American Criminal Justice Reform: Human Factor Analysis in Wrongful Convictions and the Need for an Independent Commission

By Brittany L. Walter*

“All humans err frequently. Systems that rely on error-free performance are doomed to fail . . . . Error is an inevitable accompaniment of the human condition, even among conscientious professionals with high standards. Errors must be accepted as evidence of system flaws not character flaws.”¹

An oft cited reference to the American criminal justice system pronounces that it is better if ten guilty go free than one innocent suffer.² Indeed, from a young age we are instructed that defendants are “innocent until proven guilty,” forming the presumption that our system is set up to err on the side of innocence. We must begin with the critical recognition that the American criminal justice system is just that, a system comprised of multiple components, layers, and people.

Like an airplane crash or an accidental death produced through medical error, the conviction of the innocent is a human catastrophe. Yet, unlike the aviation and medical industries, thus far, the American “criminal justice system exempts itself from self-examination.”³ Instead, once a wrongful conviction is ruled, often no further inquiry is

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* J.D., University of San Francisco School of Law (2018); B.S., Political Science and Foreign Area Studies, United States Air Force Academy (2005). The author would like to thank Professor Richard Leo for his guidance and encouragement throughout the development of this paper. Also, endless gratitude to Madeleine Patton and the University of San Francisco Law Review for all of their hard work in preparing this piece for publication. Most importantly, the author thanks her spouse and children for their loving support.

made to determine the cause of the error or address future prevention of similar grave mistakes. According to the National Registry of Exonerations since 1989 there have been over 2000 people exonerated, whose convictions were overturned based on new evidence that proved their innocence. It is through these cases that we have been able to identify that the process or the system produced a wrongful conviction.

The purpose of this comment is to review currently existing models of post-conviction review, as well as institutionalized review commissions employed in other industries, in order to propose and ultimately define the need for the formation of an American innocence commission capable of initiating systematic criminal justice reform. This comment argues the need for an independent, national review commission for wrongful convictions. Section I begins by briefly outlining the prevalence of wrongful convictions, including identified practices that contribute to a majority of the cases. Section II then addresses current reform initiatives in American jurisdictions, as well as institutional reforms established in other countries. Section III of this comment analyzes the success of independent review commissions available in other industries. Section IV analogizes their possible application to criminal justice reform, ultimately highlighting the need of a hybrid commission that has the power to both review and adjudicate claims of factual innocence, as well as collect data to identify national trends and propose reform.

I. The Wrongful Convictions Problem

The introduction of DNA evidence revealed the fallibility of the criminal justice system in the United States; since 1989, DNA has been used to exonerate at least 341 individuals of crimes for which they were wrongfully convicted. The story of Kirk Bloodsworth, the first person in the United States to be exonerated by DNA evidence, is a stark illustration of such evidence inaccuracies. In 1984, the gruesome rape and murder of Dawn Hamilton, a nine-year-old girl, rocked

a small-town community in Baltimore County, Maryland.\textsuperscript{8} Two years later, Kirk Bloodsworth was convicted of the rape and murder of Hamilton and sentenced to death.\textsuperscript{9} However, Bloodsworth’s conviction was overturned by the Maryland Court of Appeals upon discovery that the prosecution had failed to reveal exculpatory evidence, that included the presence of another suspect.\textsuperscript{10} Yet, Bloodsworth was retried, convicted again, and sentenced to two life terms.\textsuperscript{11} The second conviction rested on the same evidence that proved damning at the first trial, the faulty eyewitness testimony of five witnesses who placed Bloodsworth either near the victim or near the crime scene.\textsuperscript{12} In 1993, after spending nearly a decade in prison, DNA evidence excluded Kirk Bloodsworth as the perpetrator behind Dawn Hamilton’s murder.\textsuperscript{13} Kirk Bloodsworth’s case shows “the fact that it has been proven, with near certainty, that a man had been wrongly sent to death row was a monumental occurrence.”\textsuperscript{14}

Yet, as would soon unfold in the annals of American history, Kirk Bloodworth’s case was the mere beginning of the impact of DNA evidence and the insight it provided into a flawed justice system and the once-unthinkable pervasiveness of wrongful convictions. Most scholars agree that such convictions, revealed through DNA evidence, represent only the “tip of the iceberg.”\textsuperscript{15} While it is astonishing that the American criminal justice system, a product of an advanced society, has produced over 2000 wrongful exonerations since 1989 alone,\textsuperscript{16} research suggests that even this number may be a mere starting point.\textsuperscript{17} Why? “False convictions are notoriously difficult to study because they can neither be observed when they occur nor identified after the fact by any plausible research strategy.”\textsuperscript{18}

