] The nexus of the RCA process is a multidisciplinary meeting of the investigation team, during which information collected by the RCA facilitator is presented, analyzed, and discussed with those individuals who were present at the event.[22] In a criminal justice context, "sharp-end errors" may be those made by police, law enforcement investigators, or trial attorneys, while "blunt-end errors" may be those attributed to supervisors, policies, practices, office environment, etc.

The RCA process is designed to answer four basic questions:

(1) What happened?
(2) Why did it happen?
(3) What are the contributing factors? and,
(4) What can be done to prevent it from happening again?[23]

The RCA should lead to the creation of an action plan for process improvement that will prevent the adverse event or events from recurring in the future. The RCA is typically conducted by a team of individuals with specific

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IMPROVEMENT 531, 531 (2002).

17. *See* Alexandra Lee et al., *Root Cause Analysis of Serious Adverse Events Among Older Patients in the Veterans Health Administration*, 40 JOINT COMM'N J. QUALITY & PATIENT SAFETY 253, 254 (2014).

18. *See* A. Zachary Hettinger et. al., *An Evidence-Based Toolkit for the Development of Effective and Sustainable Root Cause Analysis System Safety Solutions*, 33 J. HEALTHCARE RISK MGMT. 11, 11–20 (2013).

19. *See* William B. Runciman et al., *Error, Blame, and the Law in Health Care – An Antipodean Perspective*, 138 ANN. INTERNAL MED. 974, 974 (2003).

20. *See Patient Safety Primer: Root Cause Analysis*, AGENCY FOR HEALTHCARE RES. QUALITY (July 2016), http://www.psnet.ahrq.gov/primer.aspx?primerID=10 [https://perma.cc/R6KX-ZCWW] [hereinafter *AHRQ RCA Primer*].

21. *See* REASON, *supra* note 7, at 9.

22. *See* Davide Nicolini et al., *Policy and Practice in the Use of Root Cause Analysis to Investigate Clinical Adverse Events: Mind the Gap*, 73 SOC. SCI. & MED. 217, 221 (2011).

23. *See Root Cause Analysis: Tracing a Problem to Its Origins*, MINDTOOLS, http://www.mindtools.com/pages/article/newTMC_80.htm [https://perma.cc/S5D5-Y6U3] (last visited Nov. 13, 2016).

expertise in the environment and activities that were conducted around the adverse event(s), as close as possible in time to the occurrence.[24] The RCA team seeks to analyze the events from the perspective of the participants, based on their real-time knowledge of facts and circumstances, to avoid any retrospective bias that might negatively impact the ability of the RCA team to objectively identify modifications that will effectively prevent the recurrence of the adverse event(s). The action plan generated by the RCA team reports on the redesign of systems and the implementation of improvements designed specifically to (1) reduce the risk of recurrence for the specific adverse events that occurred and (2) monitor the effectiveness of the proposed improvements. As a result, it is expected that the RCA will lead to recommendations that are materially different from those that would be generated from a disciplinary review board focused on the direct punishment of individual actors involved in the incident under review.

An essential tenet of RCAs is that they are conducted in a blame-free manner. The sole focus of the RCA is the identification of acts, omissions, or environmental factors that limit the ability of the system in question reliably to achieve desired outcomes. While information allowing for the review of the performance of individual participants in the adverse event may be facilitated by the RCA investigation, such performance reviews, and any attendant disciplinary action, take place separately and apart from the RCA investigation itself. This focus on safety (that is, reliable performance of the system as intended) as opposed to punishment is necessary to maximize the gathering of useful information from event participants, who might have an incentive to withdraw from the event review if their participation could lead to disciplinary measures. It is important to stress that an RCA should be led by a facilitator, someone outside of executive leadership who is responsible for establishing action plans for all responsible parties.[25] At the same time, organizations conducting RCAs recognize that professionals whose actions are intentional or reckless should be held accountable for their actions. Thus, RCAs should happen within the context of a "just culture" that applies appropriate professional standards to the relevant workplace. A "just culture" can be defined as a culture that "recognizes that competent professionals make mistakes and acknowledges that even competent professionals will develop unhealthy norms (shortcuts, 'routine rule violations'), but has zero tolerance for reckless behavior."[26] One way to blend the need for event reviews that prioritize safety with a just culture is to have the RCA team refer intentionally-

24. *See* Patricia M. Williams, *Techniques for Root Cause Analysis*, 14 BAYLOR UNIV. MED. CTR. PROC. 154, 154 (2001), http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1292997/pdf/bumc0014-0154.pdf [https://perma.cc/V6BC-CRDD].

25. *See Guidance for Performing Root Cause Analysis (RCA) with Performance Improvement Projects (PIPs)*, API, https://www.cms.gov/medicare/provider-enrollment-and-certification/qapi/downloads/guidanceforrca.pdf [https://perma.cc/L37U-M4BE] (last visited Nov. 13, 2016) [hereinafter *RCA Guidance*].

26. *Glossary: J*, AGENCY FOR HEALTHCARE RES. & QUALITY, https://psnet.ahrq.gov/glossary/j [https://perma.cc/3DEE-65TB] (last visited Nov. 13, 2016).

or recklessly-injurious activity to a separate disciplinary process within the organization.[27]

A. *Elements of a Successful RCA*

Local, state or federal institutions of the law should strive to be high-reliability organizations (HROs).[28] HROs rely on five hallmarks: (1) preoccupation with failure, (2) refusal to oversimplify, (3) sensitivity to operational change, (4) resilience in the face of error, and (5) deference to expertise.[29] Within this context, there are a number of elements that should be included in a successful RCA, including organizational and structural elements, review of proposed solutions and implementation, education of relevant stakeholders, thorough analysis of policy changes, and checks on compliance. Foremost, an effective organization develops processes for selecting events requiring an RCA.[30] In general, sentinel events—among the most serious—should be selected for RCA.[31] Organizational leadership must provide a charter to communicate the goals of the RCA,[32] and the RCA facilitator should be appointed by—but not a member of—leadership, to avoid chilling the open communication from staff that is necessary for change.[33]

RCAs assess particular elements of a system or process for the purpose of reducing errors and making constituents safer.[34] Given the effort involved in bringing an RCA to fruition, the events chosen are generally of a serious nature[35] and may require referral to external committees. RCAs may also include debriefs with attorneys or staff involved after certain errors to identify points in the prosecution where interventions could have prevented a problem and to provide feedback. Importantly, these reviews are not duplicative of the typical "internal affairs" review and, in the hands of experienced RCA reviewers, are likely to generate different questions, and therefore different

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27. An example of this can be seen in the accident investigations conducted by the National Transportation Safety Board (NTSB), which takes the leadership position in the investigation of aviation, rail, and other transportation accidents instead of the FBI or other law enforcement organizations. The NTSB's sole focus is on improving the safety of the U.S. transportation network. If, during the course of an investigation, the NTSB identifies the likelihood of criminal behavior, however, it will refer the investigation to the FBI and then take a "second-chair" role in the event review.

28. *See* Mark R. Chassin & Jerod M. Loeb, *High-Reliability Health Care: Getting There from Here*, 91 MILBANK Q. 459, 461–62 (2013), http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3790522/pdf/milq0091-0459.pdf [https://perma.cc/8BKP-B78V].

