Wise men say, and not without reason, that whoever wished to foresee the future might consult the past.

— Niccolò Machiavelli,

Italian Renaissance Historian, Politician, and Philosopher
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It is with great pleasure that I welcome you, our readers, to enjoy with me the wonderful articles that you will find in the 2016 edition of the URMIA Journal. If you’ve been in higher education long enough, the list one can come up with of possible risks in higher education institutions is quite long. The list will likely begin with hot topics of new or emerging risks to our institutions and may or may not include long standing issues that made the list long ago that are often viewed as “managed” risks – as in past risks.

As you look at this year’s table of contents, you will find that many of these articles are not addressing new risks but perhaps variations on a long ago identified risk. This year’s articles also offer novel, unique ways of assessing and mitigating these risks. And many offer us a glimpse inside risk management at other institutions of higher education, providing the reader with valuable and immediately applicable lessons and ideas. In higher education risk management, what was once old is new again; really new might be learning to use analytics as part of risk management – how to demonstrate the value of risk management to administration!

When the recession of 2008 hit, it proved to be one of the greatest shakeups in higher education history and illustrated that temporary changes designed to get through the rough patch allow problems that already exist to resurface. However, the recession proved to be a significant catalyst for establishing change that eventually moved to system-wide reviews, analysis, and reorganizations. These changes brought challenges that forced institutions to rethink strategies and operations that would allow them to achieve their missions in sustainable ways.

While enterprise risk management (ERM) is not a cure all, robust engagement in enterprise risk oversight can strengthen an organization’s resilience to significant risk exposures. The easy part is identifying the risks. The more difficult parts are maintaining the structure, establishing enterprise-wide risk mitigation plans, and monitoring the status of each risk periodically. Risk managers understand these challenges better than anyone.

Colleges and universities have many stakeholders who invest their time, talents, and resources to further the objectives of educating students, studying the unknown, and attacking ethical and moral dilemmas. Their investment implies a desire to see the institution find innovative and more effective ways to achieve these objectives—that is, take risks. Risk management should be mission-centered, strategic, and broad enough to capture those issues that are of fundamental importance to the ongoing success and mission of the institution.

Many thanks to the sponsors who help provide this wonderful publication to all the higher education risk management professionals and to the talented and thoughtful writers of these fine articles that show us they are on top of things and helping us stay on top of them, too.

Donna McMahon, MBA, MS
Assistant Director and Risk Manager
University of Maryland, College Park
URMIA President, 2015-2016
CHIMERA is a comprehensive safety software system, which incorporates various modules and consolidates the collection and reporting of safety information. Through a diverse selection of tools, CHIMERA is very user friendly and has flexibility that enables its users to manage their safety programs efficiently and effectively.

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Join us September 17-21, 2016, in San Diego, California, for URMIA’s 47th Annual Conference. Visit www.urmia.org/ac2016 for more information, and use the hashtag #URMIA2016 to connect with URMIA on social media!

URMIA’s 5th Annual Risk Management Week is coming to your campus November 7-11, 2016! Gather your colleagues to spread the word about good risk management practices on campus, and help make everyone a risk manager!

Visit www.urmia.org/rmweek for tips on setting up your own RM Week events, resources to share with your campus, and daily webinars explaining risk management topics relevant to everyone at your institution.
I am more afraid of alcohol than of all the bullets of the enemy.

—Stonewall Jackson,
Confederate General during the American Civil War
Introduction
Greek organizations provide students with strong social ties and philanthropic opportunities. Yet, despite these advantages, a number of colleges and universities are re-evaluating their relationships with Greek organizations, particularly fraternities. In Spring 2015, 133 Greek chapters were shut down, suspended, or otherwise punished after alleged offenses.¹

For colleges and universities that seek to retain the tradition of Greek life, a sound risk management program is essential to protect students from harm and to safeguard the institution, its officers, and its assets. A study of 162 United Educators (UE) Greek claims received from 2010-2014 highlights the risks presented—these claims resulted in many serious injuries and generated more than $9 million in losses—and the steps institutions can take to reduce injuries arising from fraternity and sorority activities.

Claims Analysis
A Fraternity Problem?
Claims arising from fraternity activities comprised 90 percent of the study and accounted for 83 percent of its losses. In contrast, only 10 percent of the claims arose from sorority activities. The average claim arising from sorority activities cost $41,626, while the average fraternity claim cost $371,968.

Because fraternities generated the overwhelming majority of the study’s claims and losses, many of the risk management issues and strategies presented in this resource focus on fraternities.

Claims arising from fraternity activities comprised 90 percent of the study and accounted for 83 percent of its losses. In contrast, only 10 percent of the claims arose from sorority activities.

FIGURE 2: Fraternity vs. Sorority Losses

FIGURE 1: Fraternity vs. Sorority Claims
Claims Categories
Each claim was separated into one of six categories: sexual assault, falls, assault, hazing, vehicular accident, or other. The “other” category was composed of claims including discrimination, challenges to a fraternity’s recognition status, and accidental injuries. Sexual assault claims were the most frequent, while vehicular accident claims were the most severe. For example, a $5 million loss from a vehicular accident was the study’s largest and a clear outlier compared to other losses.

Falls
Similar to sexual assaults, most of the falls—nearly 80 percent—occurred at Greek houses. A common pattern involved an intoxicated student falling from a staircase, balcony, or fire escape. Many claimants alleged their fall was caused by the institution’s negligent maintenance of a Greek house.
- A student fell over a staircase railing at his fraternity house after drinking alcohol and taking drugs. The fall caused a traumatic brain injury and left the student comatose.
- While visiting a fraternity house, a drunken student fell 10 feet while climbing the house’s fire escape to access the roof.
- A participant in a college and sorority sponsored flag football game received a serious head injury when he struck his head on a cement retaining wall.

Assault
Most (80 percent) of the assaults occurred at Greek-sponsored parties and in connection with alcohol consumption.
- A fraternity that had recently lost its recognition from the college hosted a party. During the party, a student was injured when a partygoer threw a hard object at her mouth.
- At an on-campus fraternity party, two students were fighting over a girl when one pulled out a knife and fatally stabbed the other.

Hazing
Sororities and fraternities hazed pledges and members. Fraternity hazing was directed mostly at pledges, but 75 percent of the sorority hazing incidents were perpetrated against members. Most hazing occurred at a pledging or initiation event.
As part of a fraternity scavenger hunt, a pledge was required to break into a house. When the tenant of the house brandished a gun, the pledge took the weapon and later attempted to fire it at the police.

Several pledges were hospitalized after they were zip-tied to each other and required to drink hard alcohol in a fraternity initiation event.

**Vehicular Accident**

More than half of the vehicular accidents resulted in fatalities and occurred in connection with parties. Victims in vehicular claims included drivers, passengers, and pedestrians.

- Two underage fraternity brothers on an alcohol run for a party struck a 15-year-old pedestrian.
- A fraternity brother died after falling out of a pickup truck returning from an off-campus fraternity event. The fraternity brother driving the truck was intoxicated.
- Following several days of sleep deprivation from pledging activities, a student fell asleep at the wheel, crashed into a light pole, and died.

**Common Factors:**

**Greek Houses, Fraternity Parties, and Alcohol**

Nearly three quarters of claims took place in a Greek house. Fraternity parties gave rise to most of the study’s claims (54 percent) and losses (86 percent). Alcohol was frequently a factor in incidents that injured the claimant. Pledging and initiation ceremonies were the next most common activity, spurring claims (20 percent) and losses (6 percent).

**Lessons Learned**

The following seven lessons from the claims can help institutions reduce student injuries and potential liability in connection with Greek activities.

**Lesson #1: Carefully Evaluate Greek House Leases**

Institutions were frequently held responsible for injuries occurring at Greek houses, especially when the college owned the house. Consider this example:

Several students stood on the porch of a fraternity house when it collapsed, causing extensive leg injuries to one of the students. The language in the house’s lease held the institution responsible for repairs. In the months before the incident, the house mother for the fraternity had placed work orders for needed repairs to the porch, but the institution made none.

As the property owner, the college has a responsibility to correct or warn about hazards it should know about. To prevent maintenance-related injuries at Greek housing owned by the college, consider the following actions:

- **Be clear about maintenance responsibilities.**
  Leases should specify which party is responsible for repairs. If the institution is responsible, enable the tenants to report problems to the institution.

    **Caution:** The institution may still be liable for damages if it performs maintenance improperly.
• **Include a risk allocation provision.** An indemnification or risk allocation provision in a lease between a college and its fraternity articulates how losses and claims will be distributed—either transferred or shared—between the two parties. Depending upon the language in this provision, an institution might: assume responsibility for all liability losses arising out of the lease, transfer responsibility to the fraternity for the losses it causes, or share equally in the losses. Since this language can directly affect the college’s responsibility for claims—even those caused solely by the fraternity—it is extremely important. An institution should have its attorney review the provision. No single type of clause is appropriate in all situations, and the validity of such clauses varies among jurisdictions.

**Sample Claim:**
- An institution cleared the snow on a Greek house’s driveway, but not the ice. Someone slipped on the ice and broke an ankle. The indemnity clause in the lease that would otherwise direct the claim toward the Greek organization did not apply because the claim arose out of the institution’s sole negligence. The institution settled for nearly $100,000.

**Lesson #2: Tie a Greek Chapter’s Recognition Status to the Lease**
Leases for Greek houses should include a right to terminate if the fraternity loses its campus recognition. If recognition is revoked, the institution should not continue entrusting its property to the organization. Without this provision, an institution will have to wait until the lease expires or break the lease, which could spur legal action from the organization.

**Sample Claim:**
- An institution removed a fraternity’s recognition as a result of members dealing drugs. The institution sent notice the same day that the lease would be terminated, and the house vacated 20 days later. The fraternity filed a lawsuit alleging that the early termination breached the lease agreement and resulted in a wrongful eviction. The lease did not include a recognition status provision. As a result, the institution spent over $200,000 to resolve the fraternity’s lawsuit.

**Lesson #3: Provide Effective Oversight of Greek Parties and Events**
Institutions were frequently deemed sponsors of Greek activities when they provided staff to facilitate or required the fraternity to register the event by submitting a form agreeing to the institution’s event policies. As a sponsor, an institution may assume some or all responsibility for claims arising out of the activity.

**Sample Claims:**
- A fraternity hosted an institution-sponsored talent show. Although the institution knew some acts included props, it did not require staff review of the props beforehand. One fraternity member used a homemade confetti air cannon with a carbon dioxide tank as the propellant. The cannon burst during the performance, injuring a student’s face.
- A student was leaving a sanctioned fraternity party in the institution’s gymnasium when he was attacked by a group of men who beat and stabbed him. Although the institution’s rules did not allow alcohol at the party, staff at the party did not stop the open consumption of alcohol, which, it was argued, contributed to the attack.
- An institution sanctioned a fraternity event that included a water balloon fight. The institution did not know that the fraternity planned to use a water balloon launcher, which violated...
the school's weapon policy. One of the balloons struck a fraternity member in the back of the head, causing spinal cord injuries.

In the courts, colleges that required fraternities to complete event forms were commonly deemed sponsors of fraternity activities. When an injury occurred at the event, courts often found that the completed registration form was evidence that the institution assumed responsibility for supervision, even when the fraternity lied on the form or violated the institution’s rules. Colleges should be clear about the purpose of any requirement to register parties and consider not approving events if they cannot provide adequate oversight. Work with your institution’s legal counsel to determine the appropriate registration process and oversight for Greek events.

Lesson #4: Monitor Greek Recruitment, Pledging, and Initiation Practices to Prevent Hazing

Although most institutions and fraternal organizations ban hazing, the practice sometimes continues under cloak of secrecy. In many of the claims without losses, a student reported injuries that were rumored to be a result of hazing, but the student retracted his complaint before an investigation could take place.

Nearly three-quarters of the hazing incidents occurred in connection with the recruitment, pledging, and initiation of fraternity members. Consider these examples:

- A male student was found tied up and covered in eggs and dirt under a bridge by university police but refused to tell them what happened. The institution’s investigation determined hazing, as part of a fraternity pledging event, was the cause.
- During an initiation event, fraternity pledges were locked in the bathroom for several hours and struck with paddles. As a result of injuries received from the paddling, one of the pledges was hospitalized, dropped out of school, and sued the institution.

To prevent hazing, consider the following actions:

- **End, reduce, or delay pledging.** Dartmouth College and Baruch College banned Greek pledging in 2015. California State University, Northridge and the national fraternity Sigma Alpha Epsilon have also enacted new member pledging prohibitions. In the past, new recruits were made to prove themselves as pledges, or non-initiated members, for weeks or months. Institutions that have banned pledging shorten the period between bid acceptance by new members and initiation to two or three days, eliminating the time where pledging could have occurred.

Consider delaying recruitment until the second semester of freshman year. First-year students need time to complete orientation and learn about campus culture before integrating into fraternities. By the second semester, freshmen will have a better idea of how they fit into the campus community and which fraternities may be right for them.

- **Install institution advisors in fraternity houses.** Graduate students, faculty, and other staff members can be effective advisors, especially when they reside at the fraternity house. As a representative of the institution, an advisor should not be perceived as a peer of the brothers but as an important communication bridge between the institution and the fraternity. Advisors can also serve as a resource for pledges who may have questions or be concerned about fraternity behavior. If hazing does occur, the advisor can quickly report the offending acts to the institution.

Train the advisor on all applicable policies, the recognition agreement, leases, and other agreements. Advisors need to know when and where to report any violations, and the ramifications for not reporting incidents to the institution.

**Caution:** As a representative of the institution, the advisor’s knowledge of any problems in the house will likely be imputed to the institution, placing the college on notice and triggering its duty to respond. Advisors must understand their duty to report incidents of concern.

- **Implement a hazing hotline.** Provide students, alumni, and faculty with a method to anonymously report suspicions about Greek organization misconduct by phone or email. This creates an obligation for the institution to investigate and respond to reports to the extent possible.
Lesson #5: Watch for Exclusions in the Fraternity’s General Liability Policy

General liability (GL) policies typically have exclusions, and it is important to review the fraternity’s policy and pay attention to what is excluded. UE’s largest Greek loss resulted from a vehicle rental exclusion:

- A fraternity hosted an institution-approved tailgate party before a football game. Fraternity brothers drove rental trucks of beer kegs through the thick crowds. One driver accidently hit the gas instead of the brake and ran over several people, killing one person and injuring two others. The fraternity’s insurance excluded actions arising out of vehicle rentals.

Other excluded activities may include sexual misconduct, hazing, and assault. In addition to individual exclusions, the policy may tie the Greek organization’s coverage to following requirements in a risk management manual. If that is the case, request a copy of the manual.

Lesson #6: Manage the Risks Posed by Unrecognized Fraternities

If a fraternity operates without recognition, or the institution removes its recognition, the institution is unable to discipline the entity. The study’s claims included many examples of unrecognized fraternities recruiting students, hosting parties, and even owning houses.

Sample Claims:

- One institution allowed an unrecognized fraternity to host a party on campus. The fraternity served alcohol at the party, and attendees noticed an intoxicated student having trouble standing up. A resident advisor at the party helped two students remove the intoxicated student from the party and instructed them to take him back to his room and let him sleep it off. The intoxicated student died in his sleep, and his parents sued the institution, alleging the college’s negligent handling of the unrecognized fraternity caused their child’s death.

