VOICES FROM THE FIELD: AN INTER-PROFESSIONAL APPROACH TO MANAGING CRITICAL INFORMATION

TABLE OF CONTENTS

I. PRESENTATION BY GORDON SCHIFF MD[1]: LESSONS FROM ERRORS AND DISCLOSURE IN MEDICINE

A. *Improving Systems and Fostering Accountability*

The system for reliable disclosure of exculpatory evidence is ailing. Perhaps that is why you called in a physician for a consultation. The following comments, however, should not be viewed as those from a Harvard physician, nor a professor speaking about disclosure of exculpatory evidence—a subject about which I know little—but rather as insights from the trenches of Cook County Hospital, where I worked for three decades, advocating for many of the same clients that you are defending. Although I was a practicing internist at County, I would like to begin by discussing my experience working as a pharmacy technician in order to illustrate problems and insights related to prosecutorial disclosure.

During my thirty-five years as a volunteer and physician at Cook County, one of the most problematic and unjust areas—where patients were repeatedly mistreated and serious errors were committed—was the outpatient pharmacy. Although County generously and cost-effectively provided needy patients with free medications, the waits, the errors, and the quality of service at the pharmacy were often deplorable. At times, patients had to wait ten or more hours to get their medicines, and during a few crisis periods, patients waited fifteen to twenty days just to receive a thirty-day supply of medication. During one such crisis period six years ago, some diabetic patients had to come to the emergency room every day to get their insulin shots because their insulin prescriptions were not ready or were lost. You can imagine our frustration as physicians when our patients called us to complain about not being able to get the vital medications we prescribed.

You can also understand our displeasure at seeing our patients being abused and having to stand in long lines for hours. At one point, a full-time security officer was needed to control the angry crowds, and there were not infrequent cardiac arrests and other medical emergencies when patients collapsed standing in line. Prescriptions often got lost, and patients were rudely treated and told to come back the next day—only to again wait in line and again be turned away empty handed.

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When medicines were out of stock (which occurred frequently) or the pharmacists had a question about the prescription, we were never called. Instead the patients were just turned away. And when we physicians tried to call the pharmacy, the phones were usually busy or not answered. The situation was clearly unacceptable, and it was clearly the pharmacy and the pharmacists who were to blame.

To better understand the problems and try to help out, I decided to work down in the pharmacy. I obtained an Illinois pharmacy technician's license (what I called my 007 license—license to fill), which was required to work in the pharmacy. What I quickly learned from the pharmacists was that the problem was . . . the physicians! We were writing illegible prescriptions, often for non-formulary drugs (drugs our pharmacy did not carry), leaving off the drug dose or quantity or directions or at times even the patient's name from the prescription. If the pharmacists paged physicians for clarification, we never answered. We failed properly to instruct patients how to access the pharmacy services. Further, we created a huge burden of extra work for the pharmacists (and ourselves) by writing new prescriptions for patients that already had refills for those same drugs in the computer. These medications could have easily and automatically been refilled by patients themselves using a touch-tone phone that would go directly to a refill robot, which would then mail the medication to the patient's home, bypassing waiting in line or pharmacist re-entry and filling. It turned out that more than 50% of the prescriptions represented such refills.

Thus, although we were both doing our best to try to help the patients at both ends, the pharmacists and the physicians—and likewise I will argue, prosecutors and defense attorneys—were (seemingly deliberately to the other party) creating problems that resulted in abuse of our patients/clients and at the same time making each others' jobs harder.

Another experience that I had at Cook County occurred while I was working as Chair of the Quality Assurance/Improvement Committee, the hospital committee established to review and address quality problems. It is another example of the revelation that happens every day once you put on new lenses and view problems from the perspective of systems improvement, process mindedness, and failed hand-offs, rather than simply blaming the person who appears to be responsible for committing an error. Just as such a view was needed to more clearly get beyond superficial blaming in the pharmacy mess, our pneumatic tube "messes" also illustrate what can be learned in taking a systems rather than people-blaming view.

The new Cook County Hospital opened in 2002 after a fifty-year struggle to get the century-old, highly dysfunctional hospital rebuilt. To

ensure timely delivery of specimens to the lab, we designed and installed state-of-the-art pneumatic tubes. However, a short time later, it was brought to the attention of our Committee that staff members were putting specimens in the tubes—blood specimens, urine specimens, stool specimens—and failing to place them in the proper double plastic bag. So if the test tube broke or the specimen cup opened in transit, blood or urine or stool splattered all over the pneumatic tubing system. This meant that the whole system had to be shut down for hours or even days to bring in a contracted company to scrub the contaminated walls of the pneumatic tubes.

To address this recurring problem, we implemented a system of strict staff accountability and discipline. We created a special system that gave all involved employees a special password (I recall objecting to yet another password to remember), which they entered when they tubed a specimen. This procedure permitted the hospital to identify who sent each specimen. We also instituted a strict, escalating set of punitive rules—as I recall, a three-day suspension for the first offense, which escalated to one week—and finally permanent suspension for repeat offenders found violating the double-bag policy. This policy seemed harsh, but it was necessary given how problematic the spills were for the hospital.

As I walked out of the meeting I wondered how and why this problem kept recurring. Later that day, I made my usual medical rounds on the eleven inpatient medical units and decided to inquire further about the problem by asking staff about the lapses. What I found was that three units (nearly 30% of the units) had no plastic bags available for specimens. Nurses on all the units told me how they were constantly running out of bags, requiring staff to go to adjacent units to "borrow" others' bags, with these units in turn often running out of bags themselves. Obviously staff members were trying their best to do the right thing, but we were not making it easy for them to do so, by failing to provide the needed tools.

The relevance of these examples should be apparent. Unless we begin to question the systems and work processes that underlie failures to disclose, just as we had a hard time getting medications to our patients and specimens to the labs, we are not going to be successful in ensuring that critical and potentially exculpatory information reaches defendants and defense attorneys in a timely way 100% of the time.

B. *Health Care Metaphors for* Brady *Disclosures*

There are a number of parallel developments in health care that I believe are quite relevant to creating a more reliable system of evidence

disclosure. In particular, I want to discuss three areas from medicine that may hold lessons for *Brady*-mandated disclosure practices. As I pondered the challenges that face doctors and attorneys, I was struck by haunting similarities and opportunities for learning from each other. In medicine, we are trying to make a correct diagnosis, just as in law, you are seeking a correct verdict—both aiming to approach truth and understanding in an evidence-based fashion but driven by uncertainties and imperfect tests. A second area of overlap is the issue of disclosure in medicine, in our case regarding disclosing medical errors to patients and their families. This is an area where in recent years there have been radical shifts in our policies and practices. Finally, I want to briefly touch on a third parallel process, one that I have been working on but sadly on which we have a ways to go: reliably communicating test results to patients.[2] While simply sharing lab and x-ray results seems fairly straightforward, and a lot less charged than communicating potentially exculpatory data, it is actually quite complex, and failures to communicate significant abnormal results (e.g., an elevated prostate cancer antigen test, or a new mass on a chest x-ray) turn out to be among the most frequent causes of medical malpractice suits.[3]

In discussing each area of overlap, I will draw on insights from two landmark medical quality improvement publications, one published twenty years ago and the other ten years ago.[4] In the first landmark report, Don Berwick introduced the idea of continuous quality improvement in medicine.[5] Dr. Berwick opens with the following discussion:

> Imagine two assembly lines, monitored by two foremen.
>
> Foreman 1 walks the line, watching carefully. "I can see all of you," he warns. "I have the means to measure your work, and I will do so. I will find those among you who are unprepared or unwilling to do your jobs, and when I do there will be consequences. There are many workers available for these jobs and you can be replaced."
>
> Foreman 2 walks a different line, and he too watches. "I am here to help you if I can," he says. "We are in this together for the long haul. You and I have a common interest in a job well done. I know that most of you are trying very hard, but sometimes things can go wrong. My job is to notice opportunities for improvements—skills

[2] GETTING RESULTS: RELIABLY COMMUNICATING AND ACTING ON CRITICAL TEST RESULTS (Gordon Schiff ed., 2006).

[3] Mary Schaefer, *Overview of CRICO's Diagnosis-Related Cancer Claims*, 22 FORUM 2, 4 (2002) (discussing an increase in claims related to failure to diagnose colorectal cancer); Gordon D. Schiff, *Eight Questions for Getting Beyond "Getting Results,"* 36 JOINT COMM'N J. ON QUALITY & PATIENT SAFETY 224, 224 (2010).

[4] INST. OF MED., TO ERR IS HUMAN: BUILDING A SAFER HEALTH SYSTEM (Linda T. Kohn et al. eds., 2000) [hereinafter TO ERR IS HUMAN]).

[5] Donald M. Berwick, *Continuous Improvement as an Ideal in Health Care*, 320 NEW ENG. J. MED. 53 (1989).

> that could be shared, lessons from the past, or experiments to try together—and to give you the means to do your work even better than you do now. I want to help the average ones among you, not just the exceptional of you at either end of the spectrum of competence."
>
> Which line works better? Which is more likely to do the job well in the long run? Where would you rather work?[6]

It turns out that line one pretty accurately described Detroit at that time, and line two was the way they were building cars in Japan. In Japan, with cars being built using an assembly line two approach, Toyota and Honda were making cars with 1/10,000 the number of defects and at half the cost as GM and Ford who were making cars using an assembly line one approach.[7]

U.S. automakers went over to Japan, assuming that their Japanese counterparts' competitive advantage was due to the fact that U.S. autoworkers were overpaid, more careless (perhaps due to smoking too much dope), and that the way to get better quality was to hire more inspectors to ferret out defects and enforce accountability and discipline. What they found was that the Japanese autoworkers were making just as much money as U.S. workers and the secret was not better discipline or inspection but an entirely different philosophy.[8] Ironically, this "Japanese" philosophy was actually made in America, beginning just a few miles west of Cook County Hospital, at the Hawthorne Western Electric Company. This is the telephone factory where people like Walter Shewhart, the grandfather of this thinking, and others such as W. Edwards Deming and Joseph Juran, worked in the 1920s.[9]

These founders of modern quality improvement used statistical methods to show that most defects were rooted in the system, not in special or identifiable causes that could be pinned on the nearest worker who seemed to be responsible for committing an error.[10] The origins of widely used terminology here are particularly interesting. Deming had a poignant epiphany one day when he was reading a report about a prison riot, written by prison officials and sociologists. The report explained why the riot supposedly occurred, but it struck Deming that each of the postulated "causes" was common to most prisons.[11] He realized that special causes and common causes somehow needed to be

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6 *Id.*

7 MARY WALTON, THE DEMING MANAGEMENT METHOD 122 (1986).

8 *Id.*

9 Donald M. Berwick, *Controlling Variation in Health Care: A Consultation from Walter Shewhart*, 29 MED. CARE 1212, 1215 (1991); Mark Best & Duncan Neuhauser, *Walter A. Shewhart, 1924, and the Hawthorne Factory*, 15 QUALITY & SAFETY IN HEALTH CARE 142, 142 (2006).

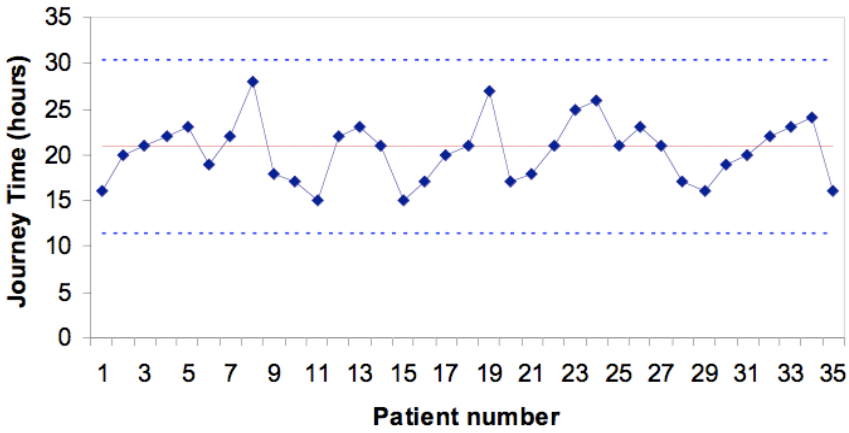
10 Berwick, *supra* note 9, at 1215.

11 W. EDWARDS DEMING, OUT OF THE CRISIS 314 (1986).

sorted out and he therefore coined two now-commonly used phrases: "common cause variation" and "special cause variation."[12] With the help of statistical methods, these concepts could help identify which problems were rooted in the "system" (common cause variation, which is responsible for more than 90% of the problems) and which problems could be attributed to a unique behavior, person, or action (special cause variation).

Shewhart and Deming chose a very conservative statistical definition for "special cause variation": three standard deviations from the baseline before any one situation or worker was labeled as an individual quality problem.[13] Figures 1a and 1b, as discussed below, illustrate these concepts.

Figure 1a. Common Cause Variation: Routine Variations—Unless the Process Is Changed, It Will Continue to Operate This Way in the Future[14]

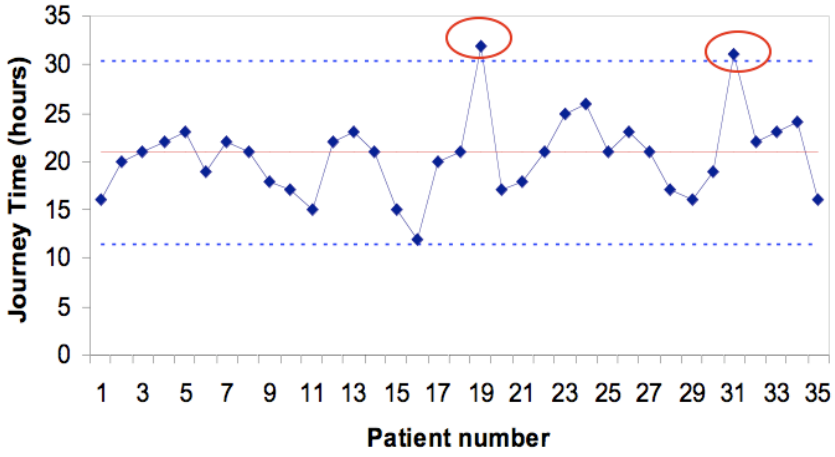


[12] *Id.* at 320-21.