Furthermore, false convictions are especially concerning because exonerations are heavily concentrated among the most serious and

\begin{itemize}
  \item[9.] Norris, supra note 7, at 58–59.
  \item[10.] Id. at 59.
  \item[11.] Id.
  \item[12.] Id. at 58–59.
  \item[13.] Id. at 59.
  \item[14.] Id.
  \item[15.] Roth, supra note 6, at 738.
  \item[16.] Exonerations by Year: DNA and Non-DNA, supra note 5.
  \item[17.] See Samuel R. Gross, What We Think, What We Know and What We Think We Know About False Convictions, 14 Ohio St. J. Crim. L. 753, 753 (2017) [hereinafter Gross, What We Think].
  \item[18.] Id. at 753.
\end{itemize}
violent crimes, “murder, rape, and sexual assault comprised approximately 96 percent of known wrongful convictions” between 1989 and 2003.19 This may be a result of the simple fact that “many more resources are devoted to re-examining the guilt of defendants who are convicted of murder.”20 Indeed, the rate of exonerations is highest among death sentences than for any other category of criminal convictions.21 Some scholars suggest an individual’s chances of exoneration for a capital murder conviction are decreased once they are taken off of death row.22 While it may be that convictions for violent crimes are more prone to error, the discrepancy in the exoneration rate compared to that of non-violent crime is exceptional, as “[n]on-violent crimes comprise more than 80% of felony convictions but fewer than 20% of exonerations.”23 Instead, it is likely that most people convicted of non-violent crimes and sentenced to comparatively short sentences, do not invest the time, money, and effort required to secure an exoneration.24

Moreover, in guilty pleas, where a defendant pleads guilty to their offense without going to trial, usually for the promise of leniency, account for 95% of felony convictions.25 Yet, guilty pleas account for only 10% of known exonerations.26 It may be hard for us to imagine someone pleading guilty to a crime they did not commit but consider this scenario: an individual is arrested for a relatively minor drug infraction. Based on their previous criminal record, bail is set comparatively high. The defendant has two choices. The first is to remain in jail for months before trial, remain separated from family and friends, face the possibility of losing a job because of missed time and risk being sentenced to prison if convicted. In the alternative, the defendant can accept a deal to plead guilty and go home immediately. The latter choice is more appealing.

In 2014, the head of the Harris County, Texas post-conviction review section noticed a disturbing trend in cases where the defendants pled guilty to possession of illegal drugs, however, subsequent reports

22. See id.
24. Id.
25. Id. at 777.
26. Id.
from the crime lab revealed that the materials seized contained no controlled substances.27 The Harris County crime lab took action and began to test the materials seized from the defendants who plead guilty.28 Since the initiation of such testing, 133 defendants have been exonerated.29 Thus, in a single county, in less than three years, for drug violations alone, over 133 individuals plead guilty to crimes they did not commit, likely so they could avoid jail time. It does not appear that there is any other office in the United States that systematically tests the materials seized from defendants who plead guilty.30

In addition to the guilty plea phenomenon explained above, the innocence movement is “a conglomeration of advocacy organizations, lawyers and legal activists, exonerees and their families, journalists, students and legal practitioners who believe that wrongful convictions are common and deserve attention on a large scale.”31 The innocence movement has identified several widely-used methods and procedures proven to be incredibly biased against defendants and appear in nearly all wrongful conviction exonerations. These factors include eyewitness misidentification, misapplication of forensic science, false confessions, and the use of informants. The most common contributing factor to wrongful convictions, accounting for up to 72%, is eyewitness misidentification.32 Much like an innocent defendant pleading guilty, the occurrence of misidentification seems to defy logic. Yet, a landmark report released by the National Academy of Sciences (“NAS Report”) identifies the fallible human memory is easily influenced by such things as inadvertent or direct cues from the police officers, cross-racial identification requests, and inherently suggestive police procedures.33

Similarly, post-DNA exonerations have identified serious problems with the misapplication of faulty forensic “science,” the experience of false confessions, and reliance on informant testimony.34 Indeed, there is evidence to suggest that commonly employed police

28. Id.
29. Gross, What We Think, supra note 17, at 776.
30. See Cassidy, supra note 27.
33. See id. at 735–41.
34. See id. at 742–60.
and prosecution techniques yield inaccurate results. For example, in 2015, the Federal Bureau of Investigation admitted that 90% of forensic examiners gave faulty testimony regarding hair matches in 2500 criminal cases between 1972 and 1999.