- An unrecognized fraternity hosted a party across the street from campus. The institution warned students against attending parties at that fraternity the prior year, but a freshman raped at the party was not a student when the warning was issued. The freshman sued the institution alleging that the institution should have informed new students that this prominent fraternity, visible from campus, was not recognized.

Institutions can take several important steps to limit the presence of and potential liability from unrecognized fraternities.

Establish a policy on unrecognized fraternities that:

- Discourages student participation by clearly stating the institution does not sanction the group’s activities or provide any support, oversight, or advice.

- Identifies the consequences of participating in these groups, including disciplinary action for activities on campus, legal action from the national chapter—if one exists—for violating the organization’s policies, and personal liability for the injuries or claims arising out of the organization’s activities.

- Lists the unsanctioned groups the institution is aware of, the date the list was created, and, where appropriate, the date the institution removed a group’s recognition and why.

- Warns of the safety risks posed by unrecognized groups, such as sexual assaults, alcohol violations, or hazing.

- Encourages students to report suspected unsanctioned fraternity activities, such as recruiting, and provides contact information for the person or department to receive such reports.
Widely publicize and make available the institution’s policy on unrecognized fraternities by:
• Posting the policy on the institution’s website.
• Referring to the policy at relevant student training programs, such as freshman orientation.
• Training Greek life staff, student affairs staff, and campus safety on the policy.
• Including the policy, with lists of recognized and unrecognized chapters, in any handouts about campus Greek opportunities.
• Encouraging Greek life staff and recognized fraternities to disseminate the policy to new members.

Lesson #7: Monitor and Respond to Problematic Greek Organizations
Institutions have a duty to respond to risks they should reasonably know about.

Sample Claim:
• A college was sued when a fraternity member’s death from hazing-related alcohol poisoning had several alleged predictors. For example, years before the incident, the institution suspended the chapter for hazing violations. After returning from the suspension, it received several alcohol violations. An Internet search of the fraternity showed that many of its chapters faced discipline for hazing.

When granting recognition of a Greek organization, institutions should review these factors:
• **Chapter incident reports.** Require chapters to keep a log of injuries, deaths, property damage, policy violations, and other incidents and regularly report them to the institution. Self-tracking this information encourages the chapter to directly address ongoing issues. Chapters can also use this information to make annual reports to the national fraternity organization. Ensure the institution’s risk manager reviews these reports regularly and takes corrective actions. Also, use the reports to evaluate ongoing recognition of the chapter.

• **The “online footprint” of the Greek organization.** Use the Internet to collect information on court cases and incidents involving other local chapters of the Greek organization. Search the organization’s name with keywords such as “death,” “injury,” “assault,” “hazing,” “alcohol,” and “lawsuit.” Injuries, deaths, or significant incidents occurring at any local chapters affiliated with a national organization warrant a thorough review. Consider this information when deciding whether to recognize a proposed campus chapter.

• **Repeated findings of rule violations.** When multiple Greek members violate the institution’s code of conduct, it is important to investigate their individual actions and those of the organization. In addition to disciplining any members charged with violating the institution’s code, it may be appropriate to discipline the entire chapter. If the chapter has violated its recognition agreement, punishments may include probation, suspension, and loss of recognition. From a liability perspective, repeated rule violations can put an institution on notice that prior sanctions were inadequate and revoking recognition may be necessary.

**Conclusion**
While Greek life offers many advantages to a campus culture, it also poses substantial risks. By using the claims data and risk management lessons presented, institutions can better anticipate and manage losses arising out of campus Greek activities.
About the Author

Melanie Bennett joined United Educators (UE) in 2014. She currently serves as associate risk management counsel.

In her role, Ms. Bennett has conducted studies on UE’s educator sexual misconduct and Greek organization claims. She also wrote several publications for UE’s Title IX and Beyond Series including Investigations; Interim, Measures, Remedies, and Sanctions; and The Adjudicatory Process.

Prior to joining UE, Ms. Bennett coordinated the Excellence in State Public Health Law program at the Aspen Institute. She also served as a law clerk for a special education law office. During law school, Ms. Bennett interned multiple times with the US Department of Education Office for Civil Rights. Before attending law school, she worked on Title IX issues in the Advocacy Department of the Women’s Sports Foundation.

Ms. Bennett received her law degree from American University Washington College of Law and a bachelor’s degree in political science from Washington University in St. Louis.

This article is also available to UE members at www.edurisksolutions.org.

Endnotes


Hazing is an extraordinary activity that, when it occurs often enough, becomes perversely ordinary as those who engage in it grow desensitized to its inhumanity.

—HANK NUWER,

AUTHOR AND ASSOCIATE PROFESSOR OF JOURNALISM AT FRANKLIN COLLEGE
Over 13 percent of women in college have reported being a victim of stalking during the school year, and one out of every five college women has reported being sexually assaulted. It is simple to talk about statistics. It is more difficult to remember that each number is a victim and represents a daughter, a sister or a friend.

—Gwen Moore, Wisconsin Congresswoman
“Yes Means Yes”: The Modern Movement for Colleges and Universities to Adopt Affirmative Consent as a Way to Mitigate the Risk of Sexual Assault on Campus

| Allison Ayer, Esq., Founding Partner, Vrountas, Ayer & Chandler, P.C.

Introduction
The issue of how to fix what many perceive as a crisis in the number of sexual assaults on college campuses has made its way into the mainstream, and the topic has gained significant public exposure. For example, one major media outlet recently showed in primetime *The Hunting Ground*, a controversial documentary about college sexual assaults, and the film’s theme song just won an Oscar after being introduced by Vice President Biden and performed by pop star Lady Gaga at the Academy Awards. The federal government, as well, has inserted itself into the conversation. Recently, President Barack Obama mounted the “It’s On Us” campaign to combat sexual assaults, and a bipartisan group in Congress introduced federal legislation called the Campus Accountability and Safety Act (CASA), which, if passed, would establish new requirements and penalties for colleges and universities dealing with sexual assaults.

Public discourse on sexual assaults began significantly trending several years ago when the Office of Civil Rights issued its 2011 Dear Colleague Letter interpreting colleges and universities’ Title IX obligations in the sexual assault context. At the time, attention seemed to center mostly on how colleges and universities should respond after a sexual assault happens. But increasingly, public discourse has shifted its focus to changing the fundamental culture of sex on college campuses as a way to prevent sexual assaults. Importantly, the affirmative consent movement has gained significant traction as the catalyst to achieve such cultural change. This movement calls for colleges and universities to adopt policies where students must not just refrain from sexual activity when it has been refused; they must obtain knowing, voluntary, and conscious agreement in order for sexual activity to be consensual, and not assault. A few states have already passed legislation that actually requires colleges and universities to incorporate affirmative consent into their student conduct policies. Additionally, a significant number of colleges and universities have on their own amended their sexual assault policies to define consent in the affirmative, i.e. as an unequivocal “yes,” rather than the absence of a “no.” In the face of what appears to be a shift in what constitutes consent for sex at institutions of higher learning, colleges and universities are well advised to become familiar with the concept of affirmative consent and to assess whether it makes sense for their institutions to adopt affirmative consent policies to help mitigate the risk of sexual assaults on campus.

Sexual Assault Statistics
Statistics concerning the incidents of sexual assaults on college campuses vary. The numbers are skewed depending on sample size, methodology, and the definition of sexual assault used to conduct the study. With that said, according to many publicized studies on the topic, the incidents of sexual assaults on college campuses are alarmingly high. According to the U.S. Department of Justice, rape is the most common violent crime at college campuses in the United States.¹ It is estimated that between 20 to 25 percent of college women are the victim of a completed or attempted sexual assault during their college careers.² According to one study, 1 in 5 women (or 20 percent) and 1 in 16 men (or 6.25 percent) are sexually assaulted while in college.³ Other sources claim that the number of college women that will be victims of sexual assault during college is as high as 1 in 4 (25 percent).⁴

One study concluded that sexual assaults are most likely to occur in September, October, and November, on...
Friday or Saturday nights, and between the hours of midnight and 6:00 a.m. According to another source, college women are most likely to be a victim of a sexual assault during the early weeks of their freshman and sophomore years of college. Most sexual assaults also tend to be perpetrated by an acquaintance, as opposed to being committed by a complete stranger. It is estimated that 9 of 10 women who are victims of sexual assault knew the person who committed the alleged assault.

Notably, the majority of sexual assaults on college campuses go unreported, according to statistics. Indeed, by some estimates, more than 90 percent of sexual assault victims on college campuses do not officially report the assault. Interestingly, statistics reflect that two-thirds of the time victims tell someone of the sexual assault, usually a friend, family member, or school official, but fewer than 5 percent of rapes of college women are reported to law enforcement.

Now many claim that these sexual assault statistics are exaggerated, over simplified, and/or misleading. But even if that is the case, the widespread publication of sexual assault statistics has turned the focus on campus sexual assault. Furthermore, the pervasive dissemination of these statistics has sparked widespread outcry by a diverse cross section of society that there exists an urgent need to address what is at least a perceived problem of sexual assaults on college campuses. In response, a movement has developed to try to prevent sexual assaults on campus by actually shifting college students’ fundamental views about sex and the accepted norms of sexual behavior on college campuses. As Vice President Biden put it at the Academy Awards, many now believe now that combating the problem of sexual assaults on campus requires that, “We must and we can change the culture.”

What Is Affirmative Consent?
Affirmative consent, in the sexual assault context, can be generally defined as a knowing, voluntary, and conscious agreement by all participants to engage in sexual activity. In essence, affirmative consent requires that all participants receive a “yes” from the other participant(s) before continuing with any sexual activity. Generally, affirmative consent is given by actually stating in words an affirmative desire to engage in sexual activity. Under most definitions, affirmative consent can also be given through actions or conduct. Either way, the critical point of affirmative consent is that silence or the absence of a rejection is not enough to define a sexual encounter as consensual. Whether the method of consent is word or conduct, there must be “clear permission regarding the willingness to engage in the sexual activity” if the sexual activity is to be deemed consensual. If affirmative consent is not obtained, then the encounter may constitute a sexual assault.

This definition of affirmative consent constitutes a shift in the very concept of consent for sex. Historically, an affirmative declaration of a willingness to engage in sexual activity has not been required for sex to be consensual. A person has been presumed to have agreed (i.e. consented) to sex so long as there was no expressed refusal for sexual activity. For example, criminal statutes and college sexual assault policies often have defined sexual assault as involving the use of force or the threat of force for sex or as sexual activity which occurs after a person implicitly or expressly rejects sexual contact. Either way, in order to meet the definition of sexual assault, one must somehow have expressed that he or she does not wish to engage in a particular activity or otherwise lacks the ability to give consent for the sexual activity, by virtue of intoxication, for example.

In this way, consent in the context of sexual assault has long been defined in the negative. Indeed, the phrase “no means no” has long been used to explain this paradigm of sexual consent and to educate individuals about how to avoid sexual assault on college campuses and elsewhere. The recent movement to define consent for sex in the affirmative, by contrast, requires an actual, knowing as-
sertion that one wishes to engage in sexual activity, rather than simply permitting sex in the absence of a rejection. In short, the concept of affirmative consent transforms traditional views of consent from “no means no” to “yes means yes.”

Proponents of affirmative consent believe that sexual assaults at institutions of higher learning can be stopped by ingraining in college students the idea that appropriate sexual behavior requires them to do more than avoid sexual intercourse when someone has said no; it requires them to obtain unequivocal, voluntary affirmation for sex from all participants and for all sexual acts. By redefining consensual sex, the affirmative consent movement therefore seeks to alter the very consciousness of college students about sexual relationships and change how they think about consent and, in turn, sexual assaults.

The Shifting Paradigm to Affirmative Consent
Importantly, requiring affirmative consent for sex, i.e. shifting to a “yes means yes” standard for consent, is gaining significant momentum as an effective way to shift cultural norms about sex on college campuses and prevent sexual assaults. State legislators and institutions of higher learning alike seem to be more and more accepting that affirmative consent may well provide a resolution to the issue of sexual assaults on campus.

State Legislation Requiring Colleges to Define Consent in the Affirmative
Two states have already passed legislation requiring colleges and universities to define consent for sex in the affirmative. California became the first state to do so, in 2014. Then, in 2015, New York passed a similar law.

The California law defines “affirmative consent” as “affirmative, conscious, and voluntary agreement to engage in sexual activity.” In contrast to historical definitions of consent, the law explicitly states that “lack of protest or resistance does not mean consent, nor does silence mean consent.” According to California law, consent to one sexual act also does not automatically constitute consent for another act. Instead, affirmative consent must be ongoing throughout a sexual encounter. That is, there must be conscious, voluntary agreement for each and every sexual act during a sexual encounter. The law also provides that consent can be revoked at any time.

Furthermore, it specifically contemplates affirmative consent under circumstances when people are dating or have had sex in the past. The law states, “The existence of a dating relationship between the persons involved, or the fact of past sexual relations between them, should never by itself be assumed to be an indicator of consent.”

California’s legislation also places the onus of obtaining affirmative consent on everyone engaged in a sexual encounter. As a result, each and every person engaging in sexual activity must obtain affirmative consent from all other participants in order for the sex to be consensual at colleges subject to the California law. Importantly, the penalty for institutions who fail to adopt policies which comply with the law is significant. Colleges who fail to adopt the concept of affirmative consent and define it in a way which complies with the state’s definition of affirmative consent face the risk of losing state funds for student financial assistance.

Last year, New York passed affirmative consent legislation similar to California’s. The New York law defines “affirmative consent” as “a knowing, voluntary, and mutual decision among all participants to engage in sexual activity.” The law allows for consent to be given by words or action so long as clear permission to engage in sexual activity is given. And like California, the New York law also expressly provides that silence or lack of resistance is not enough to demonstrate consent for sex. As in California, the affirmative consent law in New York requires knowing, voluntary consent for each and every activity of a sexual encounter, and prior consensual sexual activity does not automatically equate to consent for future sexual activity. The statute provides that “consent to any sexual act or prior consensual sexual activity between or with any party does not necessarily constitute consent to any other sexual act.”

The New York law also expressly addresses that “consent cannot be given when a person is incapacitated.” Incapacitation occurs, according to the law, when an individual “lacks the ability to knowingly choose to participate in sexual activity,” such as when he or she is asleep, is involuntarily restrained, or is so intoxicated by virtue of being under the influence of alcohol, drugs, or other intoxicant, such that the person is unable to consent. The New York law also explicitly provides that consent must be obtained even when participants have been drinking or taking drugs, and it further provides
for that consent may be withdrawn at any time.\textsuperscript{31} Colleges and universities subject to the law face unannounced compliance audits under the recently passed legislation.\textsuperscript{32} In New York, colleges and universities also must file a certificate confirming that they have adopted an affirmative consent definition in compliance with the law.\textsuperscript{33} Similar to California, a college or university in New York who fails to timely file such a certificate of compliance risks losing its state funding.\textsuperscript{34}

Importantly, New York and California are unlikely to be the only states where colleges and universities will be forced to adopt policies requiring affirmative consent for sexual activity. Several other states, including New Jersey, New Hampshire, and Connecticut, have introduced bills that would require colleges and universities operating in the states to define consent in the affirmative if they wish to continue to receive state funding.\textsuperscript{35}

\textbf{College Sexual Assault Policies Incorporating Affirmative Consent}

Considering this trend in legislation, it is not surprising that the affirmative consent concept has made its way to colleges and universities. Many colleges and universities have already adopted policies that incorporate the concept of affirmative consent. Indeed, the shift to define consensual sex not as a lack of rejection for sex, but rather a knowing, voluntary expression of agreement for sex, is happening rapidly in higher education institutions.