[13] *Id.* at 260.

[14] NATIONAL HEALTH SERVICE MODERNISATION AGENCY, IDEAL DESIGN OF EMERGENCY ACCESS (IDEA) PROGRAMME 7 (2002), *available at* http://wales.nhs.uk/sites3/w-docopen.cfm?orgid=530&id=58478&3F84C5DB-1143-E756-5CBBB2745817EF59. Reproduced under the terms of the Click-Use License.

Figure 1b. Special Cause Variation: Exceptional Cause of the Variation Attributed to Assignable Causes; Seek to Identify Assignable Causes; Eliminate If Bad, Learn from If Good[15]



This control chart graphs the amount of time spent in the emergency room, but could just as easily be drawn to represent the number of errors in an operating room, or number of cases where there was a failure to disclose exculpatory evidence with different prosecutors represented on the x-axis.[16]

You can see that there is natural or random variation. You cannot eliminate it by condemning or firing or rewarding an individual person. As opposed to rarer exceptional/special cases, you have to change the system to improve these types of variations in rates of failure to disclose. These concepts—part of the continuous quality improvement ideas and toolkit that Berwick introduced to health care twenty years ago—need to become part of our thinking and approaches to *Brady*. Many of these improvement concepts represent powerful levers for better operationalizing *Brady* protections.

For example, if the process of getting evidence from police to prosecutors to defense attorneys has thirty steps, (which I suspect is true in many cases), and if each step has a 98% reliability rate, then there will be a failure half the time, as opposed to only 2% of the time if the process has only one step.[17] Thus, one of the most powerful concepts is

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[15] *Id.* (reproduced under the terms of the Click-Use License).

[16] *Id.*

[17] *See* Joseph W. Luria et al., *Reliability Science and Patient Safety*, 56 PEDIATRIC CLINIC N. AM. 1121, 1121 (2006) ("[T]he Institute for Health Care Improvement has developed a three-step model to prevent failures, mitigate the failures that occur, and redesign systems to reduce

mapping out the steps involved in getting information from the prosecutor's office into the defense attorney's hands, and then reducing the number of steps in order to make that process simpler.

Additional powerful concepts include "forcing functions" (ways to make sure things happen automatically, making it harder to do the wrong thing and easier to do the right thing) and "visual affordances" (so that tasks and problems are clearly visible and not buried). In Table 1, I have culled a number of approaches that have been found to be useful in healthcare.

Table 1. Powerful Improvement Change Ideas and Tools

Ideas	**Applications**	**Tools**
Simplification	SPC—common vs. special cause variation	Information technology
Standardization	Pareto	Real-time communication
Forcing functions	Kanban	Multidisciplinary teams
Visual affordances	PDSA—small tests	Checklists
Just-in-time	Fishbone diagram	Barcoding
Pull systems	FEMA	

"Just-in-time," is another concept and approach to which I confess to having become a devoted religious fanatic. Just-in-time means, to the greatest extent possible, doing everything in real time rather than putting it off. This is more than simply avoiding procrastination, although it is not obvious that what often just seems like a dressed-up form of constant interruption even makes sense. My first quality assurance study in 1980 when I was a chief resident consisted of calling up doctors who ordered certain tests "stat" (medical-ese for "super urgent") and questioning whether the need was really so critical that they had to be bumped to the front of the queue (since way too many of the tests were being ordered as stat). I have now learned that as much as possible *all* labs should be done stat, using continuous flow techniques discovered by the Japanese that eliminate hidden waste that happens when work is batched.[18] From rapid HIV tests (so the patient does not have to be tracked down and called back in order to inform him/her of the result), to point-of-care coagulation tests (so that blood thinner medication dosage can be more safety adjusted on the spot), just-in-time can make a big difference in medicine. How about putting that police report aside, placing it on a pile or in a file to decide later

failures.").

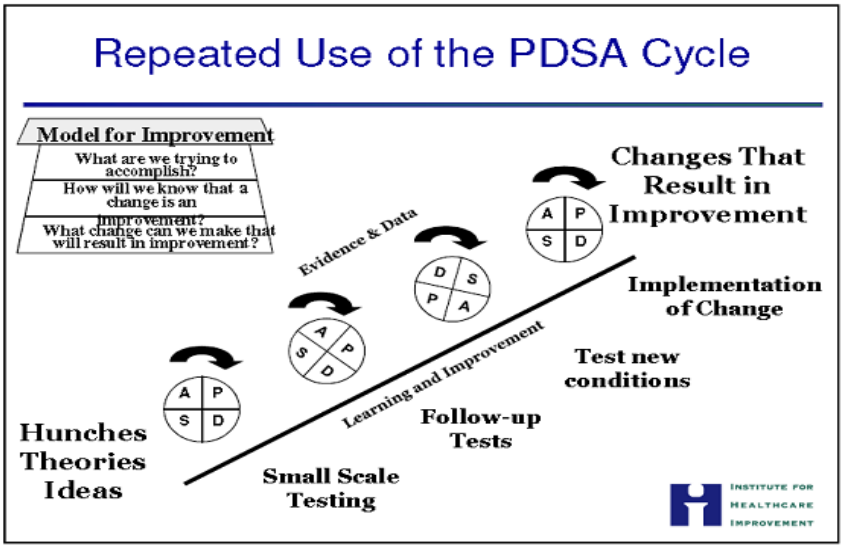
[18] JEFFREY K. LIKER, THE TOYOTA WAY: 14 MANAGEMENT PRINCIPLES FROM THE WORLD'S GREATEST MANUFACTURER 87-103 (2003).

whether it needs to be disclosed?

These techniques and tools from quality improvement approaches represent powerful methods that have made big differences in medicine. Although space does not permit a fuller discussion, I note, for example, that surgical central intravenous line infections rates cause nearly 100,000 serious infections annually, but have reportedly been nearly eliminated in selected Michigan hospitals using a combination of checklists and teamwork.[19]

Small tests of change can be performed by using Plan-Do-Study-Act Cycles where an improvement idea is tested on a small scale and then, if successful, continually further refined.[20] As illustrated in Figure 2, repetitive trials of different changes in the process—each serving as an experiment to test what it takes to implement and how much it improves (or worsens) the situation—are applied serially to ramp up the overall quality of the operation based on predefined metrics (the hypothetical y-axis in the figure).

Figure 2. Plan-Do-Study-Act Cycles of Testing Change Ideas[21]



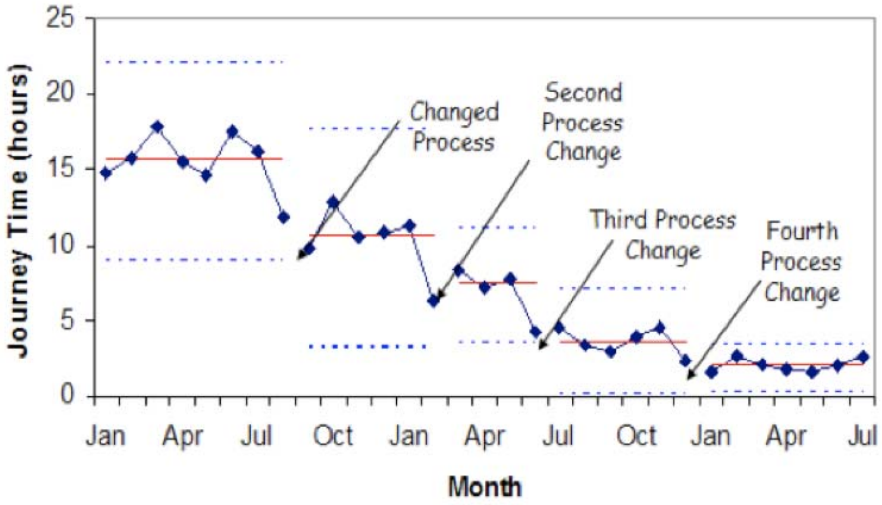
[19] Charles L Bosk et al., *The Art of Medicine: Reality Check for Checklists*, LANCET, Aug. 8, 2009, *available at* http://download.thelancet.com/pdfs/journals/lancet/PIIS0140673609614409.pdf?id=40bade4753939e7f:389b5add:1295c394e91:5cf41277162108816; Peter Pronovost, *An Intervention to Decrease Catheter-Related Bloodstream Infections in the ICU*, 355 NEW ENG. J. MED. 2725 (2006); Peter Pronovost, *Sustaining Reductions in Catheter Related Bloodstream Infections in Michigan Intensive Care Units: Observational Study*, BMJ, Feb. 4, 2010, *available at* http://www.bmj.com/cgi/reprint/340/feb04_1/c309.

[20] Donald M. Berwick, *Developing and Testing Changes in Delivery of Care*, 128 ANNALS INT'L MED. 651, 651 (1998).

[21] This image was created by the Institute for Healthcare Improvement (IHI) and is reproduced with permission.

Graphing change over time (for example ER waits, such as in Figure 3), is a very powerful but underutilized way of representing the effects of your change. Here the "ramping up" of serially tested improvements over time can be graphically seen. If the State of New York is considering a new policy and procedure, it is probably a good idea to test whether it is a real improvement on a small scale first. The power of such small tests is the learning that occurs in working on these tests as well as in the ways front line staff become empowered as experimental scientists. If a tested change works at a local level, then leadership is required to figure out how to spread that change more widely.

Figure 3. Changing the Process: Run Chart Graphing Data Over Time in Response to Interventions[22]



C. To Err Is Human

A second landmark publication was the report from the Institute of Medicine (IOM), called *To Err Is Human*.[23] This is perhaps the most influential health quality publication in the past twenty-five years.

[22] NATIONAL HEALTH SERVICE MODERNISATION AGENCY, IDEAL DESIGN OF EMERGENCY ACCESS (IDEA) PROGRAMME 7 (2002), *available at* http://wales.nhs.uk/sites3/w-docopen.cfm?orgid=530&id=58478&3F84C5DB-1143-E756-5CBBB2745817EF59. Reproduced under the terms of the Click-Use License.

[23] TO ERR IS HUMAN, *supra* note 4.

Paraphrasing the IOM report's title, I would say that "failure to disclose is human." This is not a call for complacency. On the contrary, it is a recognition that things are not going to get better until we figure out better ways of making them better, constructive approaches that do not rely on blaming unaided humans who inevitably will be forgetful, distracted, or biased in subtle or even more conscious ways. One of the reasons *To Err Is Human* received so much attention was its publicizing of a decade-old finding from Harvard researchers who reviewed a random sample of inpatient medical records from the State of New York and found, when extrapolated to the whole nation, that an estimated 100,000 patients died annually from errors in hospitals.[24] Although these sensationalized figures received widespread publicity, Chapter 8, which outlines their recommendations, has received much less attention.[25]

I have taken liberties with the IOM recommendations, adding a word or two to make them applicable to prosecutorial disclosure.

Table 2. Recommendations Adapted to Prosecutorial Disclosure: IOM *To Err Is Human* Recommendations Adapted for *Brady*

Principle 1: Provide Leadership
- Make disclosing key evidence an organizational priority
- Make disclosure everyone's responsibility
- Make clear assignments for disclosure oversight
- Provide human and financial resources for analyzing failures and systems redesign
- Develop effective mechanisms for identifying and dealing with outlier prosecutors

Principle 2: Redesign Processes to Respect Human Limits
- Redesign task to enable safe and reliable disclosure
- Decrease reliance on human memory, judgment, and vigilance
- Improve access to accurate, timely information
- Use constraints, forcing functions, affordances to make it harder to fail to disclose
- Simplify and standardize key processes

Principle 3: Promote Effective Teamwork
- Train in teams those who work in teams
- Include defense team in design of prosecutorial disclosure process

[24] *Id.* at 31.
[25] *Id.* at 155-61.

Principle 4: Anticipate the Unexpected

- Foster attitude of constant worry about failure to disclose and promote vigilance based on model of "high reliability" organizations
- Proactively examine processes for threats to sharing and redesign before incidents occur
- Design for recovery to minimize consequences of any exculpatory evidence that initially may have been overlooked

Principle 5: Create a Learning Environment

- Use simulations and walkthroughs whenever possible
- Encourage reporting of failures to disclose
- Ensure no reprisals for reporting failures to disclose
- Develop a culture in which communication flows freely regardless of authority hierarchies
- Implement feedback and learning from failures

Although a few of the bullets in Table 2 require a bit of a stretch to cover *Brady* disclosure failures, they give the flavor of a different way to frame the problem and its solution. The first principle acknowledges that there will be outlier prosecutors, but places emphasis on systems and leadership. The second of these principles recognizes the limits on humans' working within busy, conflicting systems which we alluded to earlier. The third principle recasts prosecutors and defense attorneys not as adversaries but members of a team with a joint aim of just disclosure. The fourth principle calls for a constant state of vigilance, anticipating ways things can go wrong, and urges building safety nets to prevent irreparable harm from those errors that inevitably will occur. Might this mean avoiding the ultimate irrevocable action—capital punishment?