29. *See* KARL E. WEICK & KATHLEEN M. SUTCLIFFE, MANAGING THE UNEXPECTED: SUSTAINED PERFORMANCE IN A COMPLEX WORLD 7 (3d ed. 2015).

30. *See RCA Guidance*, *supra* note 25.

31. *See* Chassin & Loeb, *supra* note 28, at 461–62.

32. *See AHRQ RCA Primer*, *supra* note 20.

33. *See id.*

34. *See* PATIENT SAFETY: A CASE-BASED COMPREHENSIVE GUIDE xiv (Abha Agrawal ed., 2014).

35. *See* Tommaso Bellandi et al., *Human Factors and Ergonomics in Patient Safety Management*, in HANDBOOK OF HUMAN FACTORS AND ERGONOMICS IN HEALTH CARE AND PATIENT SAFETY 679 (Pascale Carayon ed., 2d ed., 2012).

information. The RCA process is designed to shift analyses of errors toward a human-factors engineering approach; a search for system dysfunction rather than human error or other less actionable causes.[36]

The context in which reviews are conducted and the expertise of the team members are two critical factors that deserve significant thought. Follow-up of specific RCA reviews, especially those conducted by external committees, increases the complexity of implementing change. External reviews risk abrogation of responsibility from the RCA team or others in the work group, causing the underlying issue to be lost to follow-up. Ideally, domain experts from areas of concern will be embedded with the RCA team or asked to assist in error analysis and solution development. Reviews that are performed transparently are likely to create sustainable and effective changes in culture. The best reviews are performed and shared with all interested stakeholders. A critical function of the RCA team is to ensure assignments of implementation of recommendations as well as follow-up oversight of the implementation; otherwise, the RCA process will fail to correct errors.[37]

Learnings from the RCA should be disseminated to all relevant individuals throughout the organization as soon as practicable after potentially-repeatable errors are identified. A critical task is closing the feedback loop and creating an environment focused on error reduction.

The cost and time needed to implement an RCA are typically reasonable and certainly can be viewed as important investments in office management, given the importance of preventing errors. While changes to organizational structural elements occasionally require substantial, facility-wide investments involving significant capital outlay, time, and resources, such investments are the exception rather than the rule for RCA error-reduction solutions. Examples include new IT platforms or additional office space for incremental hires. Location is important—for example, in medicine, ambulatory care and inpatient care have different spectra of errors.[38] Within the criminal justice system, prosecutors, defense attorneys, police officers, and judges can each be expected to be susceptible to different types of errors. Because most prosecutors' office-based RCA teams will not possess specific expertise in RCA, such teams should consider the use of consultants such as the Quattrone Center or other objective third parties with experience prior to implementing any large-scale, high cost solutions.[39] Although some jurisdictions prohibit public access to criminal investigative records, consultants may still be able to provide valuable insight

36. *See* Bagian et al., *supra* note 16, at 545.

37. *See* Julius Cuong Pham et al., *ReCASTing the RCA: An Improved Model for Performing Root Cause Analyses*, 25 AM. J. MED. QUALITY 186, 187 (2010).

38. *See generally* Traber Davis Giardina et al., *Root Cause Analysis Reports Help Identify Common Factors in Delayed Diagnosis and Treatment of Outpatients*, 32 HEALTH AFF. 1368 (2013).

39. There is a potential political benefit to the office in seeking assistance from outside consultants in the review—such a review is likely to be perceived as more independent, and thus, its conclusions are likely to be seen as more objective and trustworthy by observers (media, etc.) who might otherwise continue to criticize the office for managing the investigation internally. However, in Pennsylvania, only law enforcement personnel may review criminal investigative information.

regarding administrative and structural issues.

B. *Education and Counseling Solutions*

Organizations need to provide continuing educational opportunities and performance feedback to staff that facilitate—and to the extent possible participate in—RCA teams.[40] There are going to be solutions where education is the primary goal, which may focus on individuals or groups. Training may focus on educating staff regarding a new technology. Education may also consist of lectures and testing of attorneys and staff in a more formal didactic setting. Common examples include orientation of new staff members, learning in simulated environments, educational "minutes" during staff meetings, or educational updates regarding existing legal policies and procedures. Educational solutions work best where a knowledge deficit was identified as an important causative factor. For example, there may be cases in which staff members did not know how to analyze evidence or are unaware of changes in relevant statutory law. Education should not address a serious system problem such as poor workflow, confusing interfaces with law enforcement, inefficient processes, or poorly designed policies. Single education sessions, e.g. training modules during new staff orientation, are unlikely to provide sustained error reduction, especially if policies and procedures taught during orientation do not match the "real world" settings in which the errors may arise. Educational solutions should focus on methods that incorporate contexts in which error-prone situations may occur and environmental simulation where it is safe to learn failure. Educational solutions ideally are continuing events, as the knowledge base is lost if not refreshed.

C. *Counseling for Error: The Second Victim*

Once the RCA has been conducted and the facts surrounding the event in question are known, management of the organization must counsel individuals within the organization on how to avoid recurrence of the error(s). Counseling focuses on individuals who participated in the generation of the error(s) and typically involves providing constructive feedback, plans for personnel development, or ultimately referral out of the RCA framework for disciplinary review and action. Counseling recommendations are generally directed to involved personnel and may be couched in terms like "all involved staff were counseled on relevant policies and procedures." Such solutions are diminished by focusing only on those individuals who were involved in the adverse event under review, as these individuals may be the least likely to repeat the same errors.

If an individual was acting recklessly or without regard to safety processes, then, according to principles of a just culture, there may be a role for

40. *See* Paul Bowie et al., *Training Health Care Professionals in Root Cause Analysis: A Cross-Sectional Study of Post-Training Experiences, Benefits and Attitudes*, 13 BMC HEALTH SERVS. RES. 50, 57 (2013), http://www.biomedcentral.com/1472-6963/13/50 [https://perma.cc/46WV-KL9T].

sanctions.[41] But most individual errors are a result of *slips* or *lapses* that can be reduced or eliminated only through better systems and process design.[42] Counseling of only affected personnel will have limited to no effect on other individuals who are at risk of similar error-prone situations. Counseling typically has negative connotations and may adversely impact personnel's willingness to report errors that did not affect justice. Counseling—in a different light—is important for "second victims," defined as personnel experiencing feelings of guilt, shame, and depression, and should be provided in the immediate post-event period.

Professionals in many industries with zero tolerance for errors may suffer with the realization that their conduct contributed to or caused an error that led to an adverse event or injury to another human being. Although there is a scarcity of published data on the effects of errors on criminal justice professionals, the data on medical errors and unanticipated bad patient outcomes on healthcare workers can be instructive. A culture of "shame and blame" has been thought to affect healthcare quality by decreasing error reporting.[43] Blame-related distress may also be a factor in burnout, compassion fatigue, and, especially, the second victim syndrome.[44] Support resources provided by healthcare organizations to prevent and reduce second victim-related harm often are inadequate.[45] One analysis identified six stages in the natural history of the second victim phenomenon: "(1) chaos and accident response, (2) intrusive reflections, (3) restoring personal integrity, (4) enduring the [investigation], (5) obtaining emotional first aid, and (6) moving on."[46]

Training is necessary, but insufficient, to inoculate professionals against the effects of making errors—especially single-incident training. Counseling should be provided not only to the individuals involved, but to anyone who might make the same error. Counseling might include managing out of the organization or other sanctions if behaviors were intentional, reckless, or grossly negligent. Managers should be aware that protecting good faith actors and sanctioning bad faith actors is important to cultural acceptance of any just culture analysis, implemented process, or proposed reform.

The prevalence of second victims after an adverse event has been reported

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41. *See* SIDNEY DEKKER, JUST CULTURE: BALANCING SAFETY AND ACCOUNTABILITY 87–99 (2012).

42. *See* James Reason, *A Systems Approach to Organizational Error*, 38 ERGONOMICS 1708, 1710–12 (1995); *see also* REASON, *supra* note 7, at 9.

43. *See* Judy E. Davidson et al., *Workplace Blame and Related Concepts: An Analysis of Three Case Studies*, 148 CHEST 543, 543 (2015), http://journal.publications.chestnet.org/article.aspx?articleID=2289067 [https://perma.cc/XX54-C7MY].

44. *See id.* at 546 (citing B.J. Horak et al., *Crossing the Quality Chasm: Implications for Health Services Administration Education*, 21 J. HEALTH ADMIN. EDUC. 15 (2004)).

45. *See generally* Jonathan D. Burlison et al., *The Second Victim Experience and Support Tool (SVEST): Validation of an Organizational Resource for Assessing Second Victim Effects and the Quality of Support Resources*, 00 J. PATIENT SAFETY 2014, https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4342309/ [https://perma.cc/QZ89-TNZF].

46. *See* S.D. Scott et al., *The Natural History of Recovery for the Healthcare Provider "Second Victim" After Adverse Patient Events*, 18 QUALITY SAFETY HEALTH CARE 325, 325, 326, 329 tbl.5 (2009).

variably from 10.4% to 43.3%.[47] The coping strategies used by second victims have an impact on their patients, colleagues, and themselves. After the adverse event, defensive as well as constructive changes have been reported in practice. The second victim phenomenon may also have a significant impact on clinicians, colleagues, and subsequent patients.[48]

At one time or another, virtually all physicians make a medical error that harms a patient.[49] At such times, the physician can feel singled out, exposed, worried that others have noticed, and concerned about potential ramifications. There is agony about what to do, who to tell, what to say. Thoughts of the event may become intrusive. One questions one's competence, but fears being discovered. Physicians (as well as lawyers) have an ethical requirement to disclose errors depending on the circumstance, but fears of punishment and of the patient's reprisal are associated with dread.[50]

In a survey of 1,160 healthcare providers, 15% had experienced patient safety events causing personal problems in the aftermath of the error, including depression, anxiety, or concerns about their ability to perform their jobs as a result of an adverse event. Of these, 39% seriously contemplated leaving their profession.[51] In a follow-up study, the same authors found that 30% of 898 clinicians had experienced emotional distress after a major adverse event within the previous year.[52] Hanan H. Edrees and colleagues found that two-thirds of 140 clinicians surveyed at a patient safety meeting had experienced emotional problems related to an adverse event.[53] Guilt, responsibility, and failure were common feelings in healthcare providers after a patient's death, even when not due to medical error.[54] 7,905 members of the American College of Surgeons were asked whether they had experienced suicidal ideation within the past year, and 501 (6.3%) said "yes," and suicidal ideation was strongly associated with medical error.[55] 1,294 Norwegian physicians were similarly studied, and 368 (28%) were involved in an adverse clinical event. Of those, 17% reported a significant impact upon their personal lives.[56] Clinical symptoms may include anxiety, sleeplessness, difficulty concentrating, depression, a feeling of loss of

47. *See* Deborah Seys et al., *Health Care Professionals As Second Victims After Adverse Events: A Systematic Review*, 36 EVALUATION & HEALTH PROFS. 135, 146 (2013) (citing three separate studies on second victims in health care).

48. *See id.* at 149.

49. *See* Wu et al., *supra* note 16, at 727.

50. *See id.*

51. *See* Scott et al., *supra* note 46, at 328 tbl.4.

52. *See* Susan D. Scott et al., *Caring for Our Own: Deploying a Systemwide Second Victim Rapid Response Team*, 36 JOINT COMM'N J. QUALITY & PATIENT SAFETY 233, 234 (2010).

53. *See* Hanan H. Edrees et al., *Health Care Workers As Second Victims of Medical Errors*, 121 POLISH ARCHIVES OF INTERNAL MED. 101, 108 (2011).

54. *See* Farnaz M. Gazoni et al., *Life After Death: The Aftermath of Perioperative Catastrophes*, 107 ANESTHESIA & ANALGESIA 591, 597 tbl.2 (2008).

55. *See* Tait D. Shanafelt et al., *Special Report: Suicidal Ideation Among American Surgeons*, 146 ARCHIVES SURGERY 54, 56 (2011).

56. *See* O.G. Aasland & R. Førde, *Impact of Feeling Responsible for Adverse Events on Doctors' Personal and Professional Lives: The Importance of Being Open to Criticism From Colleagues*, 14 QUALITY SAFETY HEALTH CARE 13, 15 (2005).

personal integrity, and irritability.[57] As a bridge from medical studies to the justice system, similar types of stressors affect the police.[58] One study documented that 63% of police respondents stated that a critical incident debriefing would be beneficial following an extremely stressful event related to duty.[59]

D. *Providing Assistance After the Error or Adverse Event*

Although there is a dearth of literature on the effects of errors on prosecutors, by analogy, there are data on other professions such as medicine. After making errors, healthcare professionals would like support in a variety of ways. One study of family medicine physicians is instructive.[60] Of twenty-seven physicians surveyed, seventeen (63%) wished to talk with someone who would be nonjudgmental about the error.[61] Sixteen (59%) wanted affirmation of competence as a healthcare professional by reviewing the event.[62] Thirteen (48%) hoped for validation of the fateful decision, and eight (30%) wanted affirmation of their personal self-worth.[63] Pratt and colleagues have developed a toolkit to help healthcare organizations support healthcare providers who may suffer from the emotional impact of medical errors. The toolkit consists of ten modules, each consisting of specific actions, best evidence references, and examples.[64]

Organizations can help deal with both the adverse event and its aftermath.[65] Organizational efforts may include blame-free, process-oriented, analysis of systems errors to help alleviate self-blame and doubt. Organizations should offer support to healthcare providers after errors or bad outcomes. Individuals who provide assistance (employee assistance programs, wellness counselors) should make clear that a need for support is not a sign of weak character. Education about the legal process might reduce anxiety should a claim be anticipated. The role of the risk managers should be presented in advance, preferably before an error or bad outcome, so the healthcare team knows how to utilize risk management services. Lastly, training or retraining where appropriate might empower the affected individuals to get past the event. One

57. *See* Andrew A. White & Thomas H. Gallagher, *After the Apology—Coping and Recovery After Errors*, 13 AM. MED. ASS'N. J. ETHICS 593, 594–95 (2011), http://journalofethics.ama-assn.org/2011/09/pdf/ccas1-1109.pdf [https://perma.cc/2LX2-K5N9].