The State University of New York (SUNY) adopted and published its revised sexual assault policy defining affirmative consent exactly as defined in New York’s recent legislation.\textsuperscript{36} SUNY is not the only institution to do so. In 2014, the National Center for Higher Education Risk Management (NCHERM) estimated that more than 800 colleges and universities used some type of affirmative consent definition in their sexual assault policies.\textsuperscript{37} Just one year later, NCHERM estimated that the sexual assault policies of 1,400 institutions of higher learning used some type of affirmative consent definition.\textsuperscript{38} If these estimates are accurate, the number of institutions requiring affirmative consent in sexual encounters nearly doubled in just one year.\textsuperscript{39} If this trend continues, it is not difficult to imagine that at some point soon, affirmative consent, i.e. “yes means yes,” will replace the rejection for sex, i.e. “no means no,” as the prevailing standard for consent and for determining if a sexual assault has occurred in the university setting.

\textbf{Criticisms of Affirmative Consent}

While the affirmative consent campaign is strong and rapidly growing, it certainly is not without its critics. Many stridently disagree with redefining consent in the affirmative in the sexual assault context. Below are certain themes commonly presented in opposition to requiring affirmative consent for sex on college campuses.

\textbf{It Is Unnatural and Kills the Mood}

Dissenters claim that the concept of affirmative consent ignores conventional sexual behavior. They argue that it is unnatural for individuals engaged in a sexual encounter to ask for and/or give explicit, verbal confirmation that they wish to engage in every sexual activity that occurs. Critics say that to ignore this reality and label as a sexual assault any sexual activity which lacks an actual, affirmative expression of consent turns people who otherwise would be considered to have engaged in consensual sex into “unwitting rapists every time they have sex without obtaining an explicit ‘yes.’”\textsuperscript{40} Some critics also claim that it is awkward and "kills the mood" to have to continuously seek permission for each and every sexual act as part of a sexual encounter.\textsuperscript{41}

Advocates of affirmative consent rebut these claims on the grounds that preventing unwanted sexual activity outweighs the risk of any embarrassment that might come from obtaining affirmative consent.\textsuperscript{42} Notably, the prevalence of social media in the everyday lives of college-aged students may mitigate this particular concern by embedding the concept of affirmative consent, i.e. “yes means yes,” into college students’ lives.

Interestingly, there are “apps” already available intended to “teach young people ‘the language of affirmative consent’” and to combat the perceived prevalence of sexual assaults on college campuses.\textsuperscript{43} For example, Good2Go is a “smartphone application that encourages users to give consent before engaging in any sexual acts.”\textsuperscript{44} The app launches a pre-set series of questions that are intended to ensure all parties are willing and able to consent to sexual activity.\textsuperscript{45} When a user logs in, the application initiates the affirmative consent discussion by asking “Are we Good2Go?”\textsuperscript{46} If the person responds in the negative, a
screen appears on the initiating party’s screen informing him or her of the lack of consent and reminding the person that affirmative consent is the ONLY circumstance in which sexual activity is appropriate. The Good2Go app also contemplates the problem of intoxication. Once a person answers that he or she wishes to engage in sexual activity, the app prompts the responder to characterize his or her level of intoxication. If the responder indicates that he or she is of a certain level of intoxication, the app sends a message to the initiating party that the other person is unable to give consent notwithstanding his or her initial affirmative response.

As college students more and more manage their social (and sexual) lives through mobile devices and social media, it is not difficult to imagine that these types of apps may make it acceptable and perhaps even normal for college students to seek affirmative consent for sexual activity. Importantly, because these apps create an actual record of consent, in theory they protect not only potential victims, but also those concerned about false accusations of sexual assault. With that said, users must understand that consent can be withdrawn at any time, including after agreeing to sex through an affirmative consent app.

**It Unfairly Applies Higher Expectations to the Sexual Behavior of College Students**

Another common criticism for affirmative consent is that current legislation and college policies that require it apply only to college students. Critics argue that this creates a higher standard for college attendees than for those not living in a university setting. The theory seems to be that having different expectations for sexual behavior ignores that the conduct which does or does not constitute sexual assault should be universal and should not change depending on the setting. In other words, if certain conduct is so egregious that it transforms a sexual encounter into an assault, the conduct should be disavowed in any setting, not just college.

Defenders of affirmative consent respond that having a different standard in the college setting makes sense because different burdens of proof and different penalties apply. That is, when a 21-year-old is accused of sexual assault outside the college setting, criminal statutes call for a beyond a reasonable doubt standard. Furthermore, outside of a university, one accused of sexual assault faces jail time and the loss of freedom. In a college setting, by contrast, the more relaxed preponderance of the evidence/more likely than not standard is utilized to adjudicate student sexual assaults, and the punishment generally restricts access to higher education. While certainly dire for those who face it, having restricted access to a college degree is not equivalent to going to jail. In that way, there arguably exists a rational basis for utilizing a different standard of consent for college students. Furthermore, while the legal relationship arguably has evolved beyond in loco parentis, the fact that colleges historically have held some kind of special relationship with their students also may justify applying a heightened standard of consent in the campus setting.

**It Erodes the Rights of the Accused**

Critics of affirmative consent have concerns that requiring affirmative consent for sex will make it easier for people to accuse others of sexual assault and will artificially increase the number of sexual encounters on college campuses that meet the definition of sexual assault. These critics also argue that affirmative consent makes it more difficult for those accused of sexual assault to defend themselves. They claim that the use of affirmative consent shifts the burden of proof to the student accused of sexual assault. They also opine that the wording used to define affirmative consent is vague, ambiguous, and lacking in clarity, which makes it more difficult for colleges and universities to adjudicate sexual assault cases. In essence, they claim that it is more difficult to ascertain whether there has been
an affirmative “yes” given to sex than it is to determine whether sex has been rejected with a verbal or non-verbal “no” under the traditional “no means no” theory for sexual assault. In all of these ways, critics fear that the due process rights of those accused of sexual assault will be eroded even further than some perceive they already have been under traditional definitions of consent.

This argument seems to ignore that policies defining sexual assault as an absence of consent already use vague and imprecise terms. It also discounts that sexual assault is by nature a gray area embedded with ambiguity and innuendo. In that way, no matter how consent is defined, colleges and universities face the difficult task of assessing whether a sexual assault has or has not occurred based on the particularized facts and circumstances of each and every case. In other words, whether consent is defined in the affirmative or as an absence of consent, to determine if a sexual encounter is converted to a sexual assault college disciplinary boards also have to interpret nonverbal cues to decide whether consent has or has not been given. They also have to assess subjective human behavior to evaluate whether there has been an instance of sexual assault. Indeed, colleges and universities which currently define sexual assault in terms of the use of force/sex after refusal already perform these very analyses to determine whether a sexual assault has or has not occurred. If affirmative consent becomes the standard, they will continue to do so, by evaluating whether students’ conduct during a sexual encounter constitutes a knowing, voluntary agreement for sex, instead of whether it constitutes a rejection of sex. In fact, requiring unequivocal word or action to indicate mutual agreement for sexual activity through affirmative consent, at least in theory, serves to eliminate some of the subjectivity in identifying a sexual assault. In that way, affirmative consent may well reduce the ambiguity latent in consent concepts for both students and college disciplinary boards facing sexual assault accusations. Furthermore, defining consent affirmatively need not change the burden of proof, but only the method of proof. Institutions may continue to require the accused to prove the sexual assault by presenting facts which establish that he or she never said “yes” as opposed to establishing that he or she said “no.”

Importantly, all of these criticisms ignore that the principal objective of the affirmative consent movement is not to make the student disciplinary process less complicated. It is not to define sexual assault in a way that comports with traditional views of sexual behavior or that avoids uncomfortable interactions between sexual partners. It is not to protect the rights of the accused. The primary goal of the movement is to prevent sexual assaults by shifting the very nature of sex on college campuses. With that said, the criticisms of affirmative consent are certainly valid and should not be discounted. Therefore, to the extent colleges and universities consider changing their sexual assault policies to define consent in the affirmative, they should try to draft the policies which seek to tackle these common criticisms.

Guidance to Adopting Affirmative Consent

In light of the growing trend for colleges and universities to adopt affirmative consent definitions as part of their student conduct policies, higher education institutions are well advised to review how they define the concept of consent and whether it makes sense to redefine it in the affirmative as part of an anti-sexual assault agenda. It is important to remember that the precise definition of consent in any student conduct policy will differ for each institution, depending on its specific sexual assault risk assessment and the law of the state in which the institution operates, as well as the individualized educational, philosophical, and social missions of the institution. With that said, the following list is intended to provide some general guidance to help colleges and universities decide whether and how to define affirmative consent as a way to manage the risk of sexual assault on campus:

- Define affirmative consent in a manner consistent with the law of the state in which the institution
operates, especially if that state has passed legislation requiring affirmative consent.

- Carefully consider and address the rights of the accused.
- Use a gender neutral definition of affirmative consent, and require all participants to obtain affirmative consent. This way, no matter the gender of the participants, all participants in a sexual encounter have an obligation to achieve mutual agreement for any sexual activity to avoid an accusation of sexual assault.
- Assess whether to explicitly discuss the impact of alcohol, drugs, or other intoxicants and incapacitation.
- Analyze how to incorporate a dating relationship and/or prior instances of consensual sex between partners.
- Incorporate the ability of a participant to withdraw consent at any time.
- Evaluate whether to include language that discourages reliance on nonverbal communication in sexual encounters and emphasizes that an actual verbal “yes” to sexual activity is required, or whether to omit this type of language because it may be too permissive in converting consensual sexual encounters to assaults.57
- Continue to include language that addresses the use of force, coercion, intimidation, or threat of harm. Just because it does not constitute the only example of a sexual assault in a policy using affirmative consent does not mean that a sexual encounter involving force should not be explicitly addressed.
- Address the need for continuing consent, i.e. should the policy specify one way or the other whether consent for each separate and distinct sexual act that occurs during an encounter is required.
- Train college personnel to understand the institution’s definition of consent so that whether they are adjudicating a complaint or dealing with a report in another context, they recognize a potential sexual assault. This will be particularly important if a college is changing its policy to require affirmative consent rather than a rejection in the sexual assault context, i.e. it is shifting from consent defined as “no means no” to “yes means yes.”
- Educate ALL students, preferably starting early on in the academic year, about the concept of affirmative consent, or any other definition of consent that the institution adopts. This is especially important because many students may be prone to operate under the “no means no” concept that has been ingrained in our culture unless and until they are informed that this is not the standard.
- Assess whether certain populations thought to be at higher risk, i.e. freshmen and sophomores or newly matriculating students, should receive more training and education.
- Be prepared to enforce the definition of consent used in any sexual assault policy that the institution adopts.
- Continue to follow Title IX obligations any time a sexual assault report is launched, such as, for example, adopting grievance procedures which provide prompt and fair resolution of sexual assault (and other sex discrimination) complaints; adopting policies where conflicts of interest are disclosed; establishing equitable processes for all parties, i.e. if the respondent has the right to question witnesses, have a lawyer, or review statements, so must the complainant; providing notice of grievance procedures; adjudicating the complaint on the preponderance of the evidence standard; providing written notice of the outcome, etc.58
- Incorporate the mission, goals, and resources of the college or university in deciding whether to define consent in the affirmative in its sexual assault policies.
- Define consent in a way that best serves the students, staff, and administrators and considers the actual and desired campus culture.
- Seek advice of general counsel, outside counsel, and/or risk managers as necessary to adopt a fair and equitable definition of consent consistent with the institution’s objectives and mission and the applicable law.
Conclusion

The concept of how to address and prevent sexual assault on college campuses is swiftly evolving. Whether accurate or not, the popular perception is that sexual assaults on college campuses are unacceptably prevalent. Outrage has grown significantly in recent years in part because of widely publicized data on college sexual assaults. The federal government and many states have taken on the cause, passing or attempting to pass legislation addressing sexual assaults on campus. While many institutions of higher learning might appropriately argue that campus sexual assaults are not as prolific as publicized and/or that the government is not the proper agent to regulate the issue, they should also be aware that there is momentum to fundamentally change the sexual behavior of college students by redefining consensual sex as affirmative agreement for sex, rather than merely an absence thereof.

As discussed above, more and more states are passing legislation to require colleges to adopt affirmative consent for sexual activity, and a growing number of colleges and universities are voluntarily adopting affirmative consent language in their sexual assault policies. As this happens more and more, it creates at least the perception, if not the reality, that “yes means yes” is the new and prevailing standard that colleges should apply in the sexual assault arena. Prospective students and parents alike may well expect that their college of choice has adopted a strong sexual assault policy that includes affirmative consent. Indeed, if the trend to pass legislation in this regard continues, it may well be the law. In this environment, colleges and universities should review the definition of sex used in their sexual assault policies and carefully consider whether adopting affirmative consent should be among the methods it uses to manage the risk of sexual assaults on campus.

About the Author

Allison C. Ayer is a founding partner of Vrountas, Ayer & Chandler, P.C. Her practice concentrates on providing legal advice and counseling to businesses and other organizational entities, including colleges and universities, about how to prepare institutional policies and comply with applicable law. Allison has significant experience defending clients in state and federal court, and she has defended numerous discrimination and sexual harassment claims at both administrative agencies and in court, including those for sexual assault. Allison also assists her clients with developing and implementing internal policies and procedures to help prevent litigation. She has reviewed and drafted handbooks and policy manuals, and she has performed sensitivity and other legal training to employers and educational institutions in the region. Allison also has successfully defended colleges and universities in cases involving claims of negligent hiring and retention, invasion of privacy, false arrest, federal civil rights violations, sexual abuse, disability discrimination, and personal injury matters.

Endnotes


5 National Sexual Violence Resource Center, Campus Sexual Assault.


8 Ibid.

9 Ibid.


15 Affirmative Consent, “What is Affirmative Consent?”


17 Affirmative Consent, “What is Affirmative Consent?”

18 California Education Code §67386(a)(1).

19 Ibid.

20 Ibid.

21 Ibid.

22 Ibid.

23 Ibid.


26 New York State Senate Bill S5965, Article 129-B §6441(1).

27 Ibid.

28 Ibid.

29 New York State Senate Bill S5965, Article 129-B §6441(2)(D).
Circumstances can force your hand. So think ahead!

—ROBERT A. HEINLEIN,

AMERICAN SCIENCE FICTION WRITER
**Legionella in the Bronx:**
Lessons Learned in Minimizing Complex Risk

| Howard N. Apsan, PhD, University Director of Environmental, Health, Safety, and Risk Management, The City University of New York |

**Introduction**

It was a typical summer evening in the Bronx. As the local weather broadcasters like to say, it was Triple-H: hot, humid, and hazy. But that didn’t stop hundreds of people from lining up around the block so they could have a chance to squeeze into the basement auditorium of the Bronx Museum and hear Dr. Mary Bassett, the New York City Health Commissioner, reassure them that the city was doing everything that it could to keep them safe. This was not a gathering of doctors or politicians, mind you, although there were certainly enough of both in the room. No, this was a crowd of neighbors in the South Bronx, the perceived epicenter of what was being referred to as a *Legionella* outbreak. Many shared a familiarity with poverty; many were not native English speakers; and few if any understood the concepts of toxicology and epidemiology that were being discussed. What they did know is that 12 of their neighbors got sick and died from some mysterious droplets of cooling tower water that seem to be sprinkling off every rooftop.