The fifth principle posits that all parties (attorneys, staff, politicians, and regulators) have to embark on a joint and never-ending journey to learn about disclosure failures and ways to improve. This is contingent on removing fears that prevent each party from admitting and sharing errors—creating something that has been given an interesting term in health care—"just culture."[26] In health care, we have created a yardstick to measure this safety culture of hospitals. It involves using a standardized patient safety staff survey to determine the extent to which a fear-free climate where mistakes can lead to

[26] DAVID MARX, MERS-TM, MED. EVENT REPORTING SYS. FOR TRANSFUSION MED., PATIENT SAFETY AND THE "JUST CULTURE": A PRIMER FOR HEALTH CARE EXECUTIVES 1 (2001), *available at* http://mers-tm.org/support/Marx_Primer.pdf.

positive change exists.[27] Thus hospitals can not only compare themselves with other hospitals, but also, more importantly, they can examine themselves over time and see improvements resulting from efforts to improve their own cultures.

This does not mean that we do not want people to be accountable. A just culture embodies principles that we will most likely be batting back and forth over these next several days. Here is how James Reason (the quality theorist who is best known for his Swiss Cheese Model of errors) addresses the problem of unsafe acts in determining individual accountability and whether disciplinary corrective action is warranted.[28] He asks a series of simple questions: Were these actions intended? Was there a malicious violation of the rules? Was illegal substance abuse involved? Did someone knowingly violate safe procedures and if they did, were these procedures reasonable to begin with? Finally, there is a "substitution test" that asks whether other people would or could reasonably do the same thing under similar circumstances. If the answers to the first four questions is "no" and "yes" for the substitution test, then this is a "system problem."[29] Blame or discipline for the individual is not warranted. Certain reckless behaviors fall into a grey zone in Reason's matrix.[30]

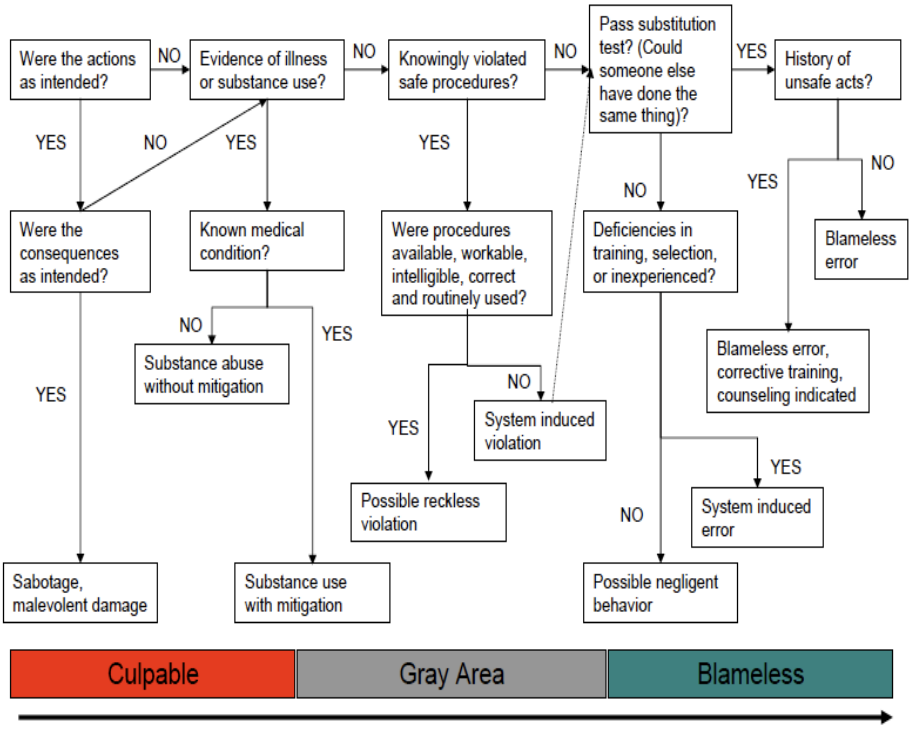
[27] Peter Pronovost et al., *Evaluation of the Culture of Safety: Survey of Clinicians and Managers in an Academic Medical Center*, 12 QUALITY & SAFETY IN HEALTH CARE 405 (2003); Sara J. Singer et al., *Identifying Organizational Cultures That Promote Patient Safety*, 34 HEALTH CARE MGMT. & POL'Y 300, 300-01 (2009); Sara J. Singer, *Patient Safety Climate in 92 US Hospitals: Differences by Work Area and Discipline*, 47 MED. CARE 23 (2009).

[28] JAMES REASON, MANAGING THE RISKS OF ORGANIZATIONAL ACCIDENTS (1997).

[29] *Id.* at 81, 139.

[30] *Id.* at 211.

Figure 4. Reason's Accountability Matrix: Unsafe Acts Algorithm[31]



There is an ongoing and healthy tension in medicine concerning where to strike the appropriate balance between systems and individual accountability. Some patient safety leaders have recently argued that the pendulum has swung too far in the direction of holding the system responsible.[32] Wherever it ultimately comes to rest, however, the tilt away from individual blame and toward system solutions has provided a needed and productive antidote to addressing failures in the individual blaming mode.[33]

[31] THE NEBRASKA CTR. FOR RURAL HEALTH RES., UNIV. NEB. MED. CTR., ANNUAL HEALTH RESEARCH QUESTIONNAIRE: HOSPITAL SURVEY ON PATIENT SAFETY CULTURE RESOURCES [hereinafter HOSPITAL SURVEY ON PATIENT SAFETY], *available at* http://www.unmc.edu/rural/patientsafety/culture%20survey/Unsafe%20Acts%20Algorithm%20070507.pdf (adapted from JAMES REASON, MANAGING THE RISK OF ORGANIZATIONAL ACCIDENTS (1997)). This image is used by permission.

[32] *See, e.g.*, Robert M. Wachter, *Balancing "No Blame" with Accountability in Patient Safety*, 361 NEW. ENG. J. MED. 1401 (2009).

[33] *See generally* Lucian Leape, *When Good Doctors Go Bad: A Systems Problem*, 244 ANNALS OF SURGERY 649 (2006).

D. *Three Medical Metaphors*

1. Diagnosis Errors

Making the correct diagnosis is the medical equivalent of reaching a correct verdict. We could speculate about which system is more scientific or has more imperfections. In one poll, one of six respondents stated that they or a member of their family had been wrongly diagnosed; another poll commissioned by the National Patient Safety Foundation and the Agency for Health Care Research and Quality found that 34% of people have experienced (themselves or a member of immediate family) a medical error, about half of which are diagnosis errors.[34]

This percentage likely underestimates the true prevalence of misdiagnoses since patients often lack information to know whether they have been misdiagnosed. Also, many erroneous diagnoses are self-limited and go away without any knowledge or consequence of the error. In our research on diagnosis errors, we spent considerable time analyzing in which stage in the diagnostic process errors occur and have developed a taxonomy classifying these error types.[35] One place where errors can occur is in the interpretation of diagnostic tests, such as the misreading of x-rays by radiologists or biopsy specimens by pathologists. An example of efforts to detect and understand such errors is the RADPEER system whereby radiologists systematically re-review selected x-rays of their colleagues. The American College of Radiology, which administers that system, wisely differentiates between detected errors which are "discrepancies in interpretations" (or diagnoses not ordinarily expected to be made, i.e., understandable misses) versus those diagnoses that "should be made most of the time" (i.e., findings the radiologist ordinarily should not have overlooked).[36] They also divide errors based on clinical consequences.[37]

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[34] AGENCY FOR HEALTHCARE RES. & QUALITY, THE KAISER FAMILY FOUNDATION, HARVARD SCHOOL OF PUBLIC HEALTH, NATIONAL SURVEY ON CONSUMERS' EXPERIENCES WITH PATIENT SAFETY AND QUALITY INFORMATION 9 (2004), *available at* http://www.kff.org/kaiserpolls/upload/National-Survey-on-Consumers-Experiences-With-Patient-Safety-and-Quality-Information-Survey-Summary-and-Chartpack.pdf.

[35] *See generally* Gordon D. Schiff et al., *Missed Hypothyroidism Diagnosis Uncovered by Linking Laboratory and Pharmacy Data*, 165 ARCHIVES INTERNAL MED. 574 (2005).

[36] Valerie P. Jackson et al., *RADPEER Scoring White Paper*, 6 AM. C. RADIOLOGY 21, 22 (2009), *available at* http://www.acr.org/SecondaryMainMenuCategories/quality_safety/radpeer/RADPEERScoringWhitePaper.aspx.

[37] *Id.*; *see also* Website for ACR, American College of Radiology, RADPEER, http://www.acr.org/SecondaryMainMenuCategories/quality_safety/radpeer.aspx ("RADPEER is a simple, cost-effective process that allows peer review to be performed during the routine interpretation of current images. After submission of practice data to the ACR, the group chair or

Not only do diagnosis errors provide a useful analogy for the legal system and medical systems to cross-fertilize approaches, but they also literally share that problem of errors and limitations in diagnostic tests, as forensic test limitations figure heavily in *Brady* disclosure issues. Research on diagnostic errors consistently shows that failure to appreciate and incorporate limitations of diagnostic tests (false positives rates, false negative rates, adequacy of test performance/patient preparation) into decision-making underlies many common diagnostic failures. A patient who is not properly prepared for a colonoscopy exam test—by having the colon properly cleaned by cathartics or enemas—and thus has remaining stool that obscures the view of the physician performing the exam has a higher false negative rate (risk of missing colon cancer or polyps). Without detailed knowledge of both the performance of the test under ideal circumstances (test efficacy) and the compromised circumstances of its performance in that particular patient, physicians would be making many erroneous diagnoses. Likewise, prosecutors and defense attorneys need to work together to identify and disclose any limitations in forensic tests or other evidence as a necessary first step toward accurate disclosure.

2. Disclosure of Medical Errors

In 2006, all of the Harvard hospitals—often rivals—came together and adopted a historic joint statement related to the need to disclose medical errors to patients.[38] This statement followed an earlier 2001 mandate from the U.S. hospital accrediting body (the Joint Commission on Accreditation of Healthcare Organizations), although the Boston statement went many steps further in spelling out the details and imperatives of such disclosures.[39] This approach represents a sea change. For most of my career, physicians were told not to disclose lest it give ammunition to plaintiffs' attorneys and patients who would interpret these as admissions of malpractice guilt. The Harvard document unequivocally states that caregivers "should promptly inform the patient and/or family about any adverse event or error that reaches the patient even if no harm was done," and "caregivers should be honest and open about the incident."[40] Contradicting conventional teaching,

medical director can access the reports online at any time.").

[38] *See generally* MASS. COALITION FOR THE PREVENTION OF MED. ERRORS, WHEN THINGS GO WRONG: RESPONDING TO ADVERSE EVENTS (2006) [hereinafter WHEN THINGS GO WRONG] (consensus statement of the Harvard hospitals), *available at* http://www.ihi.org/NR/rdonlyres/A4CE6C77-F65C-4F34-B323-20AA4E41DC79/0/RespondingAdverseEvents.pdf.

[39] Thomas H. Gallagher et al., *Disclosing Harmful Medical Errors to Patients*, 356 NEW. ENG. J. MED. 2713, 2713 (2007).

[40] WHEN THINGS GO WRONG, *supra* note 38, at 8.

they stated that evidence shows that honest communication conveys respect for the patient and failure to acknowledge the event can be a powerful stimulus to the patient lawsuits. "We must eliminate the adversarial relationship that a secretive, liability-focused approach to patient communication fosters."[41] Using such an open-disclosure approach, the University of Michigan hospital has actually cut the number of malpractice claims against their hospital from 136 in 1999 to sixty-one in 2006, and other hospitals have also instituted similar exemplary programs.[42]

If doctors can do it, then why not prosecutors? One argument is that these relationships are not analogous, that patients and physicians are not adversarial. However many physicians have become so paranoid about malpractice suits that they have come to see every patient as a surrogate for a lawyer. But the Harvard statement, *When Things Go Wrong*, asks physicians to step outside this adversarial mindset.[43] Rather than circling the wagons, shutting down communication, and throwing up walls of secrecy, they should instead disclose. Like the quality and accountability issues discussed above, this is a work in progress, but this work *is* progress.

3. Communicating Test Results to Patients

I chose to conclude with this area of "disclosure" precisely because many would question whether it is truly analogous to prosecutorial disclosure. Unlike exculpatory evidence, doctors have no reason to withhold patients' test results. However, I would suggest that the critical connection and issue here relates to the challenges of efficiently accessing and deploying information technology systems. Over the past several decades, I have been involved in a number of research studies where we have electronically linked laboratory and pharmacy data and uncovered uncomfortably high rates of tests whose results are either not being communicated or are being ignored.[44] We currently have a project at the University of Illinois College of Pharmacy where critical

[41] *Id.* at 3.

[42] *See generally* Richard C. Boothman et al., *A Better Approach to Medical Malpractice Claims? The University of Michigan Experience*, 2 J. HEALTH & LIFE SCI. L. 125 (2009) (arguing that a more patient-focused emphasis on investigating what makes patients call lawyers would more effectively reduce malpractice claims); Randolph R. Peto et al., *One System's Journey in Creating a Disclosure and Apology Program*, 35 JOINT COMM'N J. QUALITY & PATIENT SAFETY 487 (2009) (discussing Baystate Health's implementation of a patient apology program).

[43] WHEN THINGS GO WRONG, *supra* note 38, at 2-4.