Despite this evidence, little has been done to effectuate broad, systemic reform to remedy these issues, and thus, to mitigate the occurrence of wrongful convictions. As an illustration, more than two dozen people have been wrongfully convicted or arrested based on bite mark evidence, which is strongly criticized as inaccurate by multiple scientific bodies. Yet, “not a single court in the United States has upheld a challenge to bite mark evidence.”

The prevalence of wrongful convictions in the United States is no longer deniable and current reform mechanisms, where they exist, are inadequate to deal with this issue. Preventing wrongful convictions from occurring in the future requires the implementation of a systematic approach to criminal justice reform, drawing examples from both current post-conviction review units in other jurisdictions as well as review mechanisms utilized in other industries.

II. Post-Conviction Criminal Review Models

A. The Canadian Criminal Conviction Review Group

Much like that of the United States, the Canadian criminal justice system has had to face the problem of wrongful convictions. Yet, Canada’s response has been drastically different as “significant exonerations [in Canada] have not been followed by the official silence that has greeted most American exonerations . . . . the government has taken the mistakes seriously, viewed them as necessarily the product of a flawed system rather than insignificant aberrations, and has made a serious effort to remedy the problem.” For example, following the 1995 DNA exoneration of Guy Paul Morin, the Province of Ontario ordered “an unprecedented top-to-bottom examination of its criminal

35. See id.
38. Id.
39. Findley, supra note 4, at 342.
justice system,” culminating with a two-volume, 1400-page report that identified 119 specific recommendations spanning all aspects of the system.40

Within its Department of Justice, Canada maintains a Criminal Conviction Review Group (“CCRG”), consisting of lawyers who review convictions to determine whether there is a sufficient basis to conclude that a “miscarriage of justice likely occurred.”41 Applicants are required to submit supporting documents containing “new and significant” information to establish such a miscarriage has occurred.42 Information is deemed sufficient if the CCRG finds it is believable and it could have affected the outcome of a guilty verdict if presented at trial.43 If such evidence is found, then an investigation follows and the CCRG publishes findings in a detailed report with recommended remedies.44

This is not to say that the Canadian conviction inquiry system is perfect. The inquiries do not appear to result in a formalized mechanism for future prevention and not all of the recommendations have been adopted.45 Yet, the mere acknowledgment that such an inquiry is necessary inherently recognizes the severity of the issue. While not all recommendations produced by such inquiries have been implemented, many changes have been made.46 For example, following the notable exoneration of Donald Marshall Jr., the conviction inquiry recommended that the prosecution be required to “disclose useful information to the accused.”47 Even though Parliament did not amend the Criminal Code, in 1991 the Supreme Court cited the Marshall case and the inquiry’s report in creating a “broad constitutional right for the accused to receive disclosure of all relevant and non-privileged information in the prosecution’s possession.”48 Additionally, two other commission-recommended reforms were subsequently implemented: (1) the appointment of a Director of Public Prosecution to supervise all prosecutions and (2) the law school in Nova Scotia began

40. Id.
42. Id.
43. Id. at 491–92.
44. Id. at 492.
46. See id. at 1479.
47. Id. at 1478.
48. Id. at 1478–79.
promoting the training of Aboriginal and African-Canadian minorities.49

While perhaps not perfect, the Canadian wrongful conviction inquiry process appears light years ahead of the response offered by many American jurisdictions, that is the general acquiescence to the idea that a wrongful conviction is the product of complete anomaly, rather than a possible systematic failure. As a whole, the Canadian process of identifying and rectifying wrongful convictions is strengthened by its government-funded independent status, its broad investigative powers, and its ability to review new evidence.50 Yet, its powerful adjudicative functions for individual cases has not translated to overall reform aimed at reducing wrongful convictions in the future.51 For example, the Canadian Criminal Code remains silent regarding proper procedures for eyewitness identifications and the recording of interrogations despite ample evidence of the power such procedures possess to reduce the risk of wrongful convictions.52 Political pressures from both liberal and conservative governments have resisted such reforms.53

The model commission that this Comment seeks to propose offers a more holistic approach to the problem of wrongful convictions based on the recognition that simply adjudicating and rectifying past wrongful convictions is a mere starting point. The overall goal is to effectuate systematic reform to reduce the overall risk of wrongful convictions in the United States. With the understanding that it is currently impossible to identify all wrongful convictions once they occur, the only acceptable alternative is to prevent them altogether. Thus, the ability to institute reform is a critical component of an exemplary process, it is clear that the current Canadian model lacks such capacity.