The auditorium was packed to capacity. News crews squeezed their cameras into every vacant space; politicians finally gave up trying to work the room; and frightened residents of the South Bronx struggled to sit, stand, or lean wherever they could to hear the commissioner’s reassuring words. And that is exactly what they heard. Yes, they heard from the commissioner of the Department of Health and Mental Hygiene (DOHMH), the agency responsible for preventing the spread infectious diseases throughout New York City, but they were really listening to Mary Bassett, a physician born and raised in the same city that she was sworn to protect. She seemed to be one with her audience, and the people responded in kind. She told them what she knew and what the city planned to do, and then she opened the floor to questions and proceeded to answer every one with patience and empathy—even though she was responding more or less to the same questions over and over—and she never looked at her watch.

What she told them was that she was issuing a Health Commissioner’s Order requiring every building with water recirculating cooling towers within the City of New York to do the following:

(1) Obtain the services of an environmental consultant with demonstrated experience performing disinfection in accordance with current standard industry protocols including, but not limited to, American Society of Heating, Refrigeration and Air-Conditioning Engineers (ASHRAE) Standard 188P and Cooling Technology Institute Guidelines WTB-148;

(2) Under supervision of the environmental consultant, evaluate the cooling tower and associated equipment for the presence of organic material, biofilm, algae, and other visible contaminants; and regardless of the outcome of the evaluation required by item (2) above, direct the environmental consultant to carry out a disinfection/treatment sufficient to remove organic material, biofilm, algae, and other contaminants and disinfect in a manner sufficient to control for the presence of "Legionella" organisms within 14 days of receipt of this letter; and

(3) Maintain records on-site of the consultant’s inspection and remediation, and make them available upon request to the City of New York in person, or by fax or email as requested.

(4) If an identical assessment and any disinfection procedure has been conducted at this building within the past 30 days, in lieu of the items...
About the Disease

Legionellosis is a respiratory disease caused by Legionella bacteria. Sometimes the bacteria cause a serious type of pneumonia (lung infection) called Legionnaires’ disease. The bacteria can also cause a less serious infection called Pontiac fever that has symptoms similar to a mild case of the flu.

Causes and Common Sources of Infection

Legionella is a type of bacterium found naturally in freshwater environments, like lakes and streams. It can become a health concern when it grows and spreads in human-made water systems like hot tubs that aren’t drained after each use, hot water tanks and heaters, large plumbing systems, cooling towers, and decorative fountains. This bacterium grows best in warm water.

How It Spreads

People are exposed to Legionella when they breathe in mist (small droplets of water in the air) containing the bacteria. One example might be from breathing in droplets sprayed from a hot tub that has not been properly cleaned and disinfected. … In general, Legionnaires’ disease and Pontiac fever are not spread from one person to another.

Treatment

Legionnaires’ disease requires treatment with antibiotics … and most cases of Legionnaires’ disease can be treated successfully. Healthy people usually get better after being sick with Legionnaires’ disease, but they often need care in the hospital. Possible complications of Legionnaires’ disease include lung failure and death. About 1 out of every 10 people who get sick with Legionnaires’ disease will die due to complications from their illness.

Signs and Symptoms

Legionnaires’ disease is very similar to other types of pneumonia, with symptoms that include cough, shortness of breath, high fever, muscle aches, and headaches. Legionnaires’ disease can also be associated with other symptoms such as diarrhea, nausea, and confusion. Symptoms usually begin 2 to 10 days after being exposed to the bacteria, but it can take longer so people should watch for symptoms for about 2 weeks after exposure.
“Prevention
There are no vaccines that can prevent legionellosis. Instead, the key to preventing legionellosis is making sure that the water systems in buildings are maintained in order to reduce the risk of growing and spreading Legionella.10

“People at Risk
Most healthy people do not become infected with Legionella after exposure. People at higher risk of getting sick are older people (usually 50 years or older), current or former smokers, people with a chronic lung disease (like chronic obstructive pulmonary disease or emphysema), people with a weak immune system from diseases like cancer, diabetes, or kidney failure, and people who take drugs that suppress the immune system.”11

Because Legionnaires’ disease has been so well studied, state and local health departments have been relatively successful in controlling its spread. Nevertheless, when an outbreak does occur, epidemiologists and other public health officials really earn their keep.

Keeping the Disease Detectives Busy
The New York City DOHMH has a storied history as a leader in protecting public health. In a comprehensive study by John M. Barry on the Spanish flu of 1918, we see some of the epidemiological work of last century’s health detectives under extraordinary circumstances.12 The contemporary health detectives are just as diligent. When 12 people were diagnosed with Legionella in 2014, the Health Department discovered the source to be the cooling towers of a Bronx housing project.13 When the 2015 outbreak occurred, the Health Department suspected the cooling towers again.14

There are numerous descriptions of the 2015 outbreak in the Bronx, from dramatic to clinical. The CDC, which served as a spectator as well as a player, posted the following epidemiological summary of the outbreak on its website:

“When cooling towers are not properly maintained, they can become a home for Legionella bacteria, which thrive in untreated warm water. If people with certain health risks breathe in water droplets contaminated with these bacteria, they may develop Legionnaires’ disease. If people are getting sick with Legionnaires’ disease, how can health officials find out the source of the bacteria? A team of city, state, and CDC epidemiologists (disease detectives), laboratory scientists, and environmental health experts was able to do just that with an outbreak this summer in New York City.15

“Recognizing the Outbreak
Legionella bacteria are found naturally in fresh water and can live in most any warm water that isn’t properly treated with chemicals. Most people exposed to Legionella bacteria don’t get sick, but those who are older or already have health problems are at risk for developing Legionnaires’ disease. It’s not surprising for large cities to report several cases of the disease every year. However, epidemiologists are always on the lookout for an increase in cases that might suggest an outbreak of the disease. This past July, after noticing a spike in reports from clinics and hospitals in the Bronx, New York City investigators sprang into action.16

“Identifying the Source
After mapping the places of work and residence of all the patients identified, the investigators noticed a pattern that indicated the source was likely a cooling tower. Then, using state-of-the-art computer modeling programs, the geographic area most likely to contain the contaminated cooling tower was identified. A team of environmental health experts from New York and the CDC then collected samples from every cooling tower in that area and sent those samples to public health laboratories. Legionella are very challenging bacteria to work with, but after weeks of testing, city, state, and
CDC laboratories were able to solve the mystery. The DNA “fingerprint” from the bacteria found in each of the patients was identical to that of the bacteria found in one of the cooling towers, confirming that it was the specific Legionella bacteria from that cooling tower that infected each of those patients.\(^\text{17}\)

“Containing the Outbreak
Even before the source was confirmed, the suspected cooling tower and those in the surrounding area were cleaned and treated. Then officials worked with the building owners to ensure that industry standards for treatment of their cooling tower were met. After weeks of a collaborative epidemiologic, environmental health, and laboratory investigation by the city, state, and CDC, the outbreak was declared over by New York City officials.\(^\text{18}\)

“Keeping an Eye on Cooling Towers
With 128 people infected and 12 deaths attributable to the outbreak as of August 20, 2015, this was the largest outbreak of Legionnaires’ disease ever recorded in New York City. In response, the City passed new legislation that requires registration of all cooling towers and defines maintenance standards. The collaborative efforts of public health professionals from city, state, and federal agencies made it possible for this outbreak to be identified, solved, and contained as quickly as possible. Investigators like these stationed all over the United States, at CDC, and across the globe are working every day to detect, respond to, and prevent public health threats.”\(^\text{19}\)

The New York City health detectives and their federal and state colleagues worked well together and made quick and significant inroads to identifying the disease and its source. Of course, in this case, the health issue was not just an epidemiological exercise; it had become a full-fledged health crisis, with the attendant political and media attention.

How Did The City University of New York Get Involved?
The City University of New York (CUNY) is the country’s largest urban university system and the third largest university system in the United States. In 2015, it had 24 colleges, graduate schools, and professional schools; served approximately 520,000 matriculated and non-matriculated students;\(^\text{20}\) had almost 44,000 full- and part-time faculty and staff;\(^\text{21}\) and had more than 26 million square feet of space in approximately 300 buildings located throughout New York City’s five boroughs.\(^\text{22}\)

CUNY has many students that live in the South Bronx, and one of its campuses, Hostos Community College, is located in the epicenter of the outbreak. As a result, Hostos simultaneously became a suspected source—because it has cooling towers—and a valuable resource because it is an ideal staging area for the many agencies that would soon be involved.

To help address the Legionella outbreak, New York State marshalled its Health Department and its Division of Homeland Security and Emergency Services and sent significant resources from Albany and elsewhere around the state to the South Bronx. The Governor’s Office asked if Hostos could serve as the Emergency Operations Center for the Legionella response, and CUNY happily acquiesced.

As was noted in a 2008 URMIA Journal article,\(^\text{23}\) and referenced in a follow-up 2015 article:

“CUNY’s risk management and business continuity efforts are designed to be collaborative and to foster consultation. Day to day coordination, however, falls to CUNY’s Office of Environmental, Health, Safety and Risk Management. This includes leadership of the CUNY Risk Management and Business Continuity Council and coordination of its monthly meetings; chairing the monthly Emergency Preparedness Task Force meetings; conducting annual risk surveys, developing updated risk maps, and periodically revising the CUNY Risk Management Plan; preparing emergency-specific continuity of operations..."
plans; and maintaining the university’s risk management, business continuity, and emergency preparedness website. It also involves coordinating all of these activities with stakeholders throughout the university and with external agencies and organizations.”

Because the challenge required the protection of the health and safety of the CUNY community, as well as coordination with a wide range of outside agencies, this team was given leadership responsibility.

Sharing Success
Once the source of the outbreak was determined, several things had to happen to minimize the ongoing and future risk of any additional exposure to Legionella from cooling towers. Many agencies were involved directly, and many others played a supporting role. As noted above, the ultimate health and safety responsibility rested with the Health Department, and Commissioner Bassett issued the Commissioner’s Order. Cooling towers and other building structures are the responsibility of the Buildings Department, and Commissioner Chandler played a critical role in making sure that his department’s concerns were addressed. Finally, as is true of any city emergency, the Department of Emergency Management played a key coordinating role. This included support through regular conference calls, as well as gentle reminders from Commissioner Esposito that deadlines were approaching.

New York State also played a significant role, much of it centered at Hostos Community College. The college was happy to provide a large conference space for New York State Health Department officials, Division of Homeland Security and Emergency Services staff, representatives of the Governor’s Office, and a range of local officials. In addition, the Hostos parking lot became the staging area for the state’s mobile Emergency Operations Center trailer and other vehicles. Teams of inspectors and samplers were dispatched throughout the South Bronx from this central base.

At CUNY, we learned to be good hosts under adverse circumstances from our service as evacuation centers, hurricane shelters, and special medical needs facilities during Hurricane Irene and Superstorm Sandy. In fact, Hostos was experienced enough to understand when to be involved actively—food, sanitation, security—and when to provide background support. Of course, most of our guests were professionals, not evacuees, and we knew that our hosting obligations would be modest and short lived.

On the other hand, making sure that all of CUNY’s 24 campuses were complying with Health, Buildings, and Emergency Management requirements was a bit more complex. First, CUNY had to take inventory of its cooling towers, which is a bit more involved than one might think. As noted, we have more than 300 buildings, some with multiple cooling towers and others with none; some owned by CUNY and others leased from private landlords; some sampled and tested by CUNY staff, others by independent contractors; some with state of the art water treatment systems and others without.

Once a complete inventory was established, the compliance process began. Again, at face value, this would seem like a simple process. However, because of the many different agencies involved and the sometimes inconsistent requirements, the compliance process had some challenges as well.

Finally, procedures had to be put into place to ensure that the measures taken under emergency conditions would be revisited so that standard operating procedures (SOP) could be developed. These SOPs would help routinize the management of complex risks and reduce the need for emergency response going forward.

Conclusion
Several weeks after the crisis had abated, Governor Cuomo’s staff set up a conference at the Empire State Plaza in Albany to evaluate how the Legionella outbreak in the Bronx was handled and to share lessons learned. Many of the organizations that were enmeshed in the response were able to reflect on what went well and where there was room for improvement.

In general, the response to the crisis was extraordinary. So many agencies and organizations committed all the resources at their disposal to address the outbreak. Personnel, equipment, and financial resources were made available, and bureaucratic and jurisdictional challenges were overcome. In sum, while the deaths of 12 people—and the fear and anxiety of an entire city—muted the sense of accomplishment, everyone recognized that without this effort, the results could have been much worse.

Nonetheless, professional risk managers are always committed to continuous improvement. We acknowl-
edge a successful outcome, but we always try to uncover what we could have done better. In this case, as in many other large scale, complex emergencies, there are typically three areas that are often tested: command, control, and coordination.27

Health crises do not respect political, jurisdictional, or organizational boundaries. That is why the first rule of incident management is to establish a clear chain of command. The fact that so many state and local agencies committed resources to address the Legionella outbreak can be vitiated if they are not all working toward the same objectives. When the lines of authority are unclear, coordination becomes much more difficult.

During a crisis, and especially in setting up recurrence prevention, control systems are critical to ensure that instructions are clear and consistent and that outcomes are measured and assessed. Inconsistencies among federal, state, and local regulations are not uncommon; most of us have a favorite example or two. But when new requirements are being established, there is a better chance of avoiding inconsistency and confusion. Similarly, when expectations are clear, outcomes are easier to evaluate.28

Naturally, command and control require effective coordination. It is hard to say that there wasn’t enough communication during the Bronx Legionella outbreak. At the height of the crisis, there were several regular conference calls every day. But effective coordination often requires smaller scale meetings, calls, and written exchanges, where there are opportunities to ask questions and clarify any potential confusion. Emergency operations are always stressful; all the more reason to ensure that coordination is effective.

We started with a story that happened in a basement, so I will end with another underground story—this one at the New York State Emergency Operations Center in a Cold War era bunker in Albany. As you would expect, the technology was state of the art, and it was clear that New York State takes preparedness and emergency response very seriously. But when we got a tour of some of the technology at work, it was the people who operate and apply the emergency technology—the ones who run toward the crisis, not away from it—that were most inspiring. As we implement the Legionella prevention program, and all other risk management initiatives, the technology is important, but it is the human touch, from Commissioner Bassett’s patience to the fearlessness of the rooftop cooling tower inspectors, that really makes the difference.