[44] *See, e.g.*, Gordon D. Schiff et al., *Missed Hypothyroidism Diagnosis Uncovered by Linking Laboratory and Pharmacy Data*, 165 ARCHIVES INTERNAL MED. 574 (2005); Gordon D. Schiff et al., *Prescribing Potassium Despite Hyperkalemia: Medication Errors Uncovered by Linking Laboratory and Pharmacy Information Systems*, 109 AM. J. MED. 494 (2000).

low platelet test values are being repeatedly overlooked—in effect being "withheld"—because these patients are on a dangerous drug (heparin) that should be discontinued when platelet counts fall, yet no one is noticing the danger.[45] The physicians are not trying to hide anything here. Rather, the problem is information management and information overload. We all experience this problem multiple times each day, from email overload to time consuming searches for a particular file or contact that we need to locate.

Information about cases in prosecutor and police office files needs to be accessible and organized in a way that ensures it is transparent and readily findable. We have heard about prosecutors that make "everything" available to the defense. Rooms and rooms of hundreds of boxes of file folders; it is all yours. This approach reminds me of when I wanted my teenage kids to do something; their passive-aggressive teen strategy was summarized in a single word—"fine." Fine, whatever you want, take it, but not terribly helpful for knowing whether and where there is potentially exculpatory evidence.

Although I know little of how police and prosecutors (or defense attorneys for that matter) organize their evidence, I would predict that there are wide variations as well as major opportunities for improvement to streamline and standardize the following: how to get handwritten notes digitized (I do not mean digitally scanned, but in searchable text documents); how to tag documents with keywords of their contents; how to flag files electronically as potentially exculpatory hence requiring disclosure; and how to recognize and find a piece of evidence that needs to be disclosed. I have no doubt that all parties have made great strides in moving from paper to electronic information storage over the past decade. But unless we are jointly building an electronic infrastructure that includes real time (just-in-time) voice recognition dictated notes (police, others), powerful indexing search engines (akin to Google desktop search, X1, or Spotlight on Macintosh), and standardized pre-agreed upon criteria for flagging critical files, what we have is not "fine."

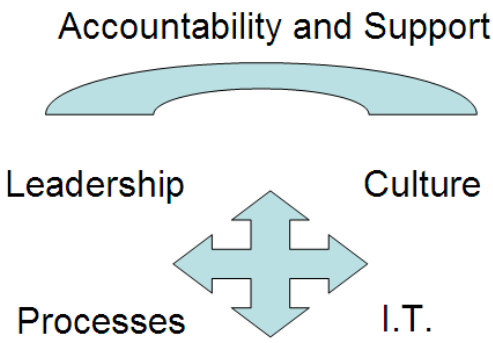
Ironically, prosecutors stand as much to gain from such a transformation in terms of organization and access to their own information as defense attorneys seeking to get their hands on exculpatory evidence. Prosecutors could thus move from "reporting" to "recording" exculpatory evidence, whose sharing would be automated, with less time worrying about what and how to release.

[45] Bruce L. Lambert, Annual Meeting of the Agency for Healthcare Research and Quality: Monitoring the Risk of Heparin-Induced Thrombocytopenia by Linking Laboratory and Pharmacy Data (Sept. 10, 2009) (unpublished presentation materials) (on file with author).

E. *Conclusion*

This vision, which I have conceptualized in Figure 5, suggests the need for an improved system that supports both prosecutors and defense attorneys, to the benefit of the public and the accused, and is one that needs to animate this Symposium and our approach to *Brady*.

Figure 5. Accountability and Process Support: A New Approach to *Brady*



It posits the key ways to support prosecutors with better and redesigned systems that are standardized, automatic, and self evident, with resulting improved two-way handoffs. It is in these realms and approaches for systems improvement that we are mostly likely to find the most productive evidentiary avenues to pursue.

II. PRESENTATION BY LOU REITER[46]: POLICE DEPARTMENTS

In the twenty years I was a police officer, neither *Brady v. Maryland*[47] nor *Giglio v. United States*[48] had much of an impact on my performance. I do not even recall hearing about them during my time on the force or doing anything differently because of them.

[46] Lou Reiter is a police consultant. He offers three separate professional services to the law enforcement community. He provides training to police groups in the high liability areas of use of force, emergency vehicle operations, high risk operations, investigations of citizen complaints, Internal Affairs procedures, investigation of critical incidents, and liability management.

[47] Brady v. Maryland, 373 U.S. 83 (1963).

[48] Giglio v. United States, 405 U.S. 150 (1972).

A couple of years back I was involved in a wrongful prosecution case on the defense side down in Florida, and I did research on police literature in the 1980s. Other than mentioning the cases, there was nothing specifically identified to give guidance to police officers on what to do about exculpatory evidence.

In fact, it was just a couple months ago that the International Association of Chiefs of Police came out with its first model policy on *Brady* disclosure.[49] When you look at the bibliographies of the resources that are available, most of that material is from the late 1990s and the early 2000s. So, from a practicality standpoint we have not had a lot of experience.

I am going to talk about three areas affected by *Brady* in law enforcement. One is the credibility of officers and testimonial experience; the second is the investigative process; and the last is civil litigation and disclosures there.

We began talking about *Brady* disclosure in law enforcement in the mid-1990s. Two things had happened: First, we had some wrongful convictions cases; second, and more importantly, we had U.S. Attorneys calling police departments and setting forth the structure of their cases, such as whether it was a gun case or a narcotics case, whether there were any witnesses, and whether there was any *Brady* material on any of the potential witnesses.

In law enforcement we realized that we would have to disclose information on certain officers. And if they were unreliable and not good to testify, then what were we going to do with them?

So we had a couple of consequences with testimonial potential. We had some very far reaching chiefs of police who came up with the concept: you lie, you fly.

I remember Chief Duffy from Rochester, New York, when he first came up as a chief, said: "I want to let you know, we can pretty much handle anything that happens, but if you lie you are going to be terminated." And his first week on the job he had to deal with that very situation with a young officer. But they were able to work out a one year suspension, and after doing a lot of remediation, his officers did not lie.

That is not the common trend, but I think it is emerging more and more. The problem is that these decisions by the chiefs of police are not being upheld. They go through arbitration hearings, civil service process, or courts.

I reviewed quite a few cases, particularly in California. One such case was from Seal Beach, where a sergeant apparently got family medical leave too often for the same dead relative and they fired him

[49] MODEL POLICY: *BRADY* DISCLOSURE REQUIREMENTS (Int'l Ass'n of Chiefs of Police ed., 2009).

after an extensive internal affairs investigation. But a court overturned the decision, holding it was not an internal violation. Rather, it was a procedural violation that had nothing to do with a testimonial in the officer's law enforcement capacity. What amazed me when reading the judge's opinion—which was not for dissemination, as is the practice of the California courts—was that it had an admonition at the bottom in which the judge basically said that five years from now no one will remember this.

Well, we will, and plaintiffs' attorneys will, and public defenders will, and they will keep coming back. So when we talk about the implications of *Brady*, and they are not really clear—I am a believer that we should tell people up front: If you lie, you will be terminated, so long as we can prove it.

I train a lot of internal affairs investigators, and many of them ask me the question: What if a guy initially lies, but in a couple of days he has second thoughts and comes back and says he would like to talk? I tell them they have to make a decision. I believe the most fair and reasonable thing is to say he came to his senses before the culmination. And then you can say: Okay, tell me what really happened, because the true goal is to arrive at the truth of the matter. That is our job, and then if you want to charge them with anything then charge them for not fully cooperating. But if you charge them nowadays with a false statement or a false report, that is a career-ending decision, and a lot of departments do not have as many closets as the NYPD, where they can put people who will not be in a testimonial capacity anymore.

The other issue that I have noticed as a significant problem in law enforcement is affidavits: whether giving false statements in a probable cause affidavit should be a terminable offense. And I think every professional police administrator would say, yes.

The problem is that virtually no departments ever do any audits or inspections on probable cause affidavits for search warrants. There are a lot of things going on, and we are not undertaking those inspections within the department.

I look back at O.W. Wilson's 1943 book, *Police Administration*.[50] He suggested that we have required regular staff audits and inspections. Currently, such inspections are rare. We only search the property room, for example, when circumstances raise red flags. Only then do we say, "Oh god! We have pounds of cocaine missing!"

We should also seek to determine whether there is a reasonable amount of time after which an officer's previous false report will cease to be a factor in the officer's credibility. I do not have an answer to that either.

[50] O.W. WILSON, POLICE ADMINISTRATION (5th ed. 1996).

Let me turn now to the investigative personnel. Around the country most police investigators still get their training from on the job training (OJT). There are not that many investigative courses around. Those that do exist are quick seminars of maybe forty hours.

It was interesting hearing Dr. Hartwig's critique of the *Reid Manual*[51] because it is the "Bible" among some. I think a lot of things we have learned about investigative techniques have shocked us, and not only the unreliability of some previously well-respected interrogation guidelines. I have never been a proponent of a polygraph as a diagnostic tool, but I like it for the pre-interview and the post-interview. We also found a lot of problems with fingerprinting analysis. We send it out to different print examiners, and you get different opinions. That means these analyses are not really as exact as we have been led to believe through the years.

Another issue is: What should be considered *Brady* material from an investigative standpoint? Rough drafts, notes, e-mails, cell phone records? Because all of those are used. The biggest problem is we cannot control all of these volumes of information when multiple investigators and street cops are working on the same case.

The following are a few examples illustrating the difficulties of storing evidence:

- During a wrongful conviction trial in Boston a few years ago, some of the detectives remembered, "Oh, we have a tape–recording of that interview on our desks."
- Officers at a crime scene found a burrito a suspect had brought in from a local take-out place. One of the street cops on the scene took it and put it in his refrigerator at home.
- Recently in the Providence area where I used to live, there was a narcotics operation and the officer got on the stand and said he had no notes of this extensive surveillance. Afterwards—I do not know what caused it—he suddenly said: "Oh, I recall, I do have notes! And they are in the attic of my home." I do not know the outcome of the case, but I know that a lot of evidence related to elements of the crime were dismissed because of that.
- A retired state police print examiner had all the original fingerprint cards in his garage. Why would you take home original fingerprint cards?

All of those examples are violations of normal practices of evidence storage, but nobody is looking at those kinds of things.

Another problem is informant usage: I do a lot of agency audits and there are still many problems with informant usage regarding

[51] JOHN E. REID ET AL., CRIMINAL INTERROGATION AND CONFESSIONS (Fred E. Inbau ed., Aspen 4th ed. 2001).

control and documentation. Sometimes, when an informant has been involved in a case, you need to know where to go and get that kind of information. Many defense attorneys do not know where to go to get that kind of information or even what to ask for.

There is also the issue of protocol with the prosecutors. This year I was involved with a case on the West Coast on the defense side. It was a wrongful conviction case that led to the defendants' being released from prison. It was interesting because there was a question of whether the investigator's files were turned over to the prosecutor, and whether those files were turned over to the defense attorney. But because there had been some disaster at the criminal defense attorney's office—either a fire or a flood—we do not know what he had received. We knew of a file from the police department that even included hand-written notes, but the prosecutor did not recall what he received and what he did not. So really the whole record management system does not just affect the police file.

What I suggest is having subcategories so that anything to do with the case also gets date-stamped, like most prosecutors' offices do; otherwise everything is going to get lost.

The last things to talk about are civil trial disclosures, potential conflicts, and plaintiffs. I work about sixty-percent of time with plaintiffs. Many of them do not know what to ask for, and sometimes when you do not ask for it in the exact wording, you do not get it, and you do not even know where to look for it.

You have to recognize: Most police management systems, particularly the the larger ones, surprisingly, are in terrible shape because they have added all kinds of computer processes and none of them talk to each other.

My suggestion is that you should have one person who is held responsible within the agency for disclosure of the information.

Another issue arises when the information is turned over. Most of the time what happens is that investigators have a big brown file, or a big banker's box or multiple banker's boxes that they simply provide to the prosecutor. There is no documentation of what is in there. That is why I liked Dr. Schiff's suggestion that we need checklists.[52] We need to have some sort of systematic process there.

In closing, despite being involved in numerous wrongful conviction prosecution cases, at the end of a case I have yet to find an agency that has said, maybe we should take a look at what caused this—what Dr. Schiff talked about[53]—what could have caused this problem? Nobody has done that. Nobody has looked at the systemic issues.

The other thing is—and it goes along with Dr. Hartwig's

[52] *See supra* Part I.B.
[53] *See supra* Part I.B.

discussion[54]—all of the officers involved in all of these cases still believe the defendant is guilty—and they are not going to let that change.

III. PRESENTATION BY MARIA HARTWIG[55]: THE PSYCHOLOGICAL PERSPECTIVE

I wish I had more time to talk about cognitive errors, because there are many. Instead, I am going to give you a very brief overview of some of the psychological research on human decision-making, and try to connect this research to the legal system and show how some of these errors come into play. Finally, I am going to try to give some suggestions for how to improve decision-making in the legal system—what can be done to counter these tendencies for cognitive errors.

During the last fifty years there has been an incredible amount of research on human judgment and decision-making. Much of this research has given a fairly negative view of the accuracy of human decision-making. For example, pioneering work by Daniel Kahneman and Amos Tversky suggests that people rely on simplified decision-making strategies.[56] One of the main findings emerging from their research is that people are prone to what we call "confirmation bias."[57] There is not one mechanism in the human mind that leads to confirmation bias; there are several of them.

We sometimes refer to this error as "tunnel vision," but the basic principle is that when people test their own belief, they are more likely to come to the conclusion that they were right all along. You are not critical and objective when you test your own beliefs.