B. The British Criminal Cases Review Commission

In 1997, Great Britain established the Criminal Cases Review Commission (“CCRC” or “the Commission”) to act as a formal, independent government body charged with investigating suspected mis-

49. Id. at 1479.
50. Id. at 1482.
52. Id.
53. Id. at 293–94.
carriages of criminal justice in England, Wales, and Northern Ireland.54 The Commission maintains authority to review and independently investigate claims and may then refer cases to the appropriate appellate court or recommend a Royal Pardon to the Home Secretary.55 The CCRC is mandated to refer cases to appellate review where there is a real possibility, that is “more than an outside chance or a bare possibility, but which may be less than a probability or likelihood or a racing certainty,” that the conviction, verdict, finding, or sentence would not be upheld were the reference to be made.56

Between its induction in April of 1997 and September of 2018, the CCRC has completed a review of 23,366 cases.57 Of those, it referred 653 cases to appellate review, roughly 2.8% of the reviewed cases.58 Further, approximately 70% of referred cases resulted in either completely overturned or modified sentences.59 Notably, the standard used on such appeals is low as the Court of Appeal will overturn the conviction if the Court maintains a “lurking doubt” regarding the validity of the conviction.60 By comparison, the standard utilized in American jurisdictions is that of reversible error, whether the error creates a reasonable possibility that the trial would have resulted in a different outcome absent the error.61

In addition, the CCRC has broad powers to conduct an independent investigation and is authorized to view newly discovered evidence, including scientific developments or debunked “junk science.”62 In the United States, on the other hand, although every defendant is entitled to an appeal as a matter of right, appellate courts are generally limited to evidence adduced at trial and are focused on remediying the legal or judicial error, not the factual error.63

54. Findley, supra note 4, at 344.
55. Id. at 344–45.
56. Id. at 345.
58. Id.
60. Id. at 115.
63. Griffin, The Correction of Wrongful Convictions, supra note 61, at 1271.
In sum, the CCRC’s broad investigatory powers and relaxed standard on appeal have certainly led to a greater percentage of overturned convictions, as compared to many other models. Further, the institutional credibility behind such identifications highlights patterns and draws attention to issues prevalent in the wrongful convictions atmosphere. Yet, similar to the Canadian model, the focus of the British Commission is to identify and correct individual mistakes. Though one could argue that it creates a “climate of enhanced receptiveness to reform,” the CCRC is not focused on identifying system-wide deficiencies and prevention methods. Thus, just as the Canadian model does not provide a perfect solution to the problem of wrongful convictions, the CCRC is not a complete or sufficient remedy.

C. The Norwegian Criminal Cases Review Commission

Established in 2004, the Norwegian Criminal Cases Review Commission (“NCCRC” or “the Commission”) is a combination of an innocence-type project and an appellate court. As a state-funded administrative body, it possesses the authority to make decisions regarding the reopening of cases, as well as the responsibility to investigate further as deemed necessary. Importantly, Commission members are not politically appointed and, at least theoretically, operate outside both the political and legal realm.

At the end of 2016, the NCCRC had received 2134 petitions for reexamination since its establishment in 2004; 262 of the cases were reopened, accounting for approximately 12% of the cases received. Reopened cases are referred for retrial in a district court other than the district court that imposed the original conviction; as of 2012 the outcome of these new cases showed that 82% led to a complete exoneration, while 17% led to a part exoneration.

Like its British and Canadian counterparts, the NCCRC focuses on reviewing individual cases, instead of identifying and recom-

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64. See Griffin, *Correcting Injustice*, supra note 59, at 108.
67. Id.
68. Id.
70. Stridebeck & Magnusen, * supra* note 66, at 1383.
mending broad reforms to the criminal justice system. However, in response to identified wrongful convictions, the Norwegian Parliament mandated a commission to investigate the causes and identify necessary changes to the system to prevent future mistakes. Further, the institutionalized conviction review seems to add legitimacy to the process and has resulted in significant compensation given to exonerates. Though Parliament has previously responded proactively to the identification of a wrongful conviction, there is no formalized process for doing so, and past performance cannot predict future outcomes. Again, although the Norwegian model provides a model post-conviction review for singular claims, it does not go far enough to effectively and systematically prevent wrongful convictions in the future.