About the Author

Howard Apsan is the university director of environmental, health, safety, and risk management for The City University of New York (CUNY), the largest urban university system in the United States. CUNY has 24 colleges, graduate schools, and professional schools; approximately 520,000 matriculated and non-matriculated students; 43,000 full- and part-time faculty and staff; and 26 million square feet of space in approximately 300 buildings located throughout New York City’s five boroughs. The university director is responsible for environmental health and safety management and compliance throughout the university. He also serves as the university’s risk manager, tasked with assessing liabilities and designing systems for minimizing CUNY’s operational and reputational risks and promoting resiliency and continuity of operations. He chairs the university’s Environmental Health and Safety Council; the Risk Management and Business Continuity Council; and the Emergency Preparedness Task Force.

Earlier in his career, he served for several years in New York City government at the Mayor’s Office, the Board of Education, and the Sanitation Department. He left municipal government to pursue a career in environmental and risk management consulting, which included eight years as a principal, and ultimately national director, of a nationwide consulting firm, and led to the founding of Apsan Consulting. He has served industrial, commercial, real estate, government, and not-for-profit clients throughout the United States and has extensive international experience.

In addition to his management and consulting activities, he has been a member of the faculty at Columbia University’s School of International and Public Affairs since 1986 and also teaches in Columbia’s Sustainability Management program. He is a LEED Accredited Professional and has served on the United States Technical Advisory Group (US TAG) for ISO 14000, the Ameri-
can Society for Testing and Materials (ASTM) Environmental Committee (E-50), and the Environmental Commission in Springfield (New Jersey), where he is also a lieutenant in the police reserve. He chaired the New York Chamber of Commerce Environment and Energy Committee and the New York Chapter of the Environmental Auditing Roundtable and was the president of a community-based non-profit corporation. He is a member of the editorial board of *Environmental Quality Management* and writes and lectures regularly. He earned his BA and MA from Brooklyn College and his MPhil and PhD from Columbia University.

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**Endnotes**

1. The author serves as the university director of environmental, health, safety, and risk management for The City University of New York, the largest urban university system in the United States. In addition, he has been an adjunct professor at Columbia University’s School of International and Public Affairs since 1986 and also teaches in Columbia’s Sustainability Management program.


5. Ibid.


7. Ibid.


16. Ibid.

17. Ibid.

18. Ibid.

19. Ibid.


27. For specific definitions of these terms in the Incident Command System (ICS) context, see: Federal Emergency Management Agency (FEMA) ICS Resource Center, “Glossary of Related Terms,” accessed May 22, 2016, [https://training.fema.gov/emiweb/is/icsresource/glossary.htm](https://training.fema.gov/emiweb/is/icsresource/glossary.htm).

If you fail to plan,  
you are planning to fail!

—Benjamin Franklin,  
American Founding Father and  
Founder of the University of Pennsylvania
Introduction

The University of Pennsylvania’s roots are in Philadelphia, the birthplace of American democracy. But Penn’s reach spans the globe. Faithful to the vision of the University’s founder, Benjamin Franklin, Penn’s faculty generate knowledge that is unconstrained by traditional disciplinary boundaries and spans the continuum from fundamental to applied. Through this new knowledge, the University enhances its teaching of both theory and practice, as well as the linkages between them. Penn excels in instruction and research in the arts and sciences and in a wide range of professional disciplines. Penn produces future leaders through excellent programs at the undergraduate, graduate, and professional levels. Penn inspires, demands, and thrives on excellence and will measure itself against the best in every field or endeavor in which it participates. Penn is proudly entrepreneurial, dynamically forging new connections and inspiring learning through problem-solving, discovery-oriented approaches. Penn research and teaching encourage lifelong learning relevant to a changing global society. All of this and more speaks to the mission of the University of Pennsylvania.

The Merriam Webster definition of continuity is “uninterrupted connection, succession, or union.” This is what people strive for in their lives. However, it is a fact that there will be unplanned interruptions, breaks in succession, and fractures in the union that keeps it all together. In business, these same unplanned interruptions occur, just at a magnified level. So in business the term “business continuity” is recognized, or in the case of the University of Pennsylvania the term “mission continuity” is recognized. The University of Pennsylvania has established a Mission Continuity Program that allows for all Schools, Centers, and departments of the University to develop their own mission continuity plans and to test their preparedness for those unplanned interruptions and fractured unions that will undoubtedly occur. This article outlines the University’s process, how it started, and where it is now. It will highlight University-wide tabletop exercises and other planning resources. It will take what seemed impossible to what is now Mission Possible.
Centers, departments, and offices are responsible for developing mission continuity plans and storing them online in a database that has been specially configured for Penn. The University benefits from having consistent and accessible mission continuity plans for all organizations and facilities, so Penn can respond quickly and effectively to a disruption or crisis and continue operations. These plans provide the information necessary to help Schools and Centers resume critical operations as quickly as possible.

MCP representatives have been identified for all Schools and Centers. These representatives are responsible for the strategic-level decisions about continuity planning. They have designated liaisons who create and maintain the actual plans. In keeping with Penn’s decentralized financial and management model, over 200 MCP liaisons have been trained to use the database to develop and enter plans into the system. This distributed model is consistent with Penn’s Responsibility Center Management (RCM) financial system, reflecting an operational philosophy that those closest to their business know their needs and critical processes best.

The mandate to develop and maintain mission continuity plans comes from University leadership, specifically from the Provost and the Executive Vice President. Support from the top levels of the University has proven to be extremely valuable in obtaining buy-in from users around campus. In addition, a central steering group composed of subject matter experts from around the university provides support to the program in many ways (see Appendix 1 for a list of units represented on the steering group). Representative members of this group have been involved in the strategic direction for the program; software selection and configuration; creation and delivery of training; and piloting and eventual planning for full deployment of the program. Members also conducted individual and group meetings with staff members across the institution to help them develop plans; contributed to the planning of the annual tabletop exercises; and continue to conduct monthly user group meetings on topics of interest. Obtaining input from this group, which represents many diverse organizations from across the institution, has contributed to the success of the program.

Members of the steering group have also been involved in developing sample plans that can be used by all liaisons. These sample plans are stored in a common library within the database, so they are widely accessible. Sample plans for continuity of teaching, continuity of research activities, and dealing with loss of human resources are all available in the database library.

Beginning in the summer of 2008, the Executive Vice President’s Office conducted a survey in the form of gathering information into criticality filters. Each school and center was asked to identify their critical assets, functions, and processes and to determine if plans existed to restore those assets, functions, and processes in the event of an outage or emergency. As Figure 1 shows, over 2,000 assets, functions, and processes were identified across the institution. However, the majority of units determined that they did not, in fact, have recorded plans for continuing operations in the event of an emergency or disruption to normal operations.

**FIGURE 1: Criticality Filter Results**

**Planning Process**

To assist staff members from around the campus in the mission continuity planning process, the central MCP leadership has established a framework for planning, as follows:

- All plans are stored in a specially configured database that is web-accessible on all browsers.
- All users are required to take three online training modules before being granted access to the database. This ensures that they understand how the MCP is structured and how the database works before they start the planning process. As of December 2015, over 260 University staff members have been trained and have participated in the program.
- All Schools and Centers are expected to create what are called Foundation Plans, containing certain elements specified by the Provost and
Executive Vice President. Plans are expected to be organized into five categories: Buildings, Equipment, Technology, Human Resources, and Third-Party Vendors or Partners. This is called the BETH3 model for organizing plans. For each category within this model, each school, center, department, or office is expected to determine critical items within that category that would allow them to continue operations in the event of an outage or disruption. They are then expected to construct at least five plans, one in each category (unless they have determined that a plan is not needed; for example, if they have no crucial equipment, they may decide to omit an equipment plan). The value of using this model is that most of the activities and functions of the University can be subsumed into one category or another.

For example, in order to continue the research mission of the institution, planners would probably need to be concerned about the facilities where the research takes place (buildings); the apparatus used for research, such as freezers to store specimens (equipment); the computing equipment where data about the research is stored and analyzed (technology); the faculty and staff who participate in the research (human resources); and the companies who provide necessary supplies (third-party vendors/partners). Likewise, to continue the instructional mission of the institution, planners would need to be concerned about the facilities where classes take place (buildings); apparatus used during instruction, such as cadavers for medical school classes (equipment); computers used in scheduling classes or used in classrooms to facilitate instruction (technology); the faculty who teach and the staff members who support the instructional mission (human resources); and suppliers who support the equipment and technology mentioned above (third-party vendors/partners).

Thus, providing planners with these categories allows them to take a large issue – how to continue the instructional and research mission of the University – and break it down into manageable pieces for planning purposes. As one of our organizations wrote in a post-exercise report following a tabletop exercise: “Utilizing the recommended BETH3 model, preparation for this exercise helped us to create a plan which is comprehensive, but at the same time simple and flexible enough to address a wide range of scenarios which could potentially disrupt normal business operations.”

Our Perelman School of Medicine has expanded this model for their own use to what they call the PASIFEC-3 model. This stands for: People, Animals, Specimens, Information Systems, Facilities, Equipment, Communication Infrastructure, and Third-Party Vendors. This expanded version of the model allows them to account for the complexity of the work the school is engaged in.

- The focus of the plans is continuity of operations, rather than emergency response, which is overseen by Penn’s Division of Public Safety. Users are expected to include information about how they plan to continue their critical operations in the event of an outage or disruption that may last anywhere from a few hours to several months. Figure 2 shows the relationships among crisis management (managing the initial response to an outage or disruption), disaster recovery (restoring technology systems), and mission continuity (continuing operations in the long term following an outage or disruption).
• Each individual plan (called an action plan) is organized into four columns of information: a Trigger (when something happens), an Action (what do we do), at least one Responsible Person (who does it), and a Procedure (how does it get done). There may be multiple triggers within a given plan, multiple actions within a given trigger, and multiple responsible persons and procedures for a given action.

• To help users obtain the information needed for a plan, the MCP leadership provides a pre-planning questionnaire (PPQ), which can be used as an interview tool or a survey, or can simply be completed by the planner. This tool (see Appendix 2), especially when used in conjunction with the sample plans in the library mentioned above, allows planners to ensure they have all the information they need even before they start to enter plans into the database.

• Since the planning process is distributed across the entire University, communicating regularly and comprehensively with the plan developers/liaisons is of paramount importance to the success of the program. Monthly user group meetings, structured around topics of common interest, are provided for users on a voluntary basis. An unexpected benefit of the program has been the community of liaisons and end users that has been created. The sharing of information and ideas is commonplace among them. In addition, there is a website (http://www.upenn.edu/missioncontinuity) that includes a wide variety of information and tools for use in the planning process. These include:
  • The pre-planning questionnaire (PPQ), which can be used either as an interview tool or a survey. It is structured to allow users to obtain the information they need to include in their action plans (see Appendix 2).
  • A glossary of terms relating to mission continuity planning.
  • Guidelines for constructing and reviewing plans.
  • Screenshots of the online training modules, so users can review individual features and functions without accessing the entire online training module.
  • A tool for recording best practices and lessons learned, to be used when analyzing response to an outage or disruption.

**Tabletop Exercises**

It is essential that plans be kept up-to-date and maintained so they can be activated any time an outage or emergency occurs. To assist organizations in maintaining their plans, the MCP requires organizations to conduct annual tabletop exercises. In a tabletop exercise, an imaginary scenario is followed that, if it were real, would necessitate that mission continuity plans be activated. The exercise is conducted within a short period of time – usually about 90 minutes – and the relevant plans are checked to ensure that they contain correct and up-to-date information, to help participants identify gaps in the plans, and to allow them to discuss how best to address these gaps.

Beginning in the Fall of 2013, Penn’s Provost and the Executive Vice President required that annual tabletop exercises be conducted University-wide. One goal is to make sure that all plans are being maintained and are up-to-date. It has also been an opportunity to check plan consistency across the institution. In 2013, Schools and Centers were asked to formulate their own scenarios to test components of their plans during a tabletop exercise.

For the Fall of 2014, however, a single scenario was developed by the steering group for all organizations to use in their tabletop exercise. All organizations were asked to schedule and conduct the exercise sometime during the fall semester. The scenario involved the derailment of a train car containing toxic chemicals from the tracks at the east end of campus. This necessitated that organizations in the University activate several of their plans, including such emergency procedures as shelter-in-place and eventual evacuation of campus, as well as continuity of operations beyond the immediate crisis.
The following year, the Fall of 2015, the scenario chosen involved flooding from torrential rains. Each unit conducting an exercise had to identify two of their buildings that would be impacted by the storm and flooding. Rather than a campus-wide disruption as in the train derailment, organizers and participants were to assume that only those two buildings were impacted and the rest of campus weathered the storm. Once again, Schools and Centers were asked to complete the exercise at a time of their choosing during the fall semester.

Penn’s Office of Risk Management has partnered with the MCP central leadership on this initiative. The Office of Risk Management approached several of our corporate partners from the insurance and risk industry to assist in this effort; the companies and firms selected staff members to come to campus and facilitate each of these exercises on a volunteer basis. The MCP leadership designed and provided an orientation program for all the volunteer facilitators, so they could fully understand the Penn environment, how the tabletop exercises fit into that environment, and what their job as a facilitator of an exercise would entail. It is superb facilitation that allows for open and focused dialogue and ultimately a smooth running exercise.

In the Fall of 2014, 60 units within the Schools and Centers of the University conducted tabletops using the common scenario, and a total of 16 professionals from six companies facilitated the exercises. In the Fall of 2015, a total of 58 exercises took place throughout the Schools and Centers, and a total of 12 professionals from five companies facilitated the exercises. In this latter year, a total of over 450 University leaders, faculty, and staff participated in the exercises around campus.

In the Fall of 2014, the nature of the scenario was kept confidential, so that users learned about the disruption caused by the train derailment at the time of exercise to simulate a real emergency event and the need to determine if plans to continue operations were sufficient. In the Fall of 2015, users were told in advance that the scenario would involve flooding and roof leaks to their buildings, and several of the slides the facilitators used to conduct the exercise were shared with users in advance to allow them to prepare as they normally would for a predicted weather emergency.

As one of the external facilitators and president of a full-service specialty insurance company wrote: “To witness such a high level of preparedness, collaboration, and responsiveness throughout a university is, in my experience, rather unique. This is precisely why the University of Pennsylvania is a leader in higher education...” Another wrote: “As an insurance professional who helps large, sophisticated organizations manage and mitigate risk every day, I have been immensely impressed with the scale, scope, and thoroughness of the mission continuity program. In the vast majority of my client engagements, risk management is something that is approached reactively — after something negative has occurred. As a Penn alumnus, it is both refreshing and reassuring to see the University proactively addressing potential risk exposures and dedicating the resources necessary to prepare Penn for a worst case scenario.”

A new feature for the Fall 2015 exercises was the inclusion of fact sheets from Penn’s Facilities and Real Estate Services Division (FRES) for each individual building identified as being affected by the imaginary rainstorm. These fact sheets (see Appendix 3 for a sample) provided information to those participating in the exercises concerning the difficulties and issues in their specific facilities.

The MCP prepared several documents to help organizations conduct their tabletop exercises, all of which are available on the MCP website: http://www.upenn.edu/missioncontinuity/table_top_exercise.html.