I encourage you to read an article by Keith Findley and Michael Scott on different ways in which this tendency for confirmation bias is manifest in criminal investigation.[58] The article is excellent and brings these errors to the legal context.

The tendency for people to confirm their beliefs is sometimes driven by motivation: You want to be right, and you have a tendency to give less weight to the evidence that is in contrast to your beliefs. So let us say that you believe that the death penalty is effective, and you are given information about its benefits and drawbacks. You tend to look at

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54 *See infra* Part III.

55 Assistant Professor of Psychology at John Jay College of Criminal Justice.

56 Amos Tversky & Daniel Kahneman, *Judgment Under Uncertainty: Heuristics and Biases*, 185 SCI. 1124 (1974).

57 Joshua Klayman & Young-Won Ha, *Confirmation, Disconfirmation, and Information in Hypothesis Testing*, 94 PSYCHOL. REV. 211 (1987).

58 Keith A. Findley & Michael S. Scott, *The Multiple Dimensions of Tunnel Vision in Criminal Cases*, 2006 WIS. L. REV. 291 (2006).

this evidence in a biased way, so you give more weight to the evidence that is in favor of your belief. You will say that a study that shows that the death penalty is not effective suffers from methodological limitations, while a study that is in line with your belief was properly done. This is what we call asymmetrical skepticism: You are more skeptical of the evidence that is counter to your beliefs than the evidence that fits your beliefs.

So, the research on confirmation bias shows that a lot of the disclosure errors in the legal system are not due to a malicious intent, but are simply due to the fact that there is this tendency for asymmetrical skepticism. The exculpatory evidence is easy to trivialize; it is easy to downplay the evidence that is not in favor of your belief.

An example of an investigation that went terribly wrong is the case of Jeffrey Deskovic.[59] He was sixteen years old when his fifteen-year-old classmate was found murdered and raped. He became a suspect for a few reasons. Some of his characteristics fit an offender profile, which themselves are problematic. The other reason he became a suspect was due to his behavior when he interacted with detectives. He was acting overly emotional in the eyes of the criminal investigators. He visited the girl's wake three times, he cried profusely, he was trying to get involved in the investigation, and he was seen acting in a suspicious way.

This false belief—that he had something to do with this murder—became the starting point of one of these tunnel vision driven investigations in which the exculpatory evidence was trivialized. Semen was found in the vagina of the victim, and when tested, excluded Deskovic. Instead of considering this evidence in an objective light, an alternative theory to explain this evidence was constructed, where it was suggested that the victim had consensual intercourse with somebody else before, but that Deskovic was the perpetrator. This is an example of biased hypothesis testing and biased investigative work.

As a social psychologist, I have studied social judgments, especially about innocence and guilt, so my focus here will be how false beliefs about guilt can come to happen, and what you can possibly do to prevent them.

I think you all know the story of Pinocchio. He had a peculiar trait. His nose always grew when he was lying, and it never grew when he was not lying. This was a perfect cue to deception, and a perfect behavioral indicator that he was lying.

At least thirty years of intensive laboratory and field research in social psychology and cognitive psychology have tried to answer the

[59] *See generally* Maria Hartwig, *Methods in Deception Research*, *in* RESEARCH METHODS IN FORENSIC PSYCHOLOGY (Barry Rosenfeld & Steven Penrod eds., 2009).

question of whether there are behavioral signs of deception. This research has also tried to find answers to the question of how good people are in detecting lies and what you can do to improve these judgments.

Recently an article was published that summarized over thirty years of research.[60] It contained 200 experimental studies on people's lie detection abilities, and showed that the average hit rate in detecting lies and truths is around 55%. That is not very impressive if you consider the fact that coin flipping, when you are sitting in a different room, not looking at the person, just guessing, will give you an accuracy rate around 50% over time, because you can be either right or wrong. So, people are only marginally better than if they were simply guessing.

Lay people, students, community members, and non-legal professionals have a tendency toward what we call a truth bias. That means that they are more likely to say "this seems to be true," so they are somehow chronically credulous, which makes sense in the light of normal social interaction. You normally are assuming that this person is telling the truth. It would be pretty annoying if you did not do that. If you question everything that the person is saying, you would be a pretty unbearable person.

Research has also shown that people have false beliefs about how liars behave.[61] This research shows that people believe in a Pinocchio's nose, people believe that there are clear signs of deception. There are multiple surveys and studies showing that people believe that liars avoid looking the person in the eye. We did a cross-cultural study back in 2005, when we surveyed seventy-five countries all around the world, and everywhere there is this belief that something about the eye behavior, the eye movements of the person, gives the liar away.[62] It was prevalent in all these cultures. This is a pan-cultural myth about deceptive behavior.

People also believe that liars are nervous, that liars fidget and move around a lot. So, people basically seem to believe that a person who is lying is experiencing and displaying signs of negative effects: shame, stress, arousal, tension, and so forth.

Unfortunately these beliefs are incorrect. There is no Pinocchio's

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[60] *See generally* C. Bond & B. DePaulo, *Accuracy of Deception Judgments*, 10 PERSONALITY & SOC. PSYCHOL. REV. 214, 214 (2006) ("We analyze the accuracy of deception judgments, synthesizing research results from 206 documents and 24,483 judges. In relevant studies, people attempt to discriminate lies from truths in real time with no special aids or training.").

[61] Leif A. Strömwall et al., *Practitioners' Beliefs About Deception*, *in* DECEPTION DETECTION IN FORENSIC CONTEXTS 229 (Par A. Granhag & Leif A. Strömwall eds., 2005).

[62] *See generally* The Global Deception Research Team, *A World of Lies*, 37 J. CROSS-CULTURAL PSYCHOL. 60 (2006) (reporting two studies of stereotypes about liars, carried out in seventy five countries and forty-three languages).

nose. There are extremely few behavioral indicators of deception.[63] It means that liars' and truth-tellers' behaviors are almost identical. The few behavioral differences that we have been able to observe are not displays of negative emotion, stress, shame, and guilt. Rather than being more fidgety and moving more, liars actually display somewhat fewer movements. Peripheral body movements, like hand and finger movements, tend to decrease slightly in frequency. But this is so small that you might not even worry about it.

If people are in general about 55% accurate, you might wonder what that really says about lie judgments in a legal system where we presume there are experts who can detect lies better. This is a fair question, and people in general believe that police officers, for example, are better lie catchers.[64] Police officers themselves believe that they are better lie catchers, and one survey of criminal investigators found that police officers believed that they were around 80% accurate in detecting lies.[65]

There have been a number of studies mapping legal professionals' lie detecting accuracy—their ability to make credibility judgments. Police officers, prison guards, prosecutors, and lawyers have all been studied, and the basic finding is that, contrary to common sense and contrary to their own expectations, they are not better lie catchers. Their credibility judgments are accurate in around 55% of the cases.[66] This is probably not due to the fact that their decision-making is particularly flawed. It is probably due to the fact that the task is very, very hard.

There are some differences between presumed lie experts and naïve people, like college students, in how they make judgments. I was mentioning that lay people have the tendency to believe statements, but police officers and other criminal investigators have the opposite tendency. They are chronically suspicious; they make more lie judgments than truth judgments. So they are much more skeptical; they are much more likely to say: This is a lie.[67] This is probably a function

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63 *See generally* Bella M. DePaulo et al., *Cues to Deception*, 129 PSYCHOL. BULL. 74 (2003).

64 *See* Eugenio Garrido et al., *Police Officers' Credibility Judgments: Accuracy and Estimated Ability*, 39 INT'L J. OF PSYCHOL. 254, 254 (2004) ("Officers had a very strong tendency to judge the statements as deceptive; this made them less accurate than the students in judging the truthful accounts, while both groups reached a similar accuracy when judging the deceptive ones. Both occupational samples considered that the police are more capable of identifying truths and lies than the general population.").

65 *See generally* Richard A. Leo et al., *Police Interviewing and Interrogation: A Self-report Survey of Police Practices and Beliefs*, 31 LAW & HUM. BEHAV. 381 (2007) (reporting on the interrogation beliefs of 631 police investigators).

66 ALDERT VRIJ, DETECTING LIES AND DECEIT: PITFALLS AND OPPORTUNITIES 162 (2d ed. 2008).

67 Christian A. Meissner & Saul M. Kassin, *"He's Guilty!": Investigator Bias in Judgments of Truth and Deception*, 26 LAW & HUM. BEHAV. 469, 477-79 (2002).

of their professional experience of being constantly wary and constantly suspicious of the possibility of being duped.

This research also shows that criminal investigators are more confident in their ability to make these judgments. So the over-confidence effect is much stronger for criminal investigators than for people in general. You can imagine that this is very problematic, to believe that you have an ability that you do not actually have. It means that criminal investigators are going to trust their gut feelings about whether somebody is lying or telling the truth more than other people, but they do not have the actual ability to back up that confidence.

This research shows that people in general, and legal professionals especially, are particularly prone to what we usually refer to as the Othello Error. Not to suggest that the Shakespeare drama is not fresh in your memory, but just to give you a little update: Othello accused Desdemona of cheating on him.[68] She was innocent, but she was so upset about realizing that she might not be able to convince him that she was innocent that she displayed emotional behavior. She was extremely upset and he interpreted that as a sign that he was right. So this is a form of confirmation bias, a form of creating the outcome that you thought would be there all along.

This research on credibility judgments of police officers shows that they are extra prone to the Othello Error. When you accuse somebody of doing something wrong, who then displays signs of stress, nervousness, and negative emotion, and you believe those signs are signs of deception, you are at risk for falling prey to this kind of judgment error.

Why are criminal investigators and other people who work with and make these kinds of judgments not better at making them? There are at least two explanations. I am going to discuss these two explanations briefly. The first one is that outcome feedback of whether you are right or wrong is rarely available. It is very rare that you find out objectively whether your impression of this person's veracity was right or wrong.

There is decision-making research showing that, in order for you to learn from your experience and in order for you to develop better intuition over time, you need to get clear outcome feedback about when you were right and when you were wrong. You cannot worry about cases where mistakes are not costly, and you must instead focus on those instances when the consequences of mistakes are very severe.

One example of a situation in which there is outcome feedback and the consequences of mistakes are severe is brain surgery. If you mess up it is pretty obvious—and it is very costly to make those mistakes—so

[68] PAUL EKMAN, TELLING LIES: CLUES TO DECEIT IN THE MARKETPLACE, POLITICS, AND MARRIAGE 170 (3d ed. 2001).

motivation to improve is strong. But it is clear when you messed up and when you did good. So this is good for learning from experience.

The worst type of learning environment, what Robin Hogarth calls "wicked learning structure," is when the consequences of mistakes are severe, but you are left in the dark about whether you were right or wrong.[69] In those cases it is very hard to adjust your decision-making rules, simply because you cannot tell when you were right and when you were wrong.

It is easy to argue that the legal system, unfortunately, is a wicked learning structure because you do not always get accurate and clear outcome feedback on whether you were right or you were wrong, whether your impression of a particular person was right or wrong.

Let us take Jeffrey Deskovic's case as an example.[70] He was convicted for a crime because the investigators got false outcome feedback that their hunches about his credibility were right.

The other explanation for why criminal investigators are not so good at making these credibility judgments is that they rely on techniques that are not going to be effective. You probably all know about the so-called *Reid Manual*,[71] which is the handbook for criminal interrogation. It contains two elements. The first is an element of teaching people how to make judgments if somebody is guilty or innocent on the basis of behavior, and the other is a description of how to elicit a confession when you have established that a person is guilty.

The reason why this manuscript is problematic is that its guidelines for how you judge someone's credibility are completely wrong. They are not supported by any scientific research. They are simply a manifestation of cultural myths about lying and liars' behaviors.

The other problem is the false confession issue. Using the *Reid* techniques will lead to false confessions: They are manipulative techniques that are all about changing the person's perception of what is the rational thing to do. They are all about making it seem that the only rational thing to do is to confess.

There is research showing that people who are trained in using the *Reid Manual*'s guidelines for lie detection become worse, not better, at detecting lies.[72] And that is easy to understand if you consider the fact that these guidelines are completely unscientific. Apart from complaining about these manuals, I have spent a little bit of time trying

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69 ROBIN M. HOGARTH, EDUCATING INTUITION (2001).

70 *See generally* Maria Hartwig, *Methods in Deception Research*, *in* RESEARCH METHODS IN FORENSIC PSYCHOLOGY (Barry Rosenfeld & Steven Penrod eds., 2009).

71 REID ET AL., *supra* note 51.

72 *See* Saul M. Kassin & Christina T. Fong, *"I'm Innocent!": Effects of Training on Judgments of Truth and Deception in the Interrogation Room*, 23 LAW & HUM. BEHAV. 499, 511 (1999) ("[J]udgment accuracy rates were comparably low to the chance levels often obtained when such research is conducted in nonforensic contexts.").

to come up with viable alternative options. This manuscript is widespread and it is highly problematic. But in my research, I have tried to construct some better guidelines for criminal investigators about how to conduct better interviews and interrogations where you have a better chance of making an accurate judgment about a person's credibility.

In one mock crime study—and I would like to be able to defend mock crime research, but this is not the time—we had people who either committed a mock crime or were innocent of a mock crime.[73] The people who were assigned to the guilty condition went to a library, opened a briefcase and stole a wallet. Innocent people went to the same library and had the task of looking for a book, and had to move a briefcase in order to find the book. So we created a situation in which there was incriminating evidence against both types of participants—fingerprint evidence on this briefcase that all these participants had touched. There were also witnesses who saw the person by the briefcase. So we tested two ways of using this evidence. First we tested the "confront with evidence" technique, which is recommended in the *Reid Manual* and which is also—field investigation on interrogation shows[74]—the most common way of starting an interaction with a suspect. You disclose all the evidence, and the idea is you want to overwhelm this person with the evidence you have, thereby eliciting a confession. We started the interrogation in this way, and we said: "Your fingerprints have been found on the briefcase from which this wallet has been stolen, and eye witnesses saw you in the library. What's the story?" What we found was that both guilty and innocent suspects in this situation could generate a very credible alibi. Guilty people were given the chance to spin a story around this evidence. Many of them said: "That is not so strange, because I went to the library and I was looking for stuff."