D. North Carolina Innocence Inquiry Commission

Currently, North Carolina is the only jurisdiction in the United States with a permanent, independent, and state-funded commission that reviews wrongful convictions. Since the commencement of its operations in 2007, the North Carolina Innocence Inquiry Commission (“NCIIC”) has received over 2000 applications for review, resulting in only ten exonerations. The commission’s review is limited to claims from or on behalf of living persons convicted of felonies in a North Carolina state court.

Its predecessor, the North Carolina Actual Innocence Commission (“NCAIC”) was started in the face of high-profile wrongful convictions in an effort to identify the causes of such occurrences and to prevent them from happening in the future. The NCAIC drafted critical criminal justice reform legislation, including the requirement of recording interrogations. In addition, it also suggested strict police standards for eyewitness identification procedures as well as the mandatory preservation of and access to DNA evidence in post-convic-
tion proceedings. Subsequently, the NCAIC narrowed its focus on establishing an independent body to review and adjudicate claims of wrongful convictions; this was the start of the NCIIC.

For the most part, the NCIIC enjoys bipartisan political support because of its insistence on factual innocence. However, its review authority is substantially limited, as the insistence on factual innocence, "runs the risk of wrongful convictions evaporating as a high-profile issue if DNA tests are used in the minority of cases that involve DNA evidence." Indeed, while "the moral and legal claims of the factually innocent are undeniable, in many cases it will simply be impossible to establish factual innocence."

As the first of its kind in America, the NCIIC represents an important step toward reform, it is an inherent recognition of the problem of wrongful convictions, and a standing, independent body poised to adjudicate claims of such. Furthermore, its full statutory authority to compel document production is an improvement on the CCRC model, which only has the authority to compel documents from public bodies. Yet, its authority is severely constrained by both an insistence on factual innocence and a high standard of "clear and convincing evidence" required for reversal. This is likely why the commission has received over 2000 applications that have resulted in only ten exonerations. Much like the models discussed above, while the NCIIC has served the critical function of addressing individualized claims of innocence, the NCIIC was not established the same function initially carried out by the NCAIC, to advocate and implement systematic reform.

In sum, all of the above-presented models lack vital functions necessary to rectify the problem of wrongful convictions, including a method of data collection used to identify system-wide deficiencies, established reform recommendations, and ensured implementation. The following section considers other American industries which have

78. Id. at 149.
79. Id.
81. Id. at 301.
82. Id.
84. Id. at 1372 (citing to N.C. GEN. STAT. § 15A-1467(d)-(f) (2006)).
85. THE NORTH CAROLINA INNOCENCE INQUIRY COMMISSION, supra note 75.
successfully implemented such data-collection mechanisms and fos-
tered industry-wide reform.

III. Lessons from Other American Industries

A. Aviation

The American aviation industry provides a model system of cen-
tralized oversight and reform. It is institutionalized and comprised of
two independent agencies that have government-mandated responsi-
bilities: the Federal Aviation Administration (“FAA”) that regulates fly-
ing and prescribes safety procedures and the National Transportation
and Safety Board (“NTSB” or “the Board”) that investigates aviation
accidents.86 Importantly, the NTSB is an independent federal agency;
thus, “investigations are neither motivated nor influenced by political
pressures or litigational interests.”87 Instead of blame, the Board’s fo-
cus is to determine causal factors and issue safety recommendations
to prevent future accidents.88 The investigation establishes no “fault” or
“liability” and indeed “[n]o part of a report of the Board, related to an
accident or an investigation of an accident, may be admitted into evi-
dence or used in a civil action for damages resulting from a matter
mentioned in the report.”89 On the other side, the Board has no regu-
latory authority; it cannot enact a law or regulation to address safety
deficiencies but can only issue recommendations to appropriate orga-
nizations (e.g., the FAA).90

The aviation accident investigation process has also evolved over
time to recognize and account for both mechanical failures as well as
those caused by “human factors.”91 For the former, after the comple-
tion of a typical accident investigation process, objective information
is entered into a “highly structured and well-defined” database.92 The
data is then analyzed to identify system-wide safety issues, provide