These included:

• **Guidelines:** Organizations are provided with guidelines on conducting a tabletop exercise. These guidelines stress that the purpose of the exercise is to improve the plans, not as a test of the participants. The MCP leadership are not trying to catch planners in doing something supposedly wrong; the exercise is so we can all work together to make the University’s plans as strong as they can be. Each exercise becomes its own gap analysis.

• **Instructions for reporting:** Organizations are provided with instructions for how to turn the plans stored in the database into PDF documents which can be moved to a LAN or to Box, saved on a flash drive, or printed in hard copy and shared with their senior management and/or participants in the tabletop. The goal is to provide management and other appropriate parties with copies of the plans without having to go through training on the database.
• **Guidelines for communication planning (added for the 2015 tabletop exercises):** Organizations are advised to include a crisis communications plan in their mission continuity plans. These guidelines help users to construct one.

• **Observer Information Form:** Organizations are encouraged to have an observer at the tabletop exercise. This form allows the observer to provide feedback about the organization’s plans. Observer Information Forms are not shared with the central MCP staff; they are strictly for the use of the organization conducting the tabletop.

• **Post-exercise report template:** All organizations conducting a tabletop exercise are required to complete a short post-exercise report and return it to the MCP within 10 days of their exercise. The MCP leadership and the steering group use these reports to compile information about Penn’s overall experience and provides updates to University leadership and other key groups and individuals about the results. The contents of these reports also help to shape plans for the following year’s tabletop exercises. Sample post-exercise report responses are provided as Appendix 4.

• **Central office fact sheets (added for the Fall 2015 tabletop exercises):** These fact sheets provide information concerning how central University divisions and offices, such as public safety and environmental health and radiation safety, respond to disruptions and emergencies.

• **Timeline (added for the Fall 2015 tabletop exercises):** The timeline details how to prepare for a tabletop, starting six weeks in advance of the scheduled date of the exercise.

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### Outcomes of the Tabletop Exercises

In response to the tabletop exercises, the sponsors of the Program wrote:

• “The tabletop exercises are impacting both continuity planning and participation across campus. The Mission Continuity Program contributes to the protection of assets and preservation of resources. As a direct result of continuity planning, we have a growing number of examples where this program is making a positive difference in our ability to respond and avoid interruptions to normal operations.” - Executive Vice President

• “I appreciate not only the successful tabletop exercises undertaken this past fall, but also the years of careful coordination and planning that have brought us to this point. While there is certainly more work to be done, we can feel rightly proud of the distance already traveled.” - University Provost

As mentioned above, all units conducting tabletop exercises were required to complete a post-exercise report both in Fall 2014 and Fall 2015 (see Appendix 4 for sample responses from post-exercise reports). The reports presented MCP leadership with both best practices and lessons learned.

### Fall 2014 Post-Exercise Reports: Best Practices and Lessons Learned

Units that conducted the tabletop exercise in 2014 reported the following best practices:

- Many users reported that they found the exercise to be “very useful.”
- They were afforded the opportunity to include faculty and staff members from many levels of their organization.
- They liked the use of a University-wide scenario.
- They found it helpful to have multiple guidance documents and training modules, as well as the information posted on the website.
- They found it helpful to have outside facilitators.
- This year’s scenario resulted in a “3-for-1” test of plans and procedures (shelter-in-place, evacuation, and continuity of operations).
- They reported that the exercise highlighted multiple planning areas not previously considered or requiring deeper evaluation.
Units that conducted the tabletop exercise in Fall 2014 reported the following lessons learned:

- Many felt that the scenario for future years needed to focus less on the immediate emergency and more on ongoing continuity of operations (too many, when doing this year’s exercise, could not get past the emergency/disaster itself).
- Many pointed out gaps in their knowledge about communications and command structures, both in their own units (which they would need to address for themselves for future years) and from the University’s leadership in the event that something like this occurred (which the central MCP leadership would need to address for future years).
- While they appreciated the guidance documents that were provided, they wanted more such documents, especially about crisis communications.
- They requested additional guidance in preparing for the tabletop exercise, in the form of a timeline of activities to be completed prior to the scheduled exercise.

In response to the post-exercise reports, MCP leadership made several changes for the Fall 2015 exercise:

- An additional guidance document, concerning how to construct a crisis communications plan, was provided to users.
- The scenario slides for the Fall 2015 exercise were designed to move users past the immediate emergency and into the issues that revolve around how to continue operations over the longer term in the face of the disruption.
- Additional fact sheets from other central service providers were developed and posted on the website, providing information concerning how central University divisions, such as public safety and environmental health and radiation safety, would respond to emergencies.
- A timeline of activities to complete in order to prepare for a tabletop, starting at six weeks prior to the scheduled exercise, was provided to users.

Fall 2015 Post-Exercise Reports: Best Practices and Lessons Learned

Units that conducted the tabletop exercise in Fall 2015 reported the following best practices:

- Sharing slides concerning a portion of the event in advance was helpful as it allowed participants to move directly to planning for continuity of operations.
- Outside facilitators continued to be widely appreciated.
- The fact sheets from the facilities division were very helpful.
- The scenario reflected a common occurrence in University buildings (i.e., water damage), which allowed participants to discuss a real world issue.

The majority of the lessons learned in Fall 2015 were ones that individual Schools and Centers plan to address for themselves, rather than requiring action from MCP leadership:

- Some recognized that they needed to determine in advance specific roles and responsibilities people in their units will fulfill in the event of an outage or disruption. For example, in some units an incident management team needs to be structured in advance so it can be activated when needed.
- Some units expressed a desire to bring together organizations with similar concerns (e.g., the Perelman School of Medicine with other Schools and units that deal with research animal health and safety).
- Since crisis communications often follow similar patterns regardless of the organization, many units wished to share the content of communications among themselves.

Quick Tips

For those at other institutions interested in starting a similar initiative, it is helpful to be mindful of the following:

- This does not have to be a costly program to run. At Penn, members of the steering group contribute their time, as do the outside facilitators.
- It is crucial to have an excellent staff member scheduling the tabletop exercises each year. It can be complex to coordinate schedules for the orga-
nizers who are arranging the tabletop exercises and the facilitators who come from off campus. Penn does not have a dedicated office in charge of the MCP.

- Corporate partners, such as insurance companies and brokerage firms, are often eager to volunteer their help with this type of exercise. Not only does it allow them to learn more about the University, it is also in their best interests for the institution to have good mission continuity plans, and they are happy to contribute to this process. One additional advantage to the institution is that the professionals from these corporate partners often have a great deal of experience with this kind of planning and with tabletop exercises in general, so they are prepared to do a good job in this role.

Many of the documents cited in this article are publicly available on Penn’s mission continuity website: [www.upenn.edu/missioncontinuity](http://www.upenn.edu/missioncontinuity). Click on the yellow banner at the top for information specifically about the tabletop exercises.

**Conclusion**

Now that organizers and participants from across campus have largely completed their foundation plans and stored them in the database, it is important to ensure that plans are updated on a regular basis and continue to evolve. Running annual tabletop exercises ensures that school and center representatives and liaisons check and maintain their plans regularly. Also, using different scenarios provides the opportunity to test the plans in a variety of circumstances. An external facilitator and industry expert wrote: “I did an informal poll at the end of each session to see what they would like to see different in the table tops and if they saw the value in doing these types of training/exercises….Each group was very positive in their response and recognized the need for these types of training sessions.”

As Figure 3 shows, Penn’s Mission Continuity planners are engaged in a continuing cycle of creating, maintaining and improving plans.

- **Plan:** Create plans, educate staff, engage in discussion
- **Do:** Conduct exercises, generate feedback
- **Check:** Monitor and update, tweak for changes, “dust it off”
- **Act:** Implement improved plans, have plans ready and accessible by all

And start all over again.

![FIGURE 3: Cycle of Ongoing Work](image)

As it happens, while writing this article, the University experienced a flood in one of its high rise undergraduate residences during finals week. The following note was received from the Director of Residential Living: “The table top was very helpful. At ours, we were joined by College House and Academic Services. Our units are interdependent on one another in an incident. During the...incident it was evident that we have learned how to work together and understand one another’s roles. That was a direct outcome of the pre-work and the tabletop. Thanks!”

**APPENDIX 1: Steering Group Member Organizations**

- Business Services Division (BSD)
- Executive Vice President’s Office (EVP)
- Facilities and Real Estate Services (FRES)
- Division of Finance (DOF)
- Human Resources
- Information Systems and Computing (ISC)
- Perelman School of Medicine (PSOM)
- President’s Office
- Provost’s Office
- Public Safety Division (DPS)
- Risk Management and Insurance

Other school representatives join on a rotating basis.
APPENDIX 2: Pre-Planning Questionnaire (PPQ)

Please note: Individuals completing this questionnaire should have already finished the online Knowledge Building module designed to acquaint them with mission continuity, its purpose, its benefits to their school or center, and some of the roles and processes related to the program and terms within this questionnaire.

This PPQ is intended to capture key data elements that allow planners to construct their foundation mission continuity plans in Shadow-Planner.

In some Schools and Centers, multiple PPQs will be necessary – especially in larger organizations where critical processes, functions, and resources are too disparate to be captured on a single questionnaire. Plan liaisons and plan contributors are encouraged to review the PPQ(s) with their local management (e.g., senior business officer, department chair, unit/department head, business administrator, mission continuity program representative) to ensure that the list of critical processes, functions, and resources are comprehensive and prioritized appropriately.

1. What are your unit’s most critical processes and functions?

All critical activities executed by an organization in conducting business as usual are defined as processes or functions. For an academic unit, this may be major advising, laboratory research, or undergraduate instruction. For an administrative area, this may be paying employees, balancing financial accounts at month-end, or providing 24/7 access to e-mail.

   1. Xxxx
   2. Xxxx
   3. Xxxx

2. How should those processes and functions be prioritized?

   Prioritize the processes and functions identified in question #1, from most critical to least critical.

   1. Xxxx
   2. Xxxx
   3. Xxxx

3. What BETH-3-related resources are needed to support the top priority items? Please refer to the next page for BETH-3 resource definitions.

The BETH-3 methodology governs the way mission continuity plan components are organized and recorded in Shadow-Planner. Please limit your response to no more than five (5) resources for each of the BETH-3 categories.

**Building:** Basic information about buildings/facilities that is essential to the resumption/continuation of your unit’s most critical processes and functions. Examples include a research laboratory or classroom in a school (such as the Biochemistry Laboratory in the School of Medicine’s John Morgan building) or a computer room in a specific building that houses critical computing equipment (such as the Data Center in 3401 Walnut Street).

   1. Xxxx
   2. Xxxx
   3. Xxxx
   4. Xxxx
   5. Xxxx

**Equipment:** Necessary equipment and supplies that are essential to the resumption/continuation of your unit’s most critical processes and functions. Examples include an electron microscope in a specific research laboratory or back-up power generator requirements for important computer systems.

   1. Xxxx
   2. Xxxx
   3. Xxxx
   4. Xxxx
   5. Xxxx
Technology: Key technology and systems that are essential to the resumption/continuation of your unit’s most critical processes and functions. Examples include a Blackboard site for a class or enterprise-wide technology like the University’s payroll/personnel system, PennNet, or e-mail.

1. Xxxx
2. Xxxx
3. Xxxx
4. Xxxx
5. Xxxx

Human Resources (People): Key personnel or job functions that are essential to the resumption/continuation of your unit’s most critical processes and functions. Examples include a certain lab assistant with critical knowledge of a specific experiment, or a computer technician skilled in the recovery processes necessary to bring back-up servers online and make them accessible to users.

1. Xxxx
2. Xxxx
3. Xxxx
4. Xxxx
5. Xxxx

3rd Party Vendor/Partner: Key third-party partners or suppliers that are essential to the resumption/continuation of your unit’s most critical processes and functions. Examples include an external vendor that supplies specific laboratory animals with a special food diet or an internal administrative center such as Information Systems and Computing (ISC) that supplies an organization’s primary e-mail system.

1. Xxxx
2. Xxxx
3. Xxxx
4. Xxxx
5. Xxxx

4. How would your answers to the other questions change if there was an interruption in service that lasted one hour, one day, one week, 2-4 weeks, 5 weeks, or longer? Is time important in restoring your critical processes and functions?

Consider both elapsed downtime (e.g., a laboratory monitoring process cannot be unavailable more than one hour -or- this is the consequence if we are without e-mail for a week) and time of year issues (e.g., an accounting function must be available on the first of each month for reconciliation purposes -or- admissions decisions must be released on a certain date).

5. Knowing what your critical functions and processes are, what do you plan to do in the event of a crisis concerning each of the BETH-3 items (buildings, equipment, technology, human resources, and third-parties)? For example, what alternate facilities will you need should your critical facilities become unavailable?

6. Who are the responsible people for carrying out these plans?

7. What can you do now to prepare for a crisis, even before you start to use your action plans?

APPENDIX 3: Sample Building Fact Sheet from Facilities and Real Estate Services (FRES) for 2015 Exercise

- Building X’s main electric is fed from substation #3. This substation would not be impacted by the water level.
- The switchgear for this building itself is located in the penthouse of the building, but the 15kv switches feeding it are located in the basement of the building. Building power would be shut down after 4-6” of water in the basement.
- The elevator machine room is located in the penthouse, but the elevator would be shutdown with the switchgear.
- The main fire panel is located on the 1st floor lobby.
- The building has a very small generator in the penthouse. It serves life safety and lighting.
- The mechanicals are in the penthouse and would not be damaged by the water.
- Toilets would likely stop operating after the water reaches about 4” of water as it will start flooding the street drains.
APPENDIX 4: Sample Responses from Post-Exercise Reports

“This is fantastic – especially since it is a consultative experience which encourages us to be open and have meaningful discussions about how to make our plans better. I contrast this with other experiences where it was more of a ‘test’ – which tends to create a more closed/protected experience and probably does not result in desired outcomes (especially where mission continuity is concerned).”

“There is an educational adage that says: ‘Tell me and I forget. Teach me, and I may remember. Involve me, and I learn.’ These exercises creates a scenario where respondents can take what’s on paper or online and put practices into working practice. This exercise also permits us to make adjustments and changes to what may look great in theory but may not work as well in practice.”

“The exercise was most helpful in bringing the entire team to the discussion table”

A lesson learned: “Since our office space is leased, the tabletop also promoted a discussion of our office status in an emergency and what services we might have to purchase if our landlord did not prioritize our office needs.”

Feedback with regard to the external facilitators: “Our consultants asked a lot of questions and helped us to think of things that we really didn’t think about. Our feedback from them will be really useful in overhauling the plan this year. I think the key to making sure the MCP tabletop exercise is useful to departments is making sure the consultants aren’t afraid to really get in there.”

“The Mission Continuity Program is a great way for departments across the University to be made aware that disasters can happen. The regular meetings are helpful and promote networking with different areas which is important. It gives us another tool to plan ahead and be prepared to be able to continue with our mission in the event a disaster does occur.”

From one of our smaller Schools: “I can’t say that I like the exercise, but it does prove useful in illuminating potential risk.”

From one of our large Schools: “Our facilitator this year really challenged us on the amount of detail in our plans and frankly we needed that. Instead of applauding us for what we did well, he encouraged us to provide more specific details on things like research equipment processes, external media protocols, supply chain lead times, etc., and that was welcomed.”

From one of our large health Schools: “Using the BETH3 concept as our base, we have identified a list of resources called PASIFEC-3 (People, Animals, Specimens, Information Systems, Facilities, Equipment, Communication Infrastructure, Third-Party Vendors), in order to account for all aspects of our missions. This expanded list allows us to plan at a finer level of granularity and recognizes unique aspects of our scientific and educational endeavors.”

“The involvement of faculty members both on the mission continuity team and for the tabletop specific facilities is invaluable to our process.”

Another large health school: “It allowed us to think about additional details that can be incorporated into the plan by talking through cause and effect or ‘what if’ scenarios intended to pressure test specific aspects of the plan during different phases of a given disaster scenario…. These types of exercises help improve the actions we take before, during and after a real emergency, giving us the opportunity to plan both in advance and completely in terms of addressing a total and complete response.”

“The exercise helped us to address gaps which we have either addressed in whole or in part.”

Most common words/phrases from the Post-Exercise Reports:

- “Very useful”
- “Extremely Useful”
- “Important”
- “Impactful”
About the Authors

**Benjamin Evans, ARM**, is the executive director of risk management and insurance at the University of Pennsylvania, where he has served in this position since November of 2008. His responsibilities include oversight of the insurance and risk management programs for the University and the University of Pennsylvania Health System. Prior to joining Penn, Ben served as director of risk management and insurance at Temple University. In that role, Ben was responsible for management of the University and Health System insurance programs, leadership in development of a University-wide risk management initiative, and participation in various risk management and insurance associations. Prior to Temple, Ben spent a number of years at Thomas Jefferson University and at Marsh & McLennan, serving in various roles. Ben currently serves on the boards of three Vermont-based Risk Retention Groups, two Bermuda-based Captives, and one Cayman-based Captive. Ben holds a Bachelor of Science degree in business administration from LaSalle University and also has his ARM designation.

**Anita Gelburd** holds three master’s degrees and a PhD from the University of Pennsylvania. Currently, she is program and portfolio Manager in Information Systems and Computing (ISC) at Penn. In that role, she oversees ISC’s portfolio of projects and services and manages the University-wide Mission Continuity Program.

In addition, she has held a lecturer appointment in the History Department, where she taught a freshman seminar in the history of American education. Prior to her current position, she worked in office of the Provost at Penn, as well as in the Wharton School, where she was the director of academic affairs in the Undergraduate Division. She also has extensive experience with Penn’s College House system, having lived as a senior fellow in residence in Hill College House for six years (1998-2004).

Dr. Gelburd’s hobbies include travel and reading. She also teaches yoga on the Penn campus.

**Janet Plantan** is the executive director of special projects in the Office of the Executive Vice President at the University of Pennsylvania.

Among Janet’s responsibilities, she is the program owner and functional leader of the University’s Mission Continuity Program, which is an institution-wide program sponsored by the Office of the Executive Vice President and the Office of the Provost. The program is designed to ensure that the University is better prepared to resume operations as efficiently as possible in the event of a crisis or interruption to normal operations.

Janet has over 30 years of experience in School budget and financial management. At the request of the executive vice president and dean, Janet served as the interim CFO of Penn’s School of Veterinary Medicine with a total operating budget of $125M. Prior to joining the Executive Vice President’s Office, Janet was the CFO and executive director of administration of Penn’s Graduate School of Education for more than 20 years.

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**Endnotes**

1. This number excludes buildings affiliated with the University of Pennsylvania Health System.
If you don’t invest in risk management, it doesn’t matter what business you’re in, it’s a risky business.

—*GARY COHN*,

*AMERICAN INVESTMENT BANKER*
I want to understand the world from your point of view.
I want to know what you know in the way you know it.
I want to understand the meaning of your experience, to walk in your shoes, to feel things as you feel them, to explain things as you explain them.
Will you become my teacher and help me understand?

—JAMES SPRADLEY,
Professor of Anthropology, Macalester College
**Introduction**

The University of Alberta (U of A) is one of Canada’s top research-intensive universities. With a student population of 39,000 FTEs, annual research expenditures of approximately $450 million, and a fully consolidated budget of $1.8 billion, the U of A is increasingly becoming a leader in world scholarship. As with most institutions this size, the university has a robust risk management program, which falls under the portfolio of Risk Management Services (RMS). Recognizing that research and innovation can only be advanced by taking on certain levels of risk, the philosophy and risk policy of the university states that risk is a good thing and that the university must be willing to take on risk. However, it must do so in a managed way.1

In fulfilling its research mandate, researchers, including graduate students, are involved in all forms of off-campus research activities. One such research project is *Revitalizing the ‘Hood’: The Changing Nature of Crime in Regent Park,*2 led by Marta-Marika Urbanik, a PhD candidate in the Faculty of Arts. As an ethnographer, Marta is undertaking graduate work on the effects of the Regent Park revitalization on neighborhood crime. Regent Park, located in Toronto, Canada, is one of Canada’s most socioeconomically disadvantaged neighbourhoods and was subject to deeply stigmatizing media coverage, with popular representations marking it as a crime-filled, publicly funded gang haven. The aim of the study is to provide a greater understanding of how a revitalization initiative within the neighbourhood has affected crime, violence, gang structures, and safety within the neighbourhood and the impacts of this initiative on local residents. The research involves conducting formal and informal interviews with criminally and non-criminally involved residents, as well as several months of participant-observation—essentially, “deep hanging out” with some of Regent Park’s major criminal players, to gain a more holistic understanding of their lived realities.3

**U of A Processes for Preparing Researchers for the Field**

In their commissioned inquiry into the risk and well-being of researchers in qualitative research, Bloor et al. highlight the risks to researchers in undertaking fieldwork. They note that, although there has been a concentration of efforts in ensuring research subjects are protected from potential harmful consequences of research, there has been much less thought about protection of researchers from potential harm.4 This has certainly changed as universities have reinforced that safety is a dual responsibility of both the employer and the employee and, in this case, the graduate student. All universities work within environments where it is either a legislative requirement or a contractual obligation for employers to ensure that researchers are, as reasonably possible, protected from harm through effective risk management programs.

In the case of the U of A, this is achieved through a variety of different policies, including its *Environment, Health and Safety Policy,* *Off Campus Activity and Travel Policy,* as well as programs and services including those offered through the university’s Field Research Office (FRO).5,6,7 The FRO provides an extensive range of field research supports, including a *field activities plan* template.8 The field activities plan is designed to help field researchers identify and document such things as the type of research to be undertaken, who is involved, hazard...
assessments and control, training requirements, and emergency response plans. Notwithstanding an institution’s best efforts, the nature of research is such that unforeseen and problematic incidents occur and the level of risk can quickly escalate, thus the importance of tools such as the field activities plan.

As with many large research-intensive universities, one of the many challenges of risk management is striking the critical balance between providing researchers with the necessary tools to undertake their research safely while not overburdening the researcher or presenting barriers for the research to be undertaken. Universities are also faced with the challenge of effectively communicating to the research community the existence of various tools and services and how and when these tools and services should be utilized by the researchers. These challenges are certainly present at the U of A.

**Description of the Field Research Project and the Escalating Risks**

Marta-Marika Urbanik is a PhD candidate in the Department of Sociology in the Faculty of Arts. Her research takes place in Toronto’s Regent Park neighbourhood. As previously noted, Regent Park is one of Canada’s most socioeconomically disadvantaged neighbourhoods and was subject to deeply stigmatizing media coverage. These popular representations masked the many positive aspects of the neighbourhood. Given this notorious reputation and its prime real-estate location, Regent Park was selected to be Canada’s first neighbourhood redevelopment project. The Regent Park “revitalization” was initiated in 2005 and spans the course of 15 years. It is employing the “social mix” model, which essentially involves the razing of the neighbourhood’s existing deteriorated housing stock and replacing it with new townhouses and condominiums. The second aspect of the revitalization involves transforming the neighbourhood from its previous 100 percent social housing population into a “mixed-use, mixed-income community,” with a large proportion of the neighbourhood slated for sale in the private market (Toronto Community Housing 2014). One of the primary motivations for employing this model is the assumption that the de-concentration of poverty via social mix will result in a decrease in local levels in crime and violence. As such, neighbourhood redevelopment has been championed as a crime reduction and prevention strategy for Canada’s most disadvantaged neighbourhoods.

Despite the flurry with which neighbourhood redevelopment projects such as this one are being undertaken across North America and Europe, surprisingly little is known about the effects of neighbourhood redevelopment on crime, criminal structures, and victimization within selected neighbourhoods. Marta’s doctoral research provides an ethnographic exploration of how and why revitalization efforts affect criminal processes and structures within the neighbourhood and explore the consequences of these changes. In particular, her work seeks to identify and explore: i) changes to existing criminal networks in the area as a result of neighbourhood change; ii) the relationship between the emergence of new criminal groups and the neighbourhood change - namely looking at neighbourhood change as a precursor to the emergence of new groups; and iii) how neighbourhood change has affected violence in the area because of changing criminal group dynamics. Thus, from a criminological standpoint, the dissertation project explores whether and how the “design intentions” of the revitalization meet the “design outcomes.”

Pursuant to the university’s Research Ethics Board’s (REB) requirements, prior to being granted ethics board approval to begin the research, several potential risks to the research participants were acknowledged in the application. These included psychological/emotional stress (related to discussions surrounding the revitalization and past trauma, including traumas associated with crime, violence, and victimization); cultural/social risks (interviewing could lead to a potential loss of status for some residents, particularly those involved in the illicit economy); and legal risks (the possibility that the police could subpoena research data, possibly placing the research subjects, and potentially the researcher, at risk of legal repercussions).

Undeniably, there was also the potential risk to the researcher’s own physical safety. Neighbourhoods that are classified as “high crime” areas can pose a variety of risks to researcher safety, particularly when the research undertaken is ethnographic. This is because “deep hanging out” with criminally-involved residents and gang members means that the researcher is often present during various potentially dangerous activities, such as drug use.
and drug dealing, drinking, and crime, that often occur in more isolated neighbourhood areas. This form of research also means that criminally-involved participants are likely to have weapons on their person and may be potential targets of violence from individuals coming from within, or from outside, the neighbourhood. Further exacerbating the potential dangers associated with this research is the fact that as an ethnographer, Marta was working alone, spending many hours a day in potentially unsafe places, with potentially dangerous individuals, in potentially unsafe circumstances.

Although the risks to the research participants were clearly articulated in the REB application, the potential risks to researcher safety were not outlined in the application, nor did the REB request such an outline. Accordingly, these risks were not documented in the application. In addition, the risks to the researcher were not documented through the completion of a field activities plan. Such disclosure was not requested given Marta’s vast experience conducting research in the neighbourhood prior to beginning her own doctoral work. By the time Marta had applied for REB approval, she had already spent two summers in Regent Park and had conducted over 100 interviews with residents while working as a research assistant for another project. As such, Marta was relatively familiar with the neighbourhood’s inner workings and had demonstrated her ability to navigate the area safely. Moreover, Marta had demonstrated that her connections with crime and gang involved residents had already been established and that various individuals had already expressed their willingness to participate in the research, therefore highlighting her relatively secure standing with those who may otherwise take issue with her presence in the community. Given this experience, Marta was able to meet the REB’s requirements, and the research project was approved.

Despite the flurry with which neighbourhood redevelopment projects are being undertaken, surprisingly little is known about the effects of neighbourhood redevelopment on crime, criminal structures, and victimization within selected neighbourhoods.

Despite being relatively comfortable returning to Regent Park to conduct much more intimate research with the neighbourhood’s major criminal players, Marta still took multiple steps to ensure she was well prepared to return to the field. Most notably, there were extensive conversations with her supervisor, Dr. Sandra M. Bucerius, about mitigation strategies while in the neighbourhood. These included how much time would be spent each day in the neighbourhood, how late Marta would stay, and in what circumstances would it be best to leave. Additionally, these conversations explored specific situations that could put Marta at heightened risk. For example, one of the greatest dangers would be allegations that Marta was a police informant. Accordingly, Marta refrained from acknowledging police officers while in the field and would not conduct interviews with police officers since even being seen entering the local police station could arouse suspicion and invite violence. It was also agreed that regular check-ins would be required while in the field, including research updates as well as updates on location and the overall “mood” of the neighbourhood (i.e. whether things were “hot” and episodes of violence are likely and/or expected). Given Marta’s vast experiences within Regent Park and her pre-fieldwork considerations, she felt that she was well prepared to re-enter the field and begin her own doctoral work.

While it is not a formal part of its responsibilities, the REB may raise concerns about the safety of student researchers as part of its communication to the student researchers and to their supervisor. Based on the level of risk, the REB may consider referring these concerns for review by an appropriate body within the university. In this particular case, the REB did not refer any concerns to any other unit within the university.

In late June of 2015, Marta returned to Regent Park to begin her fieldwork and quickly regained access to many
of her key participants. Fieldwork and interviews were undertaken where she was spending approximately 25 hours a week in the neighbourhood, conducting interviews and participant observation. Apart from Regent Park’s usual “dangers,” nothing was out of the ordinary, and Marta felt relatively safe and comfortable navigating the area, even in the most dangerous location: a basketball court referred to as River Court, where many of the neighbourhood’s major criminal players—her key participants—would spend much of their day either playing basketball, drinking, gambling, smoking marijuana, or just catching up with criminal and non-criminal residents alike.

After approximately seven weeks in the field, the neighbourhood’s dynamics began to change. Over the course of two weeks, there had been five shootings either within, or related to, Regent Park. The last shooting was a homicide. Marta had narrowly missed two of the shootings by mere minutes. One of the shootings involved a masked man approaching some of Marta’s participants who were just hanging out at River Court and indiscriminately shooting at the group. One of the other shootings was particularly brazen and uncharacteristic of the neighbourhood; it was a drive-by shooting on a busy boardwalk bordering River Court that occurred on a Friday afternoon, when many of the neighbourhood’s children were outside playing. While shootings in Regent Park are not necessarily uncommon, they generally take a different form. The shootings are usually targeted at a specific person and are somewhat predictable—many residents may be aware of the motive and that violence is likely. Further, shootings in Regent Park usually occur in specific places and at specific times, particularly in the late evening or at night, and typically away from innocent bystanders. Thus, this particular drive-by shooting was rather uncharacteristic of the neighbourhood’s usual violence, and the concentrated number of shootings in such a short time frame put neighbourhood residents at extreme unease. Residents expressed that the neighbourhood was “very hot” and future violence was expected.

As an experienced urban ethnographer, Marta understood that the risks to her participants, as well as to herself, had drastically increased. Consequently, Marta was in constant communication with her supervisor, who was then in touch with other members of her PhD committee.

One committee member decided that the situation was so volatile in Regent Park that it was necessary to inform and seek guidance from the university’s Risk Management Services (RMS). As with any dedicated researcher, there were also concerns surrounding whether Marta would be willing to leave the neighbourhood given the impact that this could have on her research.

Upon notifying RMS of Marta’s circumstances, a response team was pulled together to reassess the risks and determine whether or not she should be removed from the field. When a significant incident like this occurs, it is the university’s practice under its Integrated Emergency Master Plan to strike an incident response team. When struck, the incident response team follows the fundamental elements of the Incident Command System. At this point, the primary concern of Marta’s PhD committee and that of the university was her health and safety. The team involved her supervisor and members of her PhD committee and representatives from the Provost’s office, General Counsel, Protective Services, the Office of Emergency Management, and Insurance and Risk Assessment. Upon reviewing the information, the following risks were identified:

- Marta’s personal safety was at high risk due to the location of the research and the association of research subjects with current violent behaviour, including the August 18th homicide.
- Exposing Marta and her family, who lives in Toronto, to immediate personal risk if the university acted too quickly pulling her out of the neighbourhood.
- Legal risk if the student’s research became part of the police homicide investigation.
- The university’s ability to intervene quickly on Marta’s behalf. There was the risk of a delayed response due to geographical distance and the uni-
versity’s lack of an established relationship with local authorities (i.e. police).

- Negatively impacting an investigator’s research and putting the entire research project in jeopardy.
- Harming the reputation of the student as a scholar.
- Legal liability, if determined the university failed to inform the student of the risks and did not take appropriate action.
- The university’s reputation if it did not act and Marta was injured or killed.

During discussions surrounding these risks, several different perspectives emerged as to the level of risk to which Marta was exposed. While there were indications from Marta that she felt the situation was under control, her PhD committee was concerned about Marta’s safety. At the same time, the assessment from several members of the risk management team was that Marta was in imminent danger if she remained in Regent Park. The response team relied heavily on the advice and assessment of Dr. Sandra M. Bucerius, Marta’s supervisor, and Dr. Kevin D. Haggerty, another professor in the Department of Sociology, about the risks to which Marta was exposed versus the types of risks originally identified with the associated research. Additionally, their expertise and familiarity with Marta, as well as her research project, was relied upon to assess Marta’s involvement with the “criminal” elements of the community.

Over several meetings and notwithstanding the elevated risk level, the university did not remove Marta from the neighbourhood immediately. The university agreed to two actions. First, Dr. Bucerius was to contact Marta, share the university’s concerns, and determine what immediate steps Marta had taken to enhance her personal safety. Additionally, Marta was to prepare a detailed safety plan, including what areas of Regent Park she would frequent, with whom she would associate, and what times she would and would not be present in the neighbourhood. Second, the university’s Protective Services Unit would establish contact with the Toronto Police Service and obtain ongoing monitoring of the police activity within the neighbourhood and assessment of risk. In the event that Marta did not prepare a detailed safety plan, if the university did not consider the safety plan adequate, or if the threat level within Regent Park further escalated, the university would consider suspending Marta’s research ethics approval, which would prevent her from continuing her research. Although this was an option, it is not one that the university pursued. However, under the university’s Off-Campus Activity Risk Assessment, it was possible that the provost could intervene and require Marta to leave the field.

In response to the situation, Marta submitted a detailed safety plan, to be reviewed by the response team. The safety plan emphasized that Regent Park is a neighbourhood that covers 69 acres of land and that the violence was largely restricted to the River Court area of the neighbourhood. Additionally, Marta acknowledged the increased risk to her safety and the specific risk mitigation measures. These measures included limiting the amount of time spent in Regent Park, the hours of the day spent in the neighbourhood, the individuals with whom she would have contact, and the neighbourhood areas she would avoid. Below is a selection of rules that were included in the safety report:

- For the next three days, no residents would be interviewed.
- For the next three days, Marta would not frequent River Court.
- For the next seven days, Marta would not be present in Regent Park past 5:00 pm.
- For the next seven days, apart from any fleeting greeting, Marta would have no contact with individuals that were believed to be involved in the current neighbourhood tensions. Marta would not “hang out” with these individuals during this time.
- For the remaining duration of the research, Marta would be in constant contact with her supervisor, letting her know when she entered and left Regent Park.

Upon the response team reviewing the plan, the university agreed that Marta could continue her research in Regent Park. However, the plan was approved on the strict condition that the situation be closely monitored and that the response team remain on standby in the event tensions escalated further or more shootings oc-
curred. As neither of these conditions arose, Marta was able to complete the remaining six weeks of her field research.

**Analysis**

Apart from preparing the safety plan, Marta used this opportunity to convey to the response team the nature of violence in Regent Park more broadly and, more specifically, the dangers of pulling Marta out of the field immediately. Marta knew that members of the response team were neither criminologists nor ethnographers and understood that they had limited knowledge of marginalized neighbourhoods like Regent Park. In fact, Marta assumed that much of the committee’s knowledge of such areas stemmed from sensationalized media coverage and popular representations of life in the “ghetto,” portraying indiscriminate violence as always imminent. Marta utilised the safety plan to explain to the response team that, while violence in Regent Park may have been on the rise, the violence was generally not indiscriminate and the threat was certainly not constant. She expressed that violence in Regent Park played out in certain corners, at certain times, where certain individuals congregated, and that increased tensions generally meant that those who were criminally involved were at an increased risk of experiencing victimization. The challenge faced by the university was that, although the violence was occurring in a specific location, the most recent violence was indiscriminate and occurring during daytime hours.

Regent Park is a very large neighbourhood, and Marta confirmed that the violence was limited to River Court, a small section of Regent Park. Marta emphasized that, even when tensions rose, it certainly did not place the entire neighbourhood at risk, and most residents remained relatively safe from victimization. Marta also shared that violence in Regent Park comes in waves, where it will increase for a week or two and will then return to its usual level. Marta expressed that, although neighbourhood tensions were high at the time, this was temporary and would dissipate soon. Marta explained to the response team that her extensive familiarity with the neighbourhood placed her in the best position to be able to judge the potential of future violence, as well as to judge the threat to her own safety. Marta stressed that she drew on her knowledge of the intimate workings of the neighbourhood to formulate her safety plan, whereby the rules she designed would significantly reduce the amount of risk to which she was exposed.

Marta’s petition to the response team to allow her to remain in the neighbourhood was certainly propelled by her desire to continue her dissertation research. However, it was also strongly driven by concerns for her own safety, since she recognized that the discontinuation of her research and her departure from the neighbourhood could have unintended consequences subjecting her, and potentially her family, to greater danger than the continuation of her fieldwork.

Marta’s participants all knew that she had many interviews to complete and that she planned to be in Regent Park for at least another six weeks. Prior to these episodes of violence, Marta was in Regent Park almost every day, for many hours at a time, so her continued presence in the neighbourhood was expected. If, during the course of the police investigations stemming from the shootings, the researcher engaging with drug dealers and gang members suddenly disappeared, this would arouse immediate suspicions that she was a police informant. These accusations would be further exacerbated by the fact that a few of her participants were under investigation for some of the shooting incidents. In a disadvantaged neighbourhood that adheres to the “street code,”17 being branded as a “snitch” or a police informant is one of the most dangerous positions, since the neighbourhood’s “street code” deems violence against “snitches” as acceptable and even necessary. Marta explained to the response team that if they forced her to return to Edmonton, while that might limit her immediate risk of danger, this could place her in much greater danger in the long term. Since Marta was originally from Toronto and returned there frequently, the potential consequences of being pulled from the field could materialize months or years later if her participants had ever spotted her in the city and chose to take retribution. Apart from risk to herself, she was also extremely worried about the safety of her family who resides in Toronto, since violence is sometimes enacted against a “snitch’s” loved ones in retaliation for the (perceived or actual) betrayal and (perceived or actual) police cooperation. Further, even if Marta’s participants did not think she was a police informant, disappearing from the neighbourhood during a time of crises would be a marker of her privilege. This could suggest to her participants that she was scared of them or could have been perceived as a
form of disrespect toward her participants, particularly those who became close to her and would talk to her about their fears of violence. So even on a “friendship” level, Marta’s sudden disappearance would be problematic and could subject her to risk in the future.

The creation of the safety plan was beneficial for a number of reasons. First, it forced Marta to sit down and actually map out the spaces and times that the threat of danger in Regent Park was most imminent. This allowed her to preemptively devise a strategy to limit her presence in such areas and at potentially risky times. Further, it also improved her research, as it pushed her to increase her reflexivity. As an ethnographer, you are always encouraged to look inward to be able to better understand the outside world, by checking how your biases and experiences affect your research and perceptions of your participants and field site.

Marta understood that the risk of danger was causing her great stress; apart from concerns about her own physical safety, she was primarily concerned for the safety of her participants who were being targeted by, and potentially participating in, these shootings. This also sensitized her to the extreme researcher guilt that she was experiencing. Indeed, Marta had the university, a multi-billion dollar institution, extremely concerned for her safety. The institution was both willing and able to pull her out of the field at a moment’s notice. And yet, her participants, the most likely targets of the violence, did not have the privilege of being pulled to safety. This was their lived reality, and, put very frankly, no one was coming to “save” them. Having to act to the response team’s requirements served as a reminder of Marta’s privilege and positionality, an understanding which can sometimes get lost when an ethnographer becomes immersed in the field site and increasingly begins to identify with the lives of participants. Having to write her safety report was an extremely sobering moment, which reminded Marta of her position and identity as a researcher, and her equal responsibilities to not only her broader research project, but also to the university and the Research Ethics Board.

Rather quickly, however, it became apparent that the rules in the “safety plan” were, in many respects, potentially more problematic than Marta exercising her regular street smarts while in Regent Park. Apart from hindering her data collection by limiting the amount of time she could spend in the field and with whom, she realized that the rules she promised to abide by in order to be allowed to remain in the field may have actually endangered her. For example, one of the rules was that she would not communicate with any “criminally involved individuals” for a few days. However, “criminally involved individuals” comprised her core sample, so disappearing from their lives, albeit even just for a short period, could potentially be interpreted as disrespect and could significantly weaken her relationship with them. Marta’s relationship with those individuals, in many ways, actually protected her from violent victimization. They had told her that they had “approved” her and that she was free to wander the neighbourhood as she wished, and if anyone ever took issue with her presence or tried to hurt her, they would “handle it.” Compromising relationships that served to protect Marta in a neighbourhood like Regent Park could weaken some of the safeguards that she had spent several years securing.

Further, although Marta designed the rules with the belief that following them would increase her safety, this was not necessarily always the case. For example, one of the rules was that she would not stay in Regent Park past 5:00 pm. On one occasion, she had every intention of leaving the neighbourhood before her imposed curfew, yet, as is common with ethnography, an unexpected event occurred that following the rules could have placed her in greater danger. Marta had spent the previous hours hanging out at a makeshift rap studio with some of her participants, when another rapper and his friends entered the studio. Although she was on decent terms with this individual, her relationship had significantly weakened from the previous summer, and she was sensing some hostility. Marta believed that if she had left the studio at that moment, it would either signal that the hostility was mutual and, therefore, could invite
violence or intimidation, or it may signal that she feared for her safety being the only female in a room of nine of Regent Park’s major criminal players. Since Marta had developed trust with these individuals over the course of her research and since they had never previously given her reason to believe that they would harm her, potentially sending the message that she did not fully trust them could be extremely damaging to her relationship with them. In this situation, Marta believed it was necessary that she broke her curfew, extending her stay at the rap studio so as to convey to her participants that she was comfortable remaining there, despite the arrival of the other group. Thus, although the imposed rules may have helped her to remain safe in some instances, in other instances, the adherence to the rules may have placed her in greater risk.

The escalating level of violence in the neighbourhood and the risk to Marta’s safety presented numerous problems for the university. Although a detailed plan was prepared in order to mitigate the risks, the implications to the university had Marta been injured or, even worse, killed were profound. There is no question that several of the members of the response team felt that Marta should be removed immediately. However, upon review of her safety plan, acknowledging the potential risks to her safety and her family’s safety had she been removed quickly, her deep understanding of the community and its underlying dynamics, the critically important input and assessment of her PhD committee, as well as the possibility that she would be unable to complete her research and her dissertation, the university allowed Marta to stay. Upon a detailed assessment, it was agreed that the university and the researcher had taken reasonable steps to manage the risk.

What this incident did point out was a gap in the university’s risk management processes. RMS has recognized that the ethics board application process can be improved in various respects. Although the risks to the research participants have to be documented and mitigated, there is no requirement to document and mitigate the risks to the researcher. Furthermore, although the Field Research Office (FRO) has extensive resources available to researchers, there is a misconception that the FRO is only available to support researchers who are undertaking research in an isolated, rural, or international location, not a field site such as Regent Park. As a result, in this particular incident a field activities plan was not completed. Although risks to Marta were clearly discussed with her supervisor and mitigation strategies identified, nothing was documented. As a result of these learnings, RMS is currently implementing ways to improve the risk identification process. Namely, in consultation with ethnographers such as Marta and her supervisor, Dr. Bucerius, RMS is developing a new system for identifying and responding to risks to researcher safety in urban ethnography. Furthermore, RMS will implement strategies to better inform the research community regarding the purpose and scope of services available through the FRO and will ensure that a field activities plan is prepared when appropriate.

**Conclusion**

Undeniably, these types of incidents are extremely difficult for any university to deal with, given the range of competing issues and risks. However, as research-intensive universities, we must be willing to accept a manageable level of risk if meaningful research is to be conducted and innovations that ultimately benefit society are to be discovered. These types of incidents certainly speak to the essential need for an off campus field activities plan that clearly documents a hazard assessment, mitigation strategies, and flexible emergency plans if risks to the researcher significantly escalate. This also speaks to the need to have an appropriately structured response team that comes together quickly to assess the changing circumstances in order to make informed decisions. This type of incident also reinforces the critical nature of the field researcher’s expertise. If the researcher has extensive and in-depth knowledge of the region, culture, dynamics, behaviours, etc., of the field site, it is essential that risk committees place appropriate weight on this expertise. It is also equally important that universities draw on advice from other related experts to ensure that the field researcher does not inaccurately assess or underestimate the true level of risk. Ultimately, the decisions that are made must be based on open discussions between the needs and expertise of the field researcher and the safety/security expertise of the university’s risk management team. Through these types of structures and processes, it is hoped that universities can continue to find that delicate and very difficult to maintain balance between allowing the researcher and institution to fulfill its research mission, while appropriately managing not only the risks to individual researchers but the overall risks to the institution.
About the Authors

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Philip Stack is the associate vice-president (risk management services) and the chief environment and safety officer for the University of Alberta. He is responsible for the university’s enterprise risk management framework and ensuring that the university has the necessary systems and processes in place to manage risk and respond effectively to incidents when they occur.

Endnotes
2 The project is funded by the Social Sciences and Humanities Research Council (SSHRC).
7 “University of Alberta’s Office of the Vice President (Research) Field Research Office,” University of Alberta, last modified March 30, 2016, http://www.fieldoffice.ualberta.ca/.
11 Wilson, The Truly Disadvantaged.
13 Geertz, “Deep Hanging Out.”
14 For Dr. Sandra M. Bucerius, University of Alberta, and Dr. Sara K. Thompson, Ryerson University, whose SSHRC funded research explores the experiences of young Regent Park residents of the revitalization process.
15 Marta would like to express extreme gratitude to her supervisor, Dr. Sandra M. Bucerius, for her training and guidance in terms of ethnographic research, her immense support during this volatile period in fieldwork