Their statements sounded very credible, and people who were given the task of judging the credibility of these suspects did so on coin-flipping accuracy levels.

In the rest of the interviews, the interrogators did not disclose this evidence until the very end. Instead they asked questions about it: "Where were you? Were you in the library? What part of the library you were in? Did you see a briefcase? Were you in contact with the briefcase?"

We found in this situation that it was very hard for the liars to come up with a credible statement. We found that their alibis were very

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[73] *See generally* Maria Hartwig et al., *Deception Detection via Strategic Disclosure of Evidence*, 29 LAW & HUM. BEHAV. 469 (2005).

[74] Richard A. Leo, *Inside the Interrogation Room*, 86 J. CRIM. L. & CRIMINOLOGY 266, 278 (1996).

improbable, even implausible. Many of them said: "I was in the library but I was never close to that briefcase," which, when you have this evidence to the contrary, allows you to know that they are lying.

However, innocent suspects were as equally forthcoming in this situation as they were when they were confronted with the evidence at the outset of the interrogation. Even when the evidence was withheld, they still gave a statement that explained the evidence.

So, based on this condition—when the evidence was not disclosed to them—there were clear verbal queues to deception. There were clear differences in the statements of liars and truth-tellers.

In another study we trained police academy trainees to use these simple techniques.[75] We found that when they had received none of this training, their accuracy rates were at the level of chance. But when they were taught these simple techniques of not telling the suspect what they knew, but rather asking questions, they obtained a hit-rate of 85%, which is the highest accuracy figure that has been observed in this type of lie detection research.

This is intuitively appealing, and very often, if I get to talk to police officers they say to me: "You made a career out of common sense." But the problem is that this is not what police officers typically do. They do not typically use the evidence in a strategic way. It is similar to a bargaining situation or poker game, where you do not want to show your cards. Everybody knows why that makes sense, but probably the lure of disclosing the evidence and shocking the person with this evidence is too strong.

This is just one way in which you can improve judgment accuracy: not by being tougher on the suspect, but by being smarter. There are many other options available and we need to conduct more research to come up with better guidelines.

As for the *Reid Manual*, there is no way we can change practice by just saying: "Do not use these techniques." As scientists, we also have to provide good alternatives.

In summary: People easily form false beliefs about each other; social judgment is flawed; people are prone to confirmatory errors; and criminal investigators unfortunately are more confident but not more accurate lie-catchers. How do you improve?

One possibility is clearer outcome feedback, such as analyzing cases in which you made mistakes. If interrogations were routinely videotaped, we could go back and look at these tapes when we know that the person was actually innocent.

If we had a tape showing the interrogation of Jeffrey Deskovic, we could look at this tape and perhaps learn to interpret the behavior in a

[75] Maria Hartwig et al., *Strategic Use of Evidence During Police Interviews: When Training to Detect Deception Work*, 30 LAW & HUM. BEHAV. 603 (2006).

different way. It would be possible to see that the stressful behavior we previously interpreted as signs of this person's guilt might be a function of the Desdemona syndrome, of the despair that you feel when you think that you are incapable of convincing the other person that you are innocent.

In my view, a main, future direction for scientific research is to take some of these tools that cause incorrect credibility judgments and their costs—false confessions—and replace them with more powerful and scientifically supported techniques.

IV. PRESENTATION BY TERRI MOORE[76]: PROSECUTION IN AN INNOVATIVE DISTRICT

Hopefully I will bring something unique to this Symposium, other than my accent from Texas.

I come to you from Dallas, Texas and I have been a lawyer since 1986. Five of those years have been as a prosecutor, the last three years of which have been in Dallas, Texas, and I have had such a strange experience. Dallas has always been—really up until the last election—an ultraconservative jurisdiction. It has had a long time DA for over thirty years. After he died there were only two other DAs before my boss was elected. So, when my boss—a former defense attorney who had never been a prosecutor, and had not gone up through the ranks—was elected, there were people in the office who did not think that he had a good sense of justice. They did not really know what their duty was, and so he gave them all pink slips.

You cannot fire an entire office, but he gave all the top people pink slips and he brought in new people, including myself. Having grown up in the neighboring jurisdiction I can tell you that Dallas always had a sore reputation among prosecutors. Even other prosecutors knew that what had been happening in Dallas was not right.

They put their convictions on the front page, and if they got reversed, they would put it on the back page. There was this mentality of conviction at all costs. The appellate section was driven to protect that conviction. And that had been the mentality in Dallas.

When we came into the office, even though he had gotten rid of so many people, it was still a very large office, around thirty to forty-five lawyers. So here they were, skeptical of their newly elected District Attorney and of this new administration.

One of the very first things that we did was something that I do not think any other jurisdiction has done, which was to set up a Conviction

[76] First Assistant, Dallas County District Attorney's Office.

Integrity Unit. We brought in one of the smartest, hardest working lawyers from the neighboring county, a man that I have known for twenty years. He had never been a prosecutor but had been a defense attorney, a good trial lawyer, a good appellate lawyer, and a good writ lawyer, with an awesome work ethic and good judgment. And we set up this Conviction Integrity Unit to go through all the cases where defendants had requested DNA evidence but prosecutors had fought tooth and nail to keep them from having it.

One unique thing about Dallas county is that the crime lab there has actually kept evidence since the 1980s. Consequently, in the last three years that I have been doing this, the number of people we have exonerated exceeds the population of some of the small towns we have down in Texas. For a while it was an exoneration a week, and yet we were still trying murder cases and rape cases, very serious cases. And many of our prosecutors were very concerned with the media frenzy going on in the courtroom during an exoneration when they are in the neighboring courtroom trying to convict somebody.

In response to the fears that Barry Scheck talked about[77]—the fear that maybe juries will not trust you, the fear that you are not going to be able to convict guilty people—I am here to tell you, that is *just not true*. If anything I think we have to tread more carefully because the jury says "if you guys say he did it, he did it." So, if anything, they trust us *much more*, and it has been an amazing experience.

I think that we have had quite an assembly line of justice going on in Dallas County for a long time. There is a crushing caseload, and while everybody talks about the prosecutors and the ineffective assistance of counsel, judges have a role in wrongful convictions too. They too have that assembly line going—hurry up, let's go, hurry up, move this case, move this case—so they need to take ownership of their own issues as well.

Back to the Conviction Integrity Unit: We have all these cases and we are going through them. We have been giving DNA tests, and it has been just amazing as we have gone through so many of them. We have come to making certain kinds of bets, such as, "I bet he is going to be guilty, I bet he is not going to be guilty, whatever." But overall, the attitude has been that if someone is innocent, we can prove it. So there has been a very good attitude about working jointly with public defenders and the Innocence Project. Not in an adversarial role, but more in a buddy system—let us go through this together, you can look

[77] Barry Scheck, Co-Founder of the Innocence Project, Presentation at the Cardozo Law Review Symposium: New Perspectives on *Brady* and Other Disclosure Obligations: What Really Works? (Nov. 15, 2009) (transcript on file with the Cardozo Law Review); *see also* Barry Scheck, *Professional and Conviction Integrity Programs: Why We Need Them, Why They Will Work, and Models for Creating Them*, 31 CARDOZO L. REV. 2215 (2010).

at what I can look at, you are more than welcome to look at it, and help us get to the bottom of this. In some of the cases, where it turned out that the DNA test proved that they were really guilty, we have to square off to our respective roles. But in the investigative process there is just no need for us to treat each other like adversaries.

There had initially been this attitude in the office, which is gradually easing up, of viewing the Conviction Integrity Unit more or less like the internal affairs division of a police department. So, guess who does not get invited to go to lunch? But as it was said earlier, whoever is in charge of this does not necessarily have to be liked, but they do have to be respected.

Everything we have done, we have done it very transparently so that everybody could see that it was the absolute truth and it was done in the right way. So there has been a great amount of respect by the long-term people who had been in the office and did not get the pink slip, but who were looking at us from the corner of their eyes. There is a new-found respect in that regard. And so, changing institutional attitudes, and showing people how to do justice, I think it is a very important thing.

One of the first things we did was to implement an open file policy that allowed defense attorneys to see our internal files, which in the neighboring jurisdiction was all I ever knew. I grew up with that, and so to come to Dallas County and have prosecutors line up to tell you why that should not be the case was amazing to me. I think I am so reasonable and so fair, how could anybody disagree with me? And yet they were lining up to say: "This is a bad idea, you can not trust these lawyers, they are only lying, they are doing this to get their clients to tailor their statements." Just on and on. The only legitimate thing they said was about confidential information, information that was deemed by statute to be confidential. We do not like the defense attorneys to know the social security numbers, that sort of thing.

But for the most part we just forced an open file policy. And then we did something else that I have not heard anybody else doing: We started an open file policy for the post-conviction writs.

So, the idea—and of course the naysayers were there for this, too—is that even the prosecutor's trial notes should be open now at the appellate or at the writ process.

Why is that a problem, if it happens when the trials have already occurred? The whole justification of shielding trial strategy is out the window post-trial. There was a trial, now you can read what the strategy was. And you will find *Brady* violations in so many of those notes. I am sad to say that I have seen all sorts of *Brady* violations. One of the common threads in the twenty-two exonerations that we have had in Dallas County has been *Brady* violations. And that is very

troubling; it is very sobering. I think now it is time that we look the problem in the eye and really talk about how and why these violations occur.

Some of the *Brady* violations that I have seen have been outright intentional *Brady* violations. When a victim in a sexual assault case came forward and told the prosecutor there were two guys and that one did not do it, she wrote a note in the co-defendant's file. There was an attempt to hide it, never disclosing that information to the defense, and this defendant was offered probation. And who would turn down probation? The risks are just too high. That is an outright intentional *Brady* violation, and that is sad.

Some of the *Brady* violations that we have seen are harder to identify. The police department will say, "why turn it over to the prosecution?" The prosecution will say, "I never had that, I never got that from the Police Department." The defense attorney says, "I never had it." And it is obvious they never had it because even the sorriest defense attorney would have made use of it in the trial if they had it. So clearly he did not have it. So was it the police? Was it the prosecutor? I do not know. So I put that in a different category than the intentional *Brady* violations that we have seen.

So we have finger pointing, and we also have some that I think are just misinformed *Brady* violations. Some people do not really know what their job is, they do not really understand what *Brady* is. Many of the young lawyers, when you talk to them, limit it only to exculpatory: "How is it that this shows he did not do it?" They do not think about impeachment, and they do not think about something that is favorable to the defense. They do not go down that road at all; they have blinders on and go solely to the issue of exculpatory information. So they do not really, *really*, know what their job is.

One of the things that we have started doing to try to correct that problem occurs during the hiring and interviewing process. These lawyers are young, they are just out of school, they are eager, and they are positive. They want to come down and they want to do a good job. They want to do justice—you just have to show them how, and they have to understand their role. Whether or not they get hired, we want these young lawyers to understand all of the prosecutor's responsibilities. So when they are getting ready to come in for the interview, we email them a bunch of case law—*Brady*,[78] and *Giglio*[79]—and we have a couple of Texas cases where the judges who have written opinions have done a really good job. Not to name the prosecutor, but really to lay out a case with respect to what the prosecutor should have done.

[78] Brady v. Maryland, 373 U.S. 83 (1963).
[79] Giglio v. United States, 405 U.S. 150 (1972).

We email these to all of the interviewees and tell them to be prepared to discuss them at the interview. So the interview is much more about that than anything else. You know—why do you want to be a prosecutor, and all the other stupid questions asked when it is time to hire somebody. We tend to focus about 90% on the role of a prosecutor, with follow up questions. It is amazing to see how light bulbs go off. We have a little secretive method there, and it is good, and it is a positive thing of which I am very proud.

We have recently started to branch out beyond the DNA cases and to take a look at identification cases that do not involve DNA. Those are the hardest cases. We know that the witness can come in and make a very powerful impression, looking over to the defendant and saying: "I'll never forget that face as long as I live." It is very strong, it is very compelling, and we look at that and wonder how they could have gotten it wrong. We have gone back to the Dallas Police Department (DPD), and now they have a lineup procedure, a method of showing photo spreads that is very good, very positive. They are using the double blind sequential method, and you start to see the cops taking ownership of that. "Oh, that is not a good lineup, I can pick the guy out right now." It is great to see officers taking ownership of that issue.

That may be true for DPD, and maybe one other police department out of the forty-two in Dallas County, but we are not really seeing it among the other police departments yet. I think it is going to take a while.

We recently worked on one case, an exoneration with two defendants that did not involve DNA evidence. We worked the case for a while and then decided we had to bring in the police—including the detective who had originally convicted the guy—to see what they had done wrong. The detective did not take a major role, but he did play a minor role, and I think it was very therapeutic for him as well because he was glowing when it was over. The officers were suspicious of these people at the DA's office that no longer had the attitude they used to have. I thought they were acting like really good defense attorneys in regard to all of the information we had given them. They were poking holes and poking holes; there had to be a way that these people were still guilty. There, I said, you can be a great defense attorney, now can you just open up your mind to the fact that you got it wrong? And finally they did, and not only did the two men get out of the prison for a capital murder they did not commit, but we also actually got the real guys. So it was perfect!