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86. Leape, supra note 1, at 1855.
87. Robert L. Sumwalt, III & Sean L. Dalton, The NTSB’s Role in Aviation Safety, NTSB
   Sumwalt_141020.pdf [https://perma.cc/8HDP-WJL5].
88. Id. at 1.
90. Sumwalt, III & Dalton, supra note 87, at 1.
91. See generally Douglas A. Wiegmann & Scott A. Shappell, A Human Error Analysis of
    Commercial Aviation Accidents Using the Human Factors Analysis and Classification System
    (HFACS), OFFICE OF AVIATION MEDICINE (Feb. 2001), https://www.faa.gov/data_research/
    research/med_humanfacs/oamtechreports/2000s/media/0103.pdf [https://perma.cc/3MA3-M2CB]
    (discussing varying systems of evaluating human error and mechanical errors in aviation accidents).
92. Id. at 1.
feedback, and ultimately guide organizational safety improvement efforts. Based on these safety recommendations, common procedures are often standardized across the industry to the maximum extent possible through the use of protocols, checklists, etc.

As might be expected, however, the evidence involving human errors, as opposed to mechanical failures, is qualitative and elusive. Thus, with the recognition that human error is the primary cause of aviation accidents, the industry sought to establish an error framework adaptive to such evidence. The Human Factors Analysis and Classification System ("HFACS") draws upon the concepts of both latent and active failure, as it "describes human error at each of four levels of failure: (1) unsafe acts of operators (e.g., aircrew), (2) preconditions for unsafe acts, (3) unsafe supervision, and (4) organizational influences." Without such analysis, a large portion of accident causal factors remained unaccounted for in traditional safety investigation analysis. For example, to prevent mechanical or technical failures, pilots complete rigid pre-flight procedures, accounted for in checklists. However, if a pilot takes a shortcut (human factor error), then the chance of accident occurrence is increased. While individualized reform focuses on blaming the pilot for taking a shortcut, it completely misses the systematic root of the problem, the organizational pressure exerted from the supervisor to effectuate on-time departures. HFACS does not ignore this level of causation. Thus, the HFACS is designed to identify errors at all levels of implementation in order to increase safety.

In comparison, actual accidents only account for a fraction of errors, as data related to "near misses" were almost never accounted for in safety evaluations. In order to gather the appropriate data, the industry had to shift the focus from blame to organizational reform. The FAA recognized that "pilots seldom reported an error if it led to disciplinary action." Thus, the Air Safety Reporting System ("ASRS") created a confidential reporting system for safety infrac-

93. Id.
94. Leape, supra note 1, at 1855.
95. Wiegmann & Shappell, supra note 91, at 1.
96. Id. at 4.
97. Id. at 3.
98. Leape, supra note 1, at 1856.
99. See generally Wiegmann & Shappell, supra note 91.
100. Id. at 11.
101. Leape, supra note 1, at 1856.
102. Id. at 1855.
tions, “if pilots, controllers, or others promptly report a dangerous situation, such as a near-miss midair collision, they will not be penalized.”

Through the process outlined above, the safety of the aviation industry benefits from a wealth of knowledge, addressing both actual accidents and near-misses. The centralized reporting system allows for a broad capture of data and allows for the identification of systematic deficiencies. Most importantly to our purpose here, the analysis of errors includes the accounting for human error, not just technical criteria. “[I]n terms of system design, aircraft designers assume that errors and failures are inevitable and design systems to 'absorb' them, building in multiple buffers, automation, and redundancy.” This, in turn, has led to a more comprehensive safety analysis and more informed systematic reform.

B. Medicine

The medical quality movement has significantly evolved in recent years. Much like their professional counterparts in the criminal justice system, doctors and other medical personnel once viewed errors as isolated incidents and corresponding responses focused on incidents and individuals. Furthermore, errors were rarely admitted or discussed for fear “that admission of error [would] lead to censure or increased surveillance or worse, that their colleagues [would] regard them as incompetent or careless.” Finally, non-injurious errors (near-misses) were rarely examined at all. Thus, for years, medical quality pioneers argued, “only when errors are accepted as an inevitable, although manageable, part of everyday practice will it be possible for hospital personnel to shift from a punitive to a creative frame of mind that seeks out and identifies the underlying system failures.”