58. *See* Matthias Berking et al., *Enhancing Emotion-Regulation Skills in Police Officers: Results of a Pilot Controlled Study*, 41 BEHAV. THERAPY 329, 337–38 (2010).

59. *See generally* Holly M. Robinson et al., *Duty-Related Stressors and PTSD Symptoms in Suburban Police Officers*, 81 PSYCHOL. REP. 835 (1997).

60. *See generally* Marc C. Newman, *The Emotional Impact of Mistakes on Family Physicians*, 5 ARCHIVES FAM. MED. 71 (1996).

61. *See id.* at 71.

62. *See id.*

63. *See id.*

64. *See generally* Steven Pratt et al., *How to Develop a Second Victim Support Program: A Toolkit for Health Care Organizations*, 38 JOINT COMM'N J. QUALITY & PATIENT SAFETY 235 (2012).

65. *See* CHARLES VINCENT, PATIENT SAFETY 139–51 (1st ed. 2006).

commentator has suggested that sharing one's own perceived errors may also help provide support.[66]

Policy learnings generated by an RCA typically are focused on reinforcement of existing policies and procedures or changes to individual policies without significant change to underlying processes, physical environment, or information systems. A common example is to reinforce knowledge of personnel on existing or recently changed policies via circulars, newsletters, e-mails, or meetings. Frequently, personnel can confirm attendance by a sign-in sheet. For example, district attorney's offices may send a memo to all assistant DAs to remind them of policies regarding evaluation of laboratory or other complex evidence. Policy changes alone, however, without significant changes to the education of individuals, are likely to have limited effectiveness and/or sustainability. RCA teams can implement larger sets of changes that make policy solutions more likely to be sustainable and effective. Policies designed to reinforce reasoned process changes may be instituted concomitantly with appropriate education and needed changes to IS infrastructure or workspace. Top-down organizational policy changes mandated that lack supporting effort are unlikely to create effective change. Further, RCA solutions that require significant administrative efforts (i.e., enforcement and compliance) have high costs to be sustainable and effective. Invariably, new organizational priorities surface, and there is only so much that can be monitored and reported upon without devoting more resources or reallocating existing resources.

Compliance with RCA solutions is focused on reviews of case files or other metrics for the purpose of monitoring or regulating procedural success. Data allow an organization to evaluate what works and what does not. However, it is wrong to conclude that only measurement is important in management.[67] Compliance checks may consist of audits, for example, where personnel are observed to verify they are subjecting evidence to external analysis or verifying victim DNA identification. Observations may give a sense of what is being done, but observations frequently suffer from the Hawthorne effect, the name for a phenomenon by which variables not accounted for in social or behavioral experiments exert unexpected influence when workers know they are being observed.[68] As a result, observed rates of compliance should be assumed to be lower in non-observed workflow. Successful implementation rates also characteristically drop to a baseline after compliance checks are no longer, especially if there was no accompanying change to education or environment. Case file reviews for compliance are retrospective, robust sources of data, but labor-intensive, consuming significant human and other resources. Such reviews often give little meaningful feedback to personnel on how to improve the system. Organizations should calculate the

66. *See* Newman, *supra* note 60, at 73.

67. *See* W. EDWARDS DEMING, THE NEW ECONOMICS FOR INDUSTRY, GOVERNMENT, EDUCATION 35 (2d ed. 2000).

68. *See* Daniel Nelson, Book Review, 53 J. ECON. HIST. 209, 209–10 (1993) (reviewing RICHARD GILLESPIE, MANUFACTURING KNOWLEDGE: A HISTORY OF THE HAWTHORNE EXPERIMENTS (1991)).

downstream effects of any long-term compliance commitments or reporting requirements; they can quickly trump limited time resources, such that more time is spent reporting than in actively decreasing errors.

IV. THE MONTGOMERY COUNTY RCA

A. *Case Sequence of Events*

According to court documents, the victim attended a social gathering with colleagues from work and was driven home by her employer. She recalled his bringing a bottle of wine into the vehicle and offering her a glass. She largely lost consciousness for the rest of the evening, with only a few spotty memories of events. She woke up the next morning with soreness and multiple bruises on her body as well as significant gaps in her memory about the events of the previous night. Her memories led her to believe that she had been sexually assaulted, and she had family members take her to the hospital one and a half days later. The hospital treated her injuries, performed a sexual assault examination, and took samples for testing.

Later that week, the victim contacted law enforcement and told them what happened to her. The victim initially went to the Upper Merion Police Department. When they learned the substance of her allegations, they contacted the MCDB, who took over the case and formally interviewed her. In the days following her statement to law enforcement, she was contacted by the hospital and verbally given some of the test results. Her understanding of the verbal test results, based on a conversation with hospital staff, was that zolpidem, a "date rape drug," had been detected in her system in trace amounts. After speaking with the hospital staff, the victim contacted an investigator with the MCDB to advise the investigator of her conversation about the test results. Law enforcement subsequently obtained additional medical records from the hospital as well as the lab report containing the test results for zolpidem.

The lab that performed the tests was not the lab usually used by the District Attorney's Office, so the Deputy District Attorney (DDA) and Detective managing the investigation were not accustomed to the format of the results. When the Deputy District Attorney and Detective reviewed the report, they saw a listing for zolpidem and a quantity they interpreted as suggesting an identifiable amount of zolpidem, rather than a zero that would indicate no amount. As understood by the DDA and Detective, the test results appeared consistent with the victim's reported conversation with hospital staff. This lab report was written such that it led the Deputy District Attorney and Detective to believe there were trace elements of zolpidem in the victim's blood when, in fact, there were none. The DNA analysis showed the suspect's DNA on the button of the victim's pants and on the inside of the waistband of her underwear. The hospital exam showed clear injuries indicative of forceful vaginal penetration, which were consistent with sexual assault.

The suspect was a local politician who was the chairman of the political party with which the elected District Attorney was affiliated. Though she felt no personal conflict of interest in handling a case involving this man, the

District Attorney was concerned about the appearance of a conflict of interest and the potential public perception that a conflict could exist. To avoid the appearance of impropriety, the District Attorney referred the investigation to the Office of the Attorney General of Pennsylvania. In her letter to the Attorney General (AG), the DA requested the AG take over the case based upon the potential appearance of a conflict of interest. At the same time, she directed her staff to continue the investigation so that no evidence would be lost, and she assigned a county detective and an experienced deputy district attorney as the team for investigating this high-profile case. The Pennsylvania Attorney General declined to assume the case, so it fell to the District Attorney to make charging decisions and prosecute the case, if necessary.

Additional investigation was conducted, including investigative interviews with the suspect and others. The investigation was submitted to the Montgomery County Investigating Grand Jury. Included in the presentation of evidence to the Grand Jury was the lab report, which was described as reflecting trace amounts of zolpidem in the victim's blood. The Grand Jury voted and issued a presentment recommending to the District Attorney that she file charges against the suspect. The District Attorney accepted the presentment and recommendation of the Grand Jury and authorized the filing of a criminal complaint against the defendant. The defendant was arrested and arraigned for rape of an unconscious victim and related charges.

The case progressed in customary fashion through the court system. The Commonwealth presented its case at a preliminary hearing, at which time certain evidence was presented, including the lab report. The detective testified that the report demonstrated that an identifiable level of zolpidem had been found within the victim's blood. As a result, the charges against the defendant were held for court. As part of pretrial discovery, the deputy district attorney sent a copy of the lab report to the defense attorney. Upon reviewing the report, the defense attorney informed the deputy district attorney that he could not find the alleged level of zolpidem listed within the report. As a result, the Commonwealth quickly consulted with experts and determined that it had misinterpreted the report which, in fact, did not indicate the presence of zolpidem and brought this concern to the attention of the deputy district attorney, who then shared it with the District Attorney. The District Attorney directed her staff to review the matter, and all agreed that the analysis of the lab report previously conducted by the office was in error. The District Attorney also considered the various instances in which this erroneous interpretation had been represented by the DA's Office, including its presentation to the Grand Jury, its inclusion in the criminal complaint, and its introduction as evidence during a preliminary hearing. There was no suggestion that the error was intentional on the part of any individual; in fact, defense counsel advised the DA that he believed it was entirely unintentional. Given all of the preceding facts, however, the DA believed that she had no choice but to dismiss the charges and start from the beginning. At that point, the DA concluded that her office had an actual conflict of interest in reconsidering the matter, and she referred the case to the Office of the Attorney General for the second time. This second referral, unlike the first, was based upon an actual conflict of interest

cited by the DA. The Attorney General accepted the referral and took over the case. The Attorney General's Office reviewed the investigation and made its own independent charging decision, refiling most of the same charges that had originally been filed. The defendant eventually pled no contest to misdemeanor indecent assault.[69]

B. *RCA Procedural Framework*

The RCA team assembled by the Quattrone Center for the Fair Administration of Justice consisted of two healthcare professionals, an anesthesiologist and a general surgeon, with experience in RCAs in a healthcare environment; one employee of the National Transportation Safety Board (NTSB) with experience as an investigator of transportation accidents; and one attorney familiar with the workings of prosecutors' offices. The RCA team met with the investigative team created by the DA's Office to investigate the incident in question, which consisted of the District Attorney, the First Assistant District Attorney, the Chief County Detective, and the Deputy Chief County Detective of the MCDB, which exists within the District Attorney's Office. Facilitation for the RCA was provided by the Quattrone Center members.

The RCA team conducted a thorough interview of the Investigative Team to get a detailed chronology of events leading up to and including the investigational error and to understand the conclusions of the Investigative Team regarding the motivations and situational understandings held by the ADA and her investigator throughout their management of the case. The RCA Team created a chronology of the case investigation from the commission of the criminal events through the discovery of the error. Based on the interview with the Investigative Team and subsequent follow-up sessions, the RCA Team identified several factors that were believed to contribute to the creation of an environment that allowed the investigative error to occur, to be used in charging, and to be shared with the public and with defense counsel. The RCA Team organized these areas, along with specific factors within each area, in an Ishikawa or "fishbone" diagram for review by the Investigation Team and senior management within the DA's Office (see Figure, below).

Once an agreed upon set of environmental factors was completed, the RCA Team generated a draft action plan (Table) with proposed actions that would address active, latent, supervisory, and environmental factors that may have helped cause the adverse event and presented this draft to senior management in the DA's Office. The DA's Office evaluated the draft action plan and provided suggested revisions back to the RCA Team, who subsequently provided a final version back to the DA's Office. Senior management within the DA's Office provided a memo to the County Commissioners explaining the results of the RCA and seeking their support to implement—qualitatively and with budget

69. *See* Brad Segall, *Former GOP Official in Montco Sentenced for 'Indecent Contact' With Co-Worker* (Nov. 24, 2014, 11:03 AM), http://philadelphia.cbslocal.com/2014/11/24/former-gop-official-in-montco-sentenced-for-indecent-contact-with-co-worker/ [https://perma.cc/RU5R-LKVH].

assistance—the proposed reforms. This support was given, and the reforms have been implemented within the DA's Office.

As part of its recommendations, the RCA Team also provided guidance to senior management within the DA's Office on the importance of recommending reforms that were implementable within the culture and environment of the DA's Office and methods for communicating and implementing the proposed reforms that would maximize their adoption within the DA's Office. Process changes that are not embraced by line personnel are per se ineffective in modifying behavior, and, therefore, will not be effective in eliminating the recurrence of the adverse event in question.

C. *Factors Contributing to Error*

The primary factors contributing to error identified by the internal review involved:

- A failure to accurately interpret the lab report based upon flawed assumptions made by those initially reviewing the report and shared with their supervisors. This failure included technical misinterpretation of the lab report on the part of the deputy district attorney and of the county detective assigned to the case;
- Atypical communication from the victim with regard to scientific evaluations of the case;
- Ineffective communication within the team and from the team to colleagues (informal) and supervisors;
- A lack of independent review of the investigative team;
- Failure to seek expert assistance to evaluate the lab report; and
- Pressure caused by external factors such as the potential conflict of interest due to the suspect's position and the concurrent open referral to the Attorney General's Office and the intense media attention the case was generating.

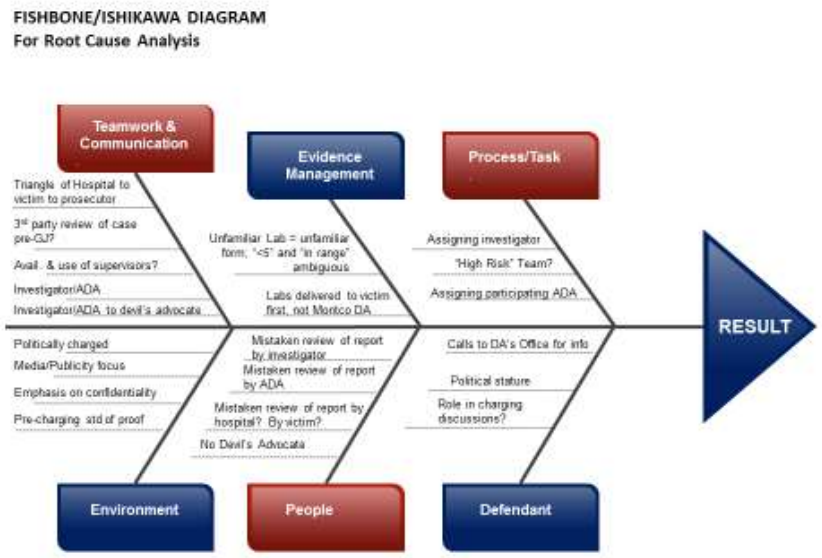

FIGURE. "FISHBONE" OR ISHIKAWA DIAGRAM USED BY ROOT CAUSE ANALYSIS TEAM.

D. *Observations from the RCA Team*

1. *Human Factors Related to the Report Contributed to Its Misinterpretation by the Investigator and ADA*

The toxicology report was generated by a laboratory not typically used by the DA's Office, as the report had been ordered by the hospital where the victim first presented, rather than being ordered by law enforcement personnel. As a result, its format and content were unfamiliar to the assigned investigator and the ADA, leading to a risk of misinterpretation of information. Furthermore, the substantive contents of the report were confusing. The report listed the minimum detectable amount/level necessary for the lab to identify the presence of zolpidem and indicated that the sample lacked detectable amount of zolpidem. Unfortunately, neither the assigned Detective nor the Deputy District Attorney recognized that the report documented no detectable levels of zolpidem, and proceeded as if the minimum detectable level listed in the report was instead the amount of zolpidem detected within in the victim's blood.

2. *Atypical Communications Related to the Report Contributed to Its Misinterpretation by the Detective and ADA*

Normal procedure within the DA's Office for a toxicology test requested by law enforcement personnel is for the lab to send the test results back to the requesting ADA or investigator. In this case, however, because the hospital that

treated the victim requested testing, hospital personnel received the report and communicated results to the victim directly. The victim subsequently communicated her erroneous understanding of the results to the Detective, who then communicated those same results to the DDA (along with the potential for confirmation bias, a potential that appears to have been realized).

3. *A Lack of Supervision, Exacerbated by the Environment of Confidentiality Created by the District Attorney, Had an Unintended Chilling Effect on the Willingness of the Detective and ADA to Seek Assistance*

The DA's Office has an extensive training program for its ADAs that pre-dates the events described in this paper. Although supervisors within the Office have an "open door policy" and pride themselves on being available to consult with ADAs and review cases to ensure high-quality prosecutions, each individual ADA or investigator is expected to elevate necessary questions or concerns about any individual case to colleagues and supervisors, rather than requiring the supervisor to review each specific case.

In this instance, the defendant was a prominent political figure in the region. As a result, the allegations were the subject of considerable media scrutiny, and the DA's Office received a constant stream of calls and questions regarding the investigation and its status. In addition, the DA and other supervisors within the DA's Office were extremely sensitive to the risk that the community would feel that political considerations might influence the charging decision, and they were also mindful of the potential harm caused by unfounded accusations. Thus, the assigned DDA and Detective on the case were instructed to communicate only with certain supervisors about the investigation. They were further told not to share information with other colleagues or to communicate by e-mail. This admonition of confidentiality was intended to protect both the defendant and victim until all facts had been uncovered. The instructions had the unintended consequence, however, of reducing the ability of the DDA and Detective to follow normal practice and review the case with other personnel within the DA's Office.

It was and is a consistent part of the daily practice of the DA's office for ADAs and detectives to discuss ongoing cases with their colleagues and peers, creating an informal system of checks, balances, and strategic ideas that may help to reduce errors. By including others and discussing cases, these law enforcement professionals get the benefit of the training, experience, perspective, and knowledge of other highly trained professionals. ADAs and detectives use their colleagues as additional "eyes" on a problem, to get other opinions, and to identify factors in the case that the assigned ADA might have missed or to which improper weight might have been given. In this instance, the instruction from the DA Office's leadership to limit intra-Office communication about the case had the unintended consequence of removing this case from that informal "peer review" process. As a result, the lab report in question was not carefully reviewed by other personnel within the office, one of whom could reasonably have identified the interpretive error before it was relied upon by the investigative team. There are no facts suggesting that the

interpretive error regarding zolpidem was intentional. Rather, available information demonstrates that the ADA and Detective acted in good faith throughout the case.

V. THE RCA TEAM'S RECOMMENDATIONS FOR CHANGE

RCAs are collaborative processes that benefit from a team approach. RCA investigative team members must be carefully assigned; have clearly defined roles; continually question facts, hypotheses, and conclusions; and encourage outside input and supervision throughout the investigation. Such a responsibility is necessary to guard against "confirmation bias," in which an investigator following a hypothesis gives unwarranted weight to facts that agree with one's own hypothesis and/or minimizes or disregards nonconforming facts.

Proper interpretation of data gathered during an investigation is mandatory, particularly in cases where information is received from multiple, disparate sources, often in non-standard formats. In the case at issue in this RCA, inaccurate conclusions were drawn from a single laboratory report. Contributing factors included an unfamiliar report format, an initial explanation of the report's contents coming from a layperson rather than a medical expert, failure to consult relevant laboratory personnel, and minimal communication between the investigative team and supervisors caused by concerns over leaks regarding details about the investigation before its conclusion. Such communication failures suggest a role for a "devil's advocate" independent of the investigation to further challenge existing assumptions and ensure that all data is fully tested. Such advocates would also help ensure that charging and other decisions are based only on provable facts.

ADAs in Montgomery County, like their colleagues in most jurisdictions throughout the United States, maintain hundreds of active case files simultaneously, and they bear responsibility for the outcome in each case. Therefore, measures must be in place to ensure that errors do not occur due to excessive case management burdens.

A. *Implementation of Best Practices*

Best practices concerning criminal investigative matters are extremely challenging to implement, maintain, and enforce in Montgomery County. This difficulty can be attributed to the existence of forty-nine independent and largely autonomous police departments within Montgomery County. Only the MCDB is under the direct management of the DA's Office, and thus in virtually all other instances, the implementation of best practices in the investigation of crime is entirely in the discretion of senior management for the police department in question. The DA's Office may directly implement best practices within the MCDB, but cooperation from police chiefs and the community is essential to effectuate county-wide changes. Significant measures thought to be immediately available include refinements in charging decisions, review teams, and training programs to help ensure accurate and appropriate case outcomes.

B. *Charging Determinations*

The DA's Office often advises law enforcement personnel regarding charging decisions such as whether criminal offenses should be charged, and if so, which offenses are appropriate. New policies were implemented so that supervisory prosecutors—whose duty it is to ensure that charged offenses are appropriate under the circumstances and supported by sufficient evidence—advise police requesting consults for charging decisions. Pilot programs, including training for prosecutors and law enforcement partners were developed for early case review and prosecutorial approval of charges in the busiest jurisdictions.

C. *Investigative Review Teams*

Within the MCDB, review teams were formed to facilitate communication between personnel, allowing for better critical evaluation regarding investigative matters. Local criminal procedure rules were adopted so that the police must obtain prior approval from the DA or an approved ADA for search warrants and for filing certain criminal charges with regard to sex offense and homicide cases. Further, documents that contain technical information or other specialized data require independent review by objective and competent experts in that specialty before they are used in court or elsewhere. A network of available experts will be identified and maintained, all of whom are available on an "as-needed" basis.

D. *A Just Culture*

The RCA team considered how to integrate a culture that balances transparency and "blame-free" support of good-faith, conscientious actors—who may from time to time, nonetheless, make an unintentional mistake—with individual accountability and an awareness of the complexity of the job. Learning from errors cannot happen without awareness of errors, which requires a "just culture" that addresses the mistake and accurately assesses the responsibility of the individuals involved. Individuals performing their duties in good faith will be mentored when possible and receive support, thereby improving the entire system. However, those individuals who act recklessly or wrongfully will be trained, disciplined, and, when appropriate, terminated from the District Attorney's Office.

VI. RECOMMENDATIONS ADOPTED BY THE MONTGOMERY COUNTY DA'S OFFICE

A. *Restructuring and Staff Proposals*

1. *Bureau Accreditation and Implementation of Best Practices: Chief and Deputy Chief County Detectives*

The RCA identified the need for formal accreditation of the MCDB as part

of the development of best practices regarding its investigative systems. The accreditation will be from the Pennsylvania Law Enforcement Accreditation Program, introduced by the Pennsylvania Chiefs of Police Association in 2001.[70] Since then, 300 agencies have enrolled, and 96 agencies have become accredited, including the Montgomery County Sheriff's Office and many other local police departments within the county. The DA's Office has begun the process to obtain accreditation for the MCDB.

Accreditation has long been known to help with the evaluation and improvement in the overall performance of law enforcement organizations. The keystone of accreditation as an organizational improvement tool lies in the development of standards setting out clear professional objectives. Accreditation requires the MCDB to establish an enhanced framework for evaluating agency practices and procedures. Accreditation has also been shown to increase employee productivity and reduce the risk of lawsuits, with the expected decrease in liability insurance expenditures.[71] In short, accreditation provides a foundation for enhanced public accountability and transparency.

The Chief and Deputy Chief County Detectives were both noted to have received extensive training concerning law enforcement investigations and matters related to professionalism. Both are intimately familiar with office structure, office personnel, and the necessary elements for criminal prosecution. As such, each of them was deemed capable of identifying best practices to strengthen the MCDB's underlying investigations. Further, their existing job position descriptions provide sufficient independence and authority to implement necessary best practices within the Bureau.

Therefore, the Chief and Deputy Chief of the Detective Bureau were assigned main responsibility for establishing and enforcing investigative-related procedures throughout the Bureau to ensure investigative accuracy and integrity. Likewise, the Chief and Deputy Chief are also responsible for obtaining Bureau accreditation from the Pennsylvania Chiefs of Police Association.

Integrity-related measures have been found to be most effective when directed toward the entire investigative and prosecutorial process, as significant criminal investigations often continue after arrest through trial. Investigative actions that occur within this context can only be addressed in a meaningful fashion by select personnel, such as the Chief and Deputy Chief, who possess not only the sufficient authority, but also broad familiarity with office structure, attorneys, and the necessary mechanics of case prosecution. Traditionally, the Chief and Deputy Chief have been expected to focus their duties and to direct their daily activities toward the management of criminal investigations and the immediate supervision of Bureau personnel. Expanding the responsibilities of the Chief and Deputy Chief Detective to include identification and implementation of best practices for improving investigative accuracy and

70. *See PCPA Accreditation Program*, PA. CHIEFS OF POLICE ASS'N, http://www.pachiefs.org/pcpa-accreditation-program [https://perma.cc/9G4D-2FZK] (last visited Nov. 13, 2016).

71. *See id.*

responsibility for accreditation efforts was considered to represent an effective and appropriate extension of their respective positions.

2. *Deputy District Attorney for Professional Standards*

The internal review conducted by the Investigation Team, as well as the RCA conducted by the RCA Team, suggested that the most effective method to ensure investigative accuracy and appropriate prosecutorial outcomes would be to implement systems and controls as front-end system checks. As a result, a new Deputy District Attorney (DDA) for Professional Standards was established to implement these checks and was envisioned as an alternative to the concept advanced by a small number of district attorneys throughout the county—the formation of Conviction Integrity Units (CIU). CIUs review cases where newly discovered evidence suggests that an inaccurate conviction might have occurred. These units are exclusively reactive in nature, and while post-conviction reviews are certainly needed, they can only redress past errors.

The RCA further determined that prosecutors have insufficient time to properly focus on "blunt end" arrest and charging determinations. Additional experienced, unbiased personnel are needed to adequately conduct case status reviews before charging decisions are made. Such reviews would ideally include examination of the sufficiency of case evidence, efforts to ensure accurate charging, checks on prosecutorial discretion and strategy, and compliance with legal and ethical obligations. All are necessary to ensure appropriate outcomes.

In order to effectively ensure the prosecutorial integrity of all criminal cases, regardless of subject matter or specialization, the DA's Office established a Deputy District Attorney (DDA) position responsible for implementing and enforcing Professional Standards. This DDA serves as an ombudsman, operating independently from existing units and divisions in order to maintain objectivity. The DDA has been granted sufficient authority to evaluate all cases within the Office, implement meaningful review processes, and take necessary action to ensure appropriate investigative and prosecutorial outcomes. The new DDA assesses decisions made by prosecutors, including supervisory personnel and reports directly to the District Attorney and First Assistant District Attorney.

The Professional Standards DDA satisfies the critical need of front-end review by reviewing investigative findings and charging decisions. This individual evaluates cases that have not had the benefit of prior supervisory review and serves as a resource to address particular complaints or concerns about specific cases. Finally, this DDA implements procedures to identify and analyze "near misses," in an effort to continuously improve existing best practices.

3. *Assistant Chief of Trials Division, Assistant District Attorney*

The Trials Division is the largest Unit within the DA's Office, consisting of twenty-nine Assistant District Attorneys. In response to the RCA, the Office

created a new mid-level supervisory position, Assistant Chief of the Trials Division. The new Assistant Chief assists the Chief with supervising all Division personnel and has supervisory authority over the other prosecutors assisted by eight Unit Captains. Most cases prosecuted within Montgomery County are assigned to ADAs within the Trials Division. The Division's attorneys average in excess of two hundred cases, although some individuals may be responsible for more than four hundred cases.

The DA's Office considered whether such caseloads were inappropriate and might contribute to errors in the administration of justice. Although the caseloads have remained constant for many years within the DA's Office, the management of the office ultimately determined that the appropriate action was not to increase the number of ADAs substantially. Instead, they chose a more measured response that would address the issue, while ensuring full attention to all relevant elements of existing cases. Consequently, the new Assistant Chief is also tasked with sufficiency of evidence determinations, workload assessments and serves in a similar "ombudsman" role to the DDA for Professional Standards, addressing those cases prosecuted within the Trials Division.

The RCA noted that the first review any ADA has of a criminal case is often at the file review stage, well after an arrest and shortly before a defendant's formal arraignment. At the earliest opportunity, cases require analysis and a determination on whether all charges are supported by sufficient evidence. The Assistant Chief of the Trials Unit is the senior level prosecutor working with the ADAs in the division and is ultimately responsible for making accurate determinations on sufficiency of evidence. When the evidence is deemed insufficient, the Assistant Chief exercises discretion not to prosecute. The Assistant Chief also oversees workload issues to ensure that individual caseloads are manageable and that each case receives appropriate attention. The Assistant Chief provides service as "devil's advocate," ensuring that cases are objectively evaluated before proceeding with further prosecution. Importantly, the Assistant Chief serves as a point of entry for those outside of the DA's Office requesting independent review for a specific case. Such requests might come from a law enforcement officer, a victim, a defense attorney, or a judge.

B. *Long-Term Quality Improvement Initiatives*

Measurement is a critical part of testing and implementing change. Recommendations generated by the RCA are only useful in improving the safety of a system if they are implemented and evaluated (and hopefully optimized) over time. Thus, quality improvement efforts focus not on individual events, but on measuring trends in relevant metrics that validate whether changes implemented lead to improvement. A combination of quantitative and qualitative data is more informative than either alone.

The criminal justice system, and prosecutors' offices in particular, is largely barren of metrics that evaluate whether a prosecutor or an office is a high quality minister of justice. Conviction rates and case management rates

provide some insight into the efficiency of the office's ability to gain convictions, but most participants agree that this is only one part of a prosecutor's role within the criminal justice system and within the community. Additional roles include validating appropriate investigation techniques and outcomes, protecting victims and helping them heal from their injuries, reducing recidivist behavior, and ensuring appropriate sentences. In measurement science, there is a concept of balancing measures.[72] As one example, conviction rates could be balanced by post-conviction exonerations. Thus, no metrics exist to measure fully the recommendations implemented by the DA's Office in this instance.

VII. LIMITATIONS

The RCA process has been criticized for a number of reasons.[73] Four elements have been suggested as preventing optimization of the RCA process in further decreasing errors.[74] These obstacles are not unique to healthcare, are equally applicable to the law, and should be considered by any organization seeking to implement an RCA process. First, the process of performing an RCA lacks standardization from organization to organization. Second, RCA teams are not always successful at identifying the root cause for why an event truly occurred. Third, the causes identified in the RCA may be difficult, if not impossible, to implement. Lastly, RCAs may be conducted independently, with each root cause uniquely addressed, and no attempt to identify trends that could be addressed systemically.

There were also shortcomings in the RCA as described here. Although the Montgomery County RCA addressed a number of issues, it was not possible to explore fully every learning or RCA precept. To solve the widest range of issues, RCAs should include involved personnel as team members for insight regarding the error. RCA interviews are more susceptible to recall bias, and direct observations of workflow and processes are useful but time consuming. Involved personnel might relate what they thought was the right answer and not necessarily workflow as practiced. For this reason, participation should be voluntary, with no individually-identifiable participant information recorded. Attorneys, in particular, could add important viewpoints regarding the sustainability and effectiveness of proposed RCA solutions. There is evidence that staff members attribute effectiveness and sustainability to those solutions involving training, policy, and compliance.[75] Because such recommendations require considerable administrative resources to implement it is important to

72. *See* Elizabeth Martinez et al., *Quality Improvement and Patient Safety*, in MILLER'S ANESTHESIA 92 (Ronald Miller ed., 8th ed. 2014).

73. *See* Jonny Taitz et al., *System-Wide Learning From Root Cause Analysis: A Report from the New South Wales Root Cause Analysis Review Committee*, 19 QUALITY SAFETY HEALTH CARE 63, 66–67 (2010), http://qualitysafety.bmj.com/content/19/6/e63.full.pdf [https://perma.cc/2B2Q-LJAE].

74. *See* Thomas Diller et al., *The Human Factors Analysis Classification System (HFACS) Applied to Health Care*, 29 AM. J. MED. QUALITY 181, 181–82 (2014).

75. *See* Hettinger, *supra* note 18, at 18–19.

assure their effectiveness. Consequently, direct workflow observations and cost-benefit analyses may be required to assess feasibility and ensure effectiveness rather than mere "user satisfaction." Lastly, to be truly effective, RCAs should be conducted expeditiously. The ideal in some healthcare settings is within seven days. Analyses temporally distant from errors are more likely to introduce errors in memory, relevance, and incentives to improve.

VIII. CONCLUSIONS

Application of the RCA process in a criminal justice context, as developed in other professions such as healthcare, aviation, and fire prevention, has the potential to produce an effective and sustained reduction of errors in the legal system. The process starts with the differing insights and experiences that the appropriate group of individuals brings to bear, including those with intimate knowledge of daily workflows. The RCA team must be committed to exploring the systems-level factors that created the error-prone environment, but with an appreciation of just culture[76] when evaluating the individuals who were involved with a given event. This RCA may serve as a blueprint for analysis of errors in many legal settings to determine if effective and sustainable learnings and their implementation can be applied to reduce future prosecutorial errors. Identifying and engineering systems-level solutions may prevent error-prone situations, creating sustainable and effective change and leading to the fairer administration of justice. In Montgomery County, the new positions of Deputy District Attorney for Professional Standards and Assistant Chief for the Trials Division are expected to provide an effective and efficient means by which to address quality control and to ensure appropriate case outcomes throughout the Montgomery County District Attorney's Office. In summary, the RCA found that front-end review and quality assessment are critical to accuracy and fairness, while ongoing review of cases is mandatory to help ensure, at all times, that the Montgomery County District Attorney's Office is operating at the highest levels of professionalism and accuracy.

76. *See* DEKKER, *supra* note 41, at 89.

RCA Name: MDA_Evidence	Event &Reported Date:		RCA Date:5/29/12		
Learnings	**Action Plan**	**Potential Impact**	**Accountable**	**Due date**	**Completed Date**
High-publicity case with potential for political pressure and potential for perceived conflict of interest. State AG declined to accept case.	Assess alternatives to MontCo investigation	Medium	DA/1st Asst DA		
	Develop protocol for assigning prosecutors and detectives to high profile cases. Experience working independently within a team structure and prior history with other team members is a positive.	High	DA/1st Asst DA		
	Develop supervisory team for high profile cases, including roles - devil's advocate, independent evidence review, definition of "high profile"	High	DA/1st Asst DA		
	Consider legislative approaches to standardizing cases.	Medium	DA/MontCo Legislative Lobby		
Process of gathering data was unusual because victim went to hospital before reporting allegations to police/DA. Hospital to hospital transfer, local rape procedures carried out, lab tests sent to non-MontCo lab.	Law enforcement decision on where to send victim for appropriate tests can standardize	Medium	County detectives		
	Standardization of processing victims across hospitals 'Name of the game, Keep things the same.'	High	DA/1st Asst DA		
	Develop process/protocol for hospital informing Montco DA (police?) of rape kit administration and results (within HIPAA)	Medium	Hospitals		
	Develop process for obtaining/archiving duplicate samples for analysis by preferred lab.	Medium	County detectives		
Points of communication about lab data were unusual and DA's first contact was from victim, who was not an expert. Hospital nurse spoke to victim; victim misunderstood conversation; victim relayed incorrect information to county detective.	Develop process for communication with hospital - consent to disclose form.	Medium	County detectives		
	Develop process for independent verification of victim statements.	High	County detectives		
	Develop process for independent verification of victim statements.	High	DA/1st Asst DA		
Neither investigator nor Asst DA independently verified lab data.	Make current process more explicit, or re-educate staff.	High	DA/1st Asst DA		
	Develop teams who can anticipate/complement each other's work.	Medium	DA/1st Asst DA		
No independent review within DA's Office but outside investigation team of data submitted to GJ.	Consider meaningful evaluation of data by someone outside investigation team (perhaps even outside MontCo DA's office) during investigation stage. Medical expert or defense attorney on call to act as interpreter/devil's advocate	Medium	DA/1st Asst DA		
	Ensure each member of investigation team is comfortable questioning conclusions and actions of the other members of the team, and reporting concerns upward	High	DA/1st Asst DA		
	Formalize process for review of data during investigation stage	High	County detectives		
Media scrutiny led to communication problems.	Identify chains of communication when leaks are a concern; 'Who do you trust?'	High	DA/1st Asst DA		
	Protocol for who investigation team can speak to on cases with media attention	Medium	DA/1st Asst DA		
	Protocol for calls coming in inquiring about case status to non-investigation team personnel	Medium	DA/1st Asst DA		

TABLE: DRAFT ACTION PLAN