One thing that we have also done as a matter of office policy is to require the preservation of trial notes. The idea is that if prosecutors think that their work product notes are going to be exposed during the writ process, they will be concerned about the holes in their case they

were not able to close. If not, they might simply destroy their notes at the end of the trial. So now it is our office police, and maybe the legislature should require the preservation of notes as well.

We are trying to do a lot of things. It is all very positive, and it has been a wonderful experience. When my boss went to the Texas District Attorney's Association for the big prosecutor meeting, he got a real golf clap as opposed to a genuine round of applause. But we are working hard on it and hopefully I can learn something here that I can take back and even do better.

V. PRESENTATION BY JOHN CHISHOLM[80]: HOW INDIVIDUALS ARE PROCESSED THROUGH THE CRIMINAL JUSTICE SYSTEM

One of our obligations as prosecutors is to turn over our office in better shape than when we inherited it. I am the beneficiary of that ethos. One of the first steps that my boss, E. Michael McCann, took in 1969 was to initiate a civil lawsuit against then-City of Milwaukee police chief Harold Breier, forcing him to comply meaningfully with *Brady*. Before this lawsuit, Chief Breier's *Brady* compliance consisted of providing police reports to both the prosecutors and the defense attorneys on the day of trial. Ever since that lawsuit, the police department has been turning over police records in a timely manner.

We are now engaged in a fundamental re-examining of the prosecutor's role. Many of us were raised in a very process-oriented system, and many of us now believe that to be most effective, we must move to a system that is more outcome-based, for example, by focusing our system on the offender rather than on the offense. Here I will speak about the spectrum of prosecutorial decision-making in the context of discovery.

There are three general categories of reform in the area of prosecutorial decision-making that I will address.

The first category is pre-charge, specifically prosecution agreements and negotiated issuances. This is a large category, and it reflects the determination that the vast majority of the individuals who enter into the criminal justice system would be better served by a structured change in behavior as opposed to an over-reliance on

[80] John Chisholm is the District Attorney of Milwaukee County. He has organized his office to work closely with neighborhoods and has expanded his nationally recognized Community Prosecution program. He has formed a Public Integrity Unit to focus on corruption matters and a Witness Protection Unit to thwart attempts to intimidate victims and witnesses of crime. Chisholm has helped inaugurate a drug treatment court, and he sits on the Racial Disparities Oversight Commission. He serves on the Milwaukee Homicide Review Commission, Community Justice Council, Safe & Sound, and Milwaukee Addiction Treatment Initiative boards.

incarceration. In my perspective, this can have a marked public safety benefit, because it frees up more of our resources to go after those individuals who are doing the most damage to our community, such as sexual offenders or gun offenders.

The second general area is the post-charge decisions. I will address possible future challenges, particularly as they relate to information technology changes.

The third category is what I call the "super charge." It is fairly common now for prosecution jurisdictions to work with multi-jurisdictional task forces, collaborating with the U.S. Attorney's Office, the FBI, ATF, and DEA, among others. These federal agencies' rules are fundamentally different from the rules of discovery in the State of Wisconsin. Their rules are limited in scope and can be quite expensive to comply with, which can be the source of a myriad of problems.

As to the first issue of pre-charge, we are trying to move toward a universal screening system. In effect, any time an individual comes into contact with our system we want to determine why, and subsequently determine what kind of discovery obligations we will have. For example, individuals with violent offenses will require a simpler assessment, but also will require discovery issues to be dealt with more quickly, as they will be moving through the court system quicker.

Our system is complaint-based, and involves preliminary hearings. It is mandated that a person in custody has their case reviewed within forty-eight hours, that a charging decision is made and a complaint issued within seventy-two hours, and that the preliminary hearing is held within ten days. After the preliminary hearing is held, we turn over all of our discovery to the defense, with the continuing obligation to turn over their discovery as soon as it becomes available.

With diversion cases, we are changing some of the rules of the traditional advocacy role. Public defenders working with our diversion team will assess individuals and make determinations based on their needs. Public defenders and defense attorneys provide us with the need, we make the risk assessment, and then we make a negotiated deal as early in the process as possible. Currently in these diversion cases a premium is placed on getting the discovery to the defense, even before the issuance of the complaint. This is done so that the defense does not have to make these determinations in a vacuum, before they have had the chance to review the strength of the state's case.

We also engaged David Kennedy, who made a number of appearances for the Drug Market Initiative, sometimes known as the High Point Model.[81] We have done about five iterations of those in the City of Milwaukee just in the last year. This model involves bringing in

[81] David M. Kennedy is the Director of the Center for Crime Prevention and Control and a Professor of Criminal Justice at John Jay College of Criminal Justice.

the high level, mid-level, and low level drug dealers, then showing them an unsigned criminal complaint. We explain to them that they have been caught engaging in hand-to-hand drug deals with undercover police officers, and that if they do not change their behavior, we will begin the usual process and prosecute them.

This process is all done at the pre-arrest and pre-trial stages, making it a unique model. The advantage of this model from the defender's perspective is that we have one of the most open circuit court access programs in the country. Once a person is arrested and charged, that information is then available to the public for the rest of the person's life. Therefore, there is a premium in diverting people from this system even before trial. Defense attorneys have expressed a strong interest in being able to look at the police reports leading to these diversions early on, so that they can better counsel their clients regarding their options.

Another area of reform in the pre-charge category is collaboration with various correctional systems. Many individuals are recidivists or are already in supervision, and there exists a vast amount of available information that could be helpful for the defense. This information can also be very helpful for the prosecution in making risk assessments, which can impact pre-charge discovery discussions.

In the second category of post-charge, we similarly try to get the discovery to the defense as quickly as is practicable. We have an open file system, meaning that public defenders and defense attorneys can have access to everything contained in our files other than confidential or privileged information.

Up until February of this year, we had been using a paper based system. Thanks to the work of Vera Institute and Wayne McKenzie,[82] we convinced our state to invest in a case management system. For the first time, we are now able to manage our cases in an electronic format, which is extremely important when one considers the current environment of decreased resources and increased expectations and demands.

There are specific discovery issues that are implicated when dealing with protective orders. Currently, with our new electronic information system in place, the potential exists for various police agencies to dump their entire case management system into ours. This can raise a myriad of issues for discovery.

For example, our office does not want to automatically turn over information related to confidential informants, medical issues, prosecutorial decisions that are attorney-client privileged, or other pieces of information that are traditionally unavailable to the defense.

[82] Wayne S. McKenzie is the Director of the Prosecution & Racial Justice Program at Vera Institute of Justice.

Protecting our witnesses is one of our primary obligations, and is fundamental to protecting the entire criminal justice system. We want people solving their disputes in court, not on the street. In order to do that you have to give witnesses incentives and safety guarantees to induce them to testify. Our office has recently been given resources by our county to set up a witness protection program. Our program is directed at responding reasonably quickly to the threats against our witnesses. Here lies the discovery issue, because when making information available from police reports, you may be releasing very detailed personal information related to your witnesses and your victims. Our witness protection program is set up to respond to problems arising from that.

There is also a lesson to be learned from the ways in which our children's court organizes information. Our children's court addresses matters such as termination of parental rights, children in need of protective services, and those who are entering into the delinquency process. Each child involved in a children's court proceeding has one single file that includes all information, including whether the child has been subject to protective services, termination services or delinquency services. In contrast, our adult system is not organized by offender, but by case; to find information on any one person you would have to know ahead of time which cases to look for.

The third and final category is the "super charge," and problems arising from joint task forces. These task forces can be helpful if you are engaged in any complicated investigation, such as public integrity investigations, long term drug trafficking, or violent criminal gang organizations. The rules and the laws governing federal discovery are different than state discovery laws and local court rules. As the "task force" model becomes more commonplace, we should examine the potential for conflict.

VI. PRESENTATION BY LARRY RICHARD[83]: ORGANIZATIONAL PSYCHOLOGY AND ASSESSMENT TOOLS—PERSONALITY AND UNDERSTANDING LAWYERS

The following is a discussion about the data that I have gathered over the last twenty-five years on over 30,000 lawyers and their personalities. Presently, the one hundred largest law firms all have a general counsel, usually one of their top lawyers, who is designated as a full time risk manager. The reason for this is that internal liability, whether it is professional malpractice liability or classic tort liability, has been on the rise, and this is an effort to stem it. These law firms are attempting to do internally something similar to what this Symposium is attempting to accomplish in the prosecutorial world.

After over twenty years of studying lawyers, I have concluded that on every personality scale, using every assessment tool, we are outliers. People with these specific outlier traits are already selected or self-selected when they enter into the law profession, then the process of attending law school further self-selects by weeding out those individuals who do not fit the lawyer "mold."

A. *Test 1: Caliper Profile*

For the purposes of this talk, I will define personality as a habitual way of thinking, feeling, and behaving, that distinguishes an individual from others. Personality defined this way does not signify mandated behavior, only how one would behave when presented with an awkward or uncomfortable situation.

The first test is called the Caliper Profile.[84] The Caliper Profile is a widely used personality tool that was developed about forty-five years ago and has since been given to over two and a half million college educated subjects around the world. We have tested around 4500 lawyers, including nearly one hundred managing partners, using this tool. The Caliper Profile has eighteen traits, each scored on a zero to one hundred percentile scale. The average score for any group that takes it would be 50% for each personality trait. An occupational sub-group generally would fall within the standard deviation, roughly between 40% and 60%. To have one outlier out of the eighteen traits is

[83] Dr. Larry Richard is the head of the Leadership & Organization Development Practice Group at Hildebrant Consulting, which helps law firms and legal departments on people issues. Since the early 1980s, he has pioneered the application of psychology and other behavioral sciences to the improvement of leadership and management practices in the legal profession.

[84] *See generally* Caliper Online, http://caliperonline.com/ (last visited June 25, 2010).

a fairly surprising event, to have six outliers out of eighteen is shocking. I have never seen any occupation, other than lawyers, that have six out of eighteen personality traits scored as outliers.

These six personality traits in which lawyers are outliers are skepticism, autonomy, urgency, sociability, abstract reasoning, and resilience. The first trait, skepticism, is a functional trait for lawyers. Inherent to a lawyer's job is challenging and being skeptical about data, about adversaries, and about their own clients. However, in today's law firms lawyers play many other roles besides just traditional lawyering, such as leadership, management, and supervisory roles, all of which are more relationship-based and require low levels of skepticism. This can create a kind of tension for lawyers to be both skeptical and trusting at the same time.

The second trait is autonomy. Lawyers are highly autonomous. I have only given you two of the six traits, and here is what we know so far: If you ask a lawyer to do something, they will not believe you in the first place, and even if they did, they are not going to do it.

The third trait is urgency. Lawyers are very time-driven and have a need for closure. Basically, they want to cut to the chase. These three traits taken as a group show us the uphill battle that we have in the task of reducing *Brady* violations. If people are inherently skeptical, they are going to be skeptical about any solutions that you offer. If they are autonomous, they are going to resist any attempt to regimen or regulate, and if they are urgent, they are only going to give you a few seconds to apply those failed strategies.

The fourth trait is sociability. Lawyers are very, very low on the intimacy scale, meaning that they do not like to reveal much about themselves and they are very comfortable being solitary.

The fifth trait is abstract reasoning. Lawyers are very smart, they like solving problems, and they like engaging the frontal cortex. They are extremely interested in analyzing. This is obviously a strength as well as a weakness. The strength of abstract reasoning is that it enables lawyers to be very analytical, smart, and thorough. The weakness is manifest in the way that lawyers like to drill a hole in their own boat, and as it is sinking they will say, "Boy, that hole-drilling was so much fun." This downside could allow lawyers to come up with lots of reasons why a new strategy will not work.

The last trait in the Caliper Profile is probably the most important and the only one of these six that may not be intuitive. Resilience has to do with how thick or thin a person's skin is in the face of rejection, criticism, or setbacks. A highly resilient person is somebody who, when faced with any of these things, bounces back easily. A person with low resilience typically feels hurt, gets defensive, and tries to ward off any criticism. For example, "Oh no, I didn't do that, it must have

been your fault!" Or, "You are criticizing me, but let me tell you what you did wrong."

What we found was that lawyers are not only 20% below the resiliency norm, but also that this is a skewed distribution. In reality, nine out of ten lawyers we tested had a resilience score below 50%. This is important because a person with low resilience is much more likely to suffer from the biases that Maria Hartwig talked about earlier;[85] they are much more likely to exclaim "I didn't do it," or "I'm not at fault" or "I don't have a problem," even if the effort being made is to repair or improve. This presents a challenge to reform of any kind.

B. *Test 2: Hogan Test*

Hogan is a widely used personality test in the industry, and it has several components.[86] One of those components, which is unique to this test, is a measure of what is called the derailers. Derailers are dysfunctional behaviors that, in leadership situations in particular, tend to upend someone who may have been on the track to be an excellent leader. Derailers can be thought of as normal personality traits used to excess. Therefore, if a person is very good at thorough and meticulous analysis, the excessive use of that behavior could produce perfectionism to a fault, when somebody gets so stuck in the details that they miss the big picture.

There are eleven derailers. I will discuss the five that are most common for lawyers in leadership positions.

Number 1 is the colorful personality. This is someone who is melodramatic, histrionic, and prone to exaggerating everything. Exaggeration, as you can imagine, may cause some detrimental issues.

Number 2 is the leisurely personality, which is in many ways a passive-aggressive personality. This is a person whose style, when they are under stress, is to say everything but do nothing. For example, "Sure, I'll do it, but tomorrow."