Then in 1999, the Institute of Medicine issued a landmark report, *To Err is Human: Building a Safer Health System.* The report indicated “that as many as 98,000 people die annually as the result of medical errors” and its conclusions “galvanized a dramatically expanded level

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103. Id.
104. Id.
105. Id.
106. Id. at 1851.
107. Id. at 1856.
108. Leape, supra note 1, at 1856.
109. Lucian L. Leape & Donald M. Berwick, *Five Years After to Err is Human What Have We Learned?*, 293 JAMA 2384, 2384 (2005).
of conversation and concern about patient injuries in health care.”

In addition to highlighting the full scope of the problem, the report helped the medical community shift its perspective on error prevention to one of systematic deficiency rather than individual blame. “The concept that bad systems, not bad people, lead to the majority of errors and injuries, which is a crucial scientific foundation for improvement of safety in all successful high-hazard industries, has become a mantra in health care.” Furthermore, the report’s findings piqued the interest of Congress, and in 2001 Congress allocated $50 million annually for patient safety research.

While the quality assurance model in medicine is still evolving, drawing from the aviation example, medical quality pioneers have begun by recognizing that “the mix of human beings and complex technologies [is] dominated by the impact of human performance, not by the reliability of technological innovations.” Ultimately, this shift in approach has decreased the pressure on practitioners to admit mistakes, provided a method for documentation and analysis of failure, resulting in improved processes, systemic reform, and finally a critical increase to patient safety.

The inclusion here of the American medical and aviation models of data collection is to highlight two other high-risk industries who have recognized the importance of human factor analysis in rectifying error industry-wide. Surgeons and pilots are highly-capable and extremely well-trained individuals, and yet they are capable of making mistakes that result in catastrophic consequences in the form of lost life. Much in the same way, our society relies on the ability of capable criminal investigators, prosecutors, defense attorneys, and judges to effectuate the administration of justice. Yet, any analysis of criminal justice reform has failed to methodically collect and analyze data with a sufficient focus on human factors within the criminal justice system. Further, even where we have identified high levels of potential cognitive bias (e.g., flawed eyewitness identification procedures), there has been no resulting comprehensive reform across all American jurisdic-

110. Id.
111. Id. at 2385.
112. Id.
113. Id.
tions. The following section proposes a model Innocence Commission incorporating the lessons gleaned from error analysis in these industries.

IV. The Need for an Independent Innocence Commission

Founded in 2012, the National Registry of Exonerations documents the growing number of accounts of wrongful convictions in America, seeks to identify factors leading to such convictions, and advocates for reform. Since 1989, there have been over 2000 documented wrongful convictions, amounting to more than 20,000 lost years innocent people spent imprisoned. Much like the aviation and medical industries, the criminal justice system is an enterprise “in which even a low rate of error can result in catastrophic costs.” The current state of solutions is fragmented, inconsistent, and wholly inadequate to prevent these tragedies. The failure to institute proper reform is likely rooted in the characteristic focus of blame on those involved, invoking a form of self-protective resistance from prosecutors, police officers, and others involved in the process. Thus, the internal, self-evaluating mechanisms are understandably protective and perhaps biased. Even affording utmost deference, it may simply be that “those inside the system are generally unable to see their own errors, much less confront them.”

The problem of wrongful convictions is no longer deniable and a national solution is required. The question remains, what type of solution is necessary? To start, the post-conviction review models described in Section II provide a critical function in addressing individual claims of innocence, a function completely absent from most American jurisdictions. Criminal justice reform in the United States is highly politicized, which is likely the reason that substantial reform has not yet materialized. Thus, the factual innocence-focused, NCIIC approach is most likely to succeed initially. Though wrought with potential downfalls as addressed above, a focus on cases of uncontroversial, factual innocence is more likely to gather bipartisan support. The ultimate objective, however, should be to institute a standard of review more closely related to the CCRC, where the board refers for appellate review any case with a “real possibility” of reversal. This more relaxed standard for referral allows a greater number of

116. Exonerations by Year: DNA and Non-DNA, supra note 5.
117. Id.
118. Doyle, supra note 115, at 118.
cases to be reviewed for accuracy at the appellate level and perhaps will result in a larger number of exonerations. Although the later approach may initially impact judicial efficiency, forcing a greater number of cases to appellate review, the long-term impact may stabilize as lower courts are forced to conduct a more complete initial review to avoid reversal.