Number 3 is the reserved personality, often called schizoid or aloof. This is someone who is emotionally detached and does not engage others. In my experience, this behavioral derailer is especially prevalent with prosecutors. I do not have data on this, however after testing about 5000 prosecutors over five years, I have found that they all seemed very high on this particular scale.

Number 4 is cautious, the avoiding personality. This is the personality previously described, involving an exaggeration of

[85] *See supra* Part III (presentation by Maria Hartwig discussing confirmation bias).

[86] *See generally* Hogan Assessments, http://www.hoganassessments.com (last visited June 25, 2010).

professionalism which can produce analysis-paralysis in decision.

Number 5 is bold. We have all seen the narcissistic lawyer, and one can imagine the detrimental behaviors that can come with this personality type. For example, "Enough about you, let's talk about me. What do you think about me?"

C. *Test 3: Meyers-Briggs*

Meyers-Briggs is a widely used personality test developed in the 1940s and is based upon selection ratios.[87] Selection ratios look at the proportion of a certain one of sixteen types in a population at large, and compare the proportion of that same type within an occupational sub-group like lawyers. The ratio of the occupational sub-group's frequency to that same type in the general population is the selection ratio. The common ratio would be 1:1, though occasionally you will see higher ratios.

There are four Meyers-Briggs scales. The first is extroversion versus introversion: Extroverts tend to focus their energy out or on people and activities, while introverts are quieter and more reflective. If you are asking yourself now, "I wonder what he means by that," you are probably introverted. However if you are buzzing with your neighbor about it, you may be extroverted.

Sensing versus intuiting is about how you prefer to receive data. Sensors prefer facts and specific concrete information, while intuitives prefer "big picture" and more abstract data.

Thinking versus feeling is a strategy for making decisions. Thinkers are logical, objective, and very detached about their decision-making, while feelers are personal and subjective. This does not necessarily refer to feeling in the emotional sense, but is instead about using your personal values as criteria for making decisions.

The last scale is judging versus perceiving, which are really two mislabeled terms. Judgers are individuals who like to cut to the chase, and who seek closure. Perceivers are individuals that like to draw conclusions in a rather open-ended way.

Under the Meyers-Briggs analysis, there are the sixteen types, and each one is an initial and an abbreviation for those four preferences previously mentioned. These preferences are distributed roughly evenly, although certain types are much more common in the population.

One of the least common types for the general population is the

[87] *See generally* The Meyers & Briggs Foundation, http://www.meyersbriggs.org (last visited June 25, 2010).

model type for lawyers. It exists in about 2% in the general population, and in about 13% for lawyers. It is characterized by someone who is extremely driven, ambitious, intelligent, efficient, organized, objective, analytical, and skeptical.

D. *Test 4: Emotional Intelligence*

The next measurement is emotional intelligence. Emotional intelligence can be thought of as a set of four skills. The field of emotional intelligence was developed by Jack Mayer and Peter Salovey in 1990, and they came up with the four identifiable skills.[88]

What is important to underscore about these skills is that every one of them is learnable and teachable. This does not mean that everyone can learn them, but the skills have been demonstrated to be highly teachable, which is especially germane to the topic of prosecutorial misconduct.

The first skill is how accurately one reads emotions. Number two is the skill with which an individual applies their mood to analysis. Intellect and emotions are related, so the mood that a person is in can influence how skillful they are at analyzing. Number three is how well one understands, which includes the acknowledging of other perspectives. Number four is how well one regulates emotional reactions.

A typical bell curve shows the way that IQ and EQ (emotional intelligence quotient) are distributed. 100 is the average, and 85 and 115 are standard deviation points. Using the Mayer-Salovey-Caruso Emotional Intelligence test,[89] the general public averages 100, and lawyers average 94. This is fairly low compared to other occupational sub-groups, and though it is not the lowest, it is one of the lowest.

Lawyers scored an average of 92 in the perceiving skill set, which is very low. The problem with this finding is that all the other skills are founded on the ability to accurately read emotions, and if you are not adept at this skill set, you can make very ill-informed yet successful strategies involving the other three traits. Lawyers are about average on using their mood to regulate emotions, the second skill set.

As to the third and fourth skill sets, lawyers are very smart, so they have the highest score on understanding emotions. Their ability to regulate themselves is also in the average range.

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[88] *See, e.g.*, John D. Mayer & Peter Salovey, *Emotional Intelligence*, 9 IMAGINATION, COGNITION & PERSONALITY 185 (1990).

[89] *See, e.g.*, JOHN D. MAYER ET AL., EMOTIONAL INTELLIGENCE TEST (MSCEIT) (2002).

VII. PRESENTATION BY BARRY SCHWARTZ[90]: EDUCATION AND METRICS OF EVALUATION

In a second grade class in Swarthmore, Pennsylvania, a substitute teacher discovered that she could get children to read by introducing a program where whoever read the most books in a month got a prize. Kids began reading like crazy. It worked so well in that community that other communities began to implement this same incentive program. However, the results left something to be desired. Children started to choose books based on a criteria not previously used: namely, which books had the fewest pages and the biggest print. When asked a question about a book they had just read, none were able to remember. Basically, they were reading like demons, and getting exactly nothing out of what they read. Nonetheless, if you measured by the criteria this teacher used—how many books these kids are reading—this was a spectacularly successful program.

There is no such thing as a smart incentive. All incentives are dumb, and they are dumb for particular reasons. The problem with incentives is that they have to be based on meeting some criterion, which needs to be specified reasonably objectively. We identify a criterion as a proxy for things that are too complicated for us to measure directly. For example, if kids are reading more books, chances are they are getting more out of books. If CEOs are operating to increase the share value of the company, chances are that the company is actually performing better and becoming healthier. These can all be reasonably good criteria before they get incentivized, however incentivizing allows you to manipulate the index so that it is no longer an index of anything.

The problem is that while incentives are based on meeting explicit criteria, much of what most people do is based on a set of implicit contractual understandings. Without implicit understandings the system falls apart. If incentives reward the explicit, consequently the implicit deteriorates and eventually disappears.

A specific example is the case of prosecutors, who are in the difficult position of serving dual masters. On the one hand, they are out to win cases, but on the other hand, they are trying to serve justice. Sometimes, perhaps often, these two objectives come into conflict. So what does one do when faced with this conflict between two reasonable and appropriate objectives? The temptation is to come up with a nice set of rules that helps prosecutors decide when to do what.

It is difficult to specify the rules of disclosure with the kind of

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precision and detail necessary, because often, even if you acknowledge that it is more than just exculpatory, judgment will be required. It is easy enough to imagine prosecutors honoring the letter of this requirement and flooding public defenders with paper, giving them so much information that they might just as well have had none. Prosecutors must make this judgment of what to disclose when faced with conflicting motives: to win on one hand and to serve justice on the other.

Why do prosecutors get it wrong? We heard earlier about a variety of cognitive biases—confirmation bias in particular.[91] The universal problem of confirmation bias is exacerbated in the case of prosecutors for a few reasons.

One of them is that the tendency to see confirmatory evidence is enhanced if you think the probability of guilt is high. Prosecutors must ask the question: What is the likelihood that a person being actually charged and prosecuted is innocent? How many innocent people go to trial? For prosecutors, the answer is very few. Consequently, unlike the general population, who have normal, substantial confirmation bias, prosecutors have massive confirmation bias, because 99 times out of 100 the hypothesis that the defendant is guilty is going to be confirmed.

In addition, there is a phenomenon known as naïve realism, which is the attitude that when you and someone else disagree, the problem rests in the fact that you see things as they truly are and the other person is biased. In an adversarial situation, it is easy to see how impasses develop, because each side thinks that the other one is being willfully insensitive to the true state of affairs.

There is a psychologist named Jon Haidt who has developed a theory of how we make moral judgments, and in that theory he argues that "reason is a lawyer, not a judge."[92] What he means is that the default state for human beings is using our rational faculties to make an argument defending the position that we actually arrived at through some non-rational process. In other words, I know this person is guilty, and now I am going to use all my analytical power to show that to you as well. Reason advocates, but it does not adjudicate. This is true for all of us, but especially true for people in a prosecutorial position.

All of these biases are essentially unmotivated. In other words, we are not trying to get a particular result. However we do not need to be trying to get a particular result to show these biases; it comes with being human. If, on top of being human, we actually have a stake in the outcome, these biases can become dramatically enhanced. So we can ask, "Must I believe this?" in which case we will be out to show that it is false, or we can ask, "Can I believe this?" in which case we will be

[91] *See supra* Part III (discussing confirmation bias).

[92] *See, e.g.*, JONATHAN HAIDT, THE HAPPINESS HYPOTHESIS (2006).

out to show that it is true. Whether we ask "must I" or "can I" is essentially a question of what we want the world's state of affairs to be. If prosecutors want convictions, they ask, "Can I believe this person is guilty?" If justice is their goal, then they might ask, "Must I believe that this person is guilty?" The motivation to achieve justice, which is in conflict with the motivation to win, can be undermined by the motivation to win.

There are a couple of examples of how motivational systems, even when they are pushing in the same direction, can end up undermining one another. In an Israeli daycare center, parents were coming late to pick up their children.[93] The center could not close the daycare center and leave the children alone, so they exhorted the parents to come on time, but nothing seemed to work. The director of the daycare center decided to impose a fine for tardiness, however when the fine was imposed, lateness actually increased. Why? Because now it simply became service for a fee. All the moral ramifications of arriving late vanished. Consequently, the director removed the fine, and lateness increased even further. Now, it had become a better deal than before.

In effect, the imposition of a fine gives people two reasons to do the right thing. The first reason is that they have an obligation, and the second reason is that it is in their financial interest to do so. Two reasons are weaker than one. The second, financial reason undermines the first reason, and apparently it undermines it permanently.

In another example, Switzerland was about to have a national referendum on where to put its nuclear waste. The government asked citizens if they would be willing to have a nuclear waste dump in their neighborhood, and 50% of people answered yes. This puzzled the government investigators, because when they asked if these people thought the dump would be dangerous, people also answered yes. When asked if it would lower their property value, people again answered yes. And when asked if they actually wanted a nuclear waste dump in their neighborhood, the answer was an emphatic no. To explain why they still were willing to have the dump, the people stated that it had to go somewhere and that they were fulfilling their responsibilities as citizens.

The government investigators then asked different people if they were to pay them six weeks' salary, whether they would agree to have a nuclear waste dump in their community. Instead of 50%, only 25% of the people said yes. This is because when you offer people money, you are implicitly telling them that the answer to this question should depend on nothing but a calculation of your self-interest. Once you give people permission to think only about their self-interest, there is no

93 *See* Uri Gneezy & Aldo Rustichini, *A Fine Is a Price*, 29 J. LEGAL STUD. 1 (2000).

price that people are willing to pay to have a nuclear waste dump in their neighborhoods.

These were incentives that were designed to enhance the moral motives—in the one case, to show up on time, and the other case, to take responsibility as a citizen—and they ended up undermining these moral motives.

This relates directly to prosecutors because the goal of serving justice is a very lofty moral aim. However, if incentives are operating that encourage you and reward you for winning cases, these incentives will inevitably undermine the motive that you have to serve justice.

The incentives that are operating can be very subtle indeed. The second grade teacher certainly was not trying to get her students to read short books and not remember anything about them; she just wanted the students to read more. What this suggests is that when running a prosecutorial office, extraordinary attention must be paid to what incentives are actually operating day-to-day in the office. There is no need to think about what moral imperatives are being articulated from on high. On the ground, people who are making decisions about what to disclose and what to bring to trial are not influenced particularly by moral pronouncements. Instead, they are influenced by the actual contingencies and payoffs that operate in the office. If justice is your principal objective, the way you show people that you are serious is by embodying it in every aspect of what you do every day. Without that, teaching ethics classes or continuing education is just an exercise in futility.

An example of this is in Dallas, a city that has shown extraordinary achievement and turnaround in the area of prosecutorial misconduct.[94] This is due to the specific way in which the Dallas prosecutor's office conducts job interviews, in which people who apply are told that the office is committed to serving justice and fairness. The office embodies this ethos by the kinds of materials they give people to review and the kinds of subjects they have people talk about when they come in for the job interview. I suspect that this is one reason why the Dallas model has been as successful as it has been in such a short period of time.

I want to address one last thing, and that is about the bit of controversy this morning regarding whether we should hold people accountable for transgressing.[95] The question was, should we make a public statement about them, or should we just forget about blaming and worry much more about identifying problems so that we can fix them? If you actually want to make the system better, forget about blaming. Because if you blame, no one will tell you any useful information and it

94 *See supra* Part IV.

95 *See supra* Part I (presentation by Gordon Schiff discussing disclosure in the medical context).

will be impossible to figure out what has gone wrong. If you actually want to change the system, you have to convey the sense that everyone is in it together and is on the same side. There is nothing adversarial about the practice of medicine in a hospital, malpractice lawsuits aside.

The question is whether you can actually articulate this in the practice of law, because there is a point when lawyers are not on the same side. Again, malpractice lawsuits aside, there is nothing adversarial about the practice of medicine. If everybody in the medical system is doing their job right, everybody is working for the same result. In contrast, prosecutors and defense attorneys are not working for the same result. Therefore, we need to find a way to implement a process in which the structure is this: We are all on the same side, and the most important thing is justice. Then at some point, people put that aside and they become fierce partisans for their respective positions. Whether it is possible to sustain two fundamentally different orientations toward the work simultaneously, I am not sure. It seems to me much more difficult for lawyers to walk this line than it is for people in medicine, so we may need a subtler understanding of this issue of blame and holding individuals accountable.