Further, as the Norwegian model reflects, a nonpartisan, independent agency adds legitimacy to findings that makes compensation, apologies, and post-exoneration relief more amenable; it can be viewed not as the effort of one good defense lawyer or a botched prosecution but the product of a true finding. One other important aspect of the NCCRC is that reopened cases are referred for retrial in a different district from the one they were originally tried in. This approach separates original actors who may harbor strong incentives toward a particular outcome from the intended pursuit of truth finding. Also, the broad investigative powers espoused by all of the models above allow the commission to gather all essential information.

Nevertheless, despite the critical function performed by these adjudicatory-focused commissions, they are altogether inadequate to fully address the problem of wrongful convictions. A more holistic, systematic approach is necessary. Like NTSB investigations for aviation and the current process for medical quality assurance, “[t]he criminal justice system needs a workable facility to collect and disseminate detailed, reliable, factual accounts of helpful errors.” If history provides any insight into the willingness of local jurisdictions to commit to unbiased and objective reporting of error, even strong incentives may prove inadequate. Thus, this independent agency must be instituted at the national level, with sufficient resources and apolitical motivations focused on criminal justice reform.

Further, to effectively gather the information necessary for a complete data set (e.g., information regarding “near-misses”), we must find a way to incentivize disclosure. The approach embraced by the aviation and medical industries is also instructive to this end, the focus must shift away from individualized blame. Criminal justice errors should be analyzed as “organizational accidents,” where small mistakes and latent systemic conditions combine to produce catastrophic results.

120. Stridebeck & Svien, supra note 66, at 1383.
121. Doyle, supra note 115, at 130.
Finally, any error framework adopted must be adaptive to account for those errors produced by human factors. As realized in both the aviation and medical industries, any system that relies on human discretion and decision making is subject to fail at times. Even in an ideal scenario completely void of “bad” actors, certain human tendencies make it impossible to manufacture a completely unbiased system, capable of producing the correct result every time. “Even if we somehow accounted for every episode of perjury, laziness, and racism, and refined the formal legal standards and procedures to a high level of effectiveness, we would still reap a bitter harvest of tragedy that has its roots in everyday human mistakes.”122 For instance, cognitive bias, an extension of human factors analysis, is “not the product of intentional dishonesty or malice, but is simply a side-effect of the way in which human brains are wired.”123 This type of data realization, once embraced by all those involved, enables comprehensive system analysis of the contributing factors to the problem of wrongful convictions.

In sum, the United States needs to adopt an independent commission to address the problem of wrongful convictions. The various models discussed above instituted to address this problem, provide a mere starting point, a forum for evaluating claims of innocence and a method of vindication when required. Yet, they do not go far enough to provide a solution for wrongful convictions, as they contain no formalized mechanism for systematic data collection, analysis, and implementation of necessary reform. Indeed, as we would not accept as a final resolution to a string of deadly plane crashes to be monetary compensation to victims’ families; instead, we would demand an analysis of causal factors to prevent future accidents. So, too, we cannot settle for a solution which merely seeks to exonerate defendants wrongfully convicted of crimes, we must seek to prevent such convictions altogether.

V. Conclusion

The criminal justice system is just that, a system. In order to effectively design any system that involves human activities, the system must be set up to “make it difficult for individuals to err.”124 However, errors will inevitably occur. Thus, the system needs to “provide monitoring functions and build in buffers and redundancy.”125 Creating a safe

122. Doyle, supra note 115, at 147.
123. West & Meterko, supra note 32, at 733.
124. Leape, supra note 1, at 1854.
125. Id.
process not only requires education and training at every stage, but processes must be designed to account for human error.

Current reform mechanisms, if any, are inadequate to address the tragedy of wrongful convictions in our society. Though it may come at a cost, sacrificing accountability for information, a fundamental shift from a punitive focus must occur to gather both bipartisan support as well as the buy-in from individual actors. It is also true that use of a large aggregate national database potentially ignores the availability of specific feedback and runs the risk of less-effective local implementation measures. However, a national approach offers longer denominators, the capture of rare events, and a more comprehensive system design.

Ultimately, we must all recognize that wrongful convictions are complex organizational accidents, and a focus on “bad apple treatment” hampers reform. Indeed, “[a]ccidents are caused not only by the active errors of people at the sharp end of the system—pilots, operators, and doctors; eyewitnesses, cops, lawyers, and jurors—but also by the mistakes of people far from the scene—managers, designers, accountants, legislators, policy makers, funders, and appellate courts.”126 Until we recognize, acknowledge, and account for this truth, we cannot be successful in remedying the problem of wrongful convictions.

126. Doyle, supra note 115, at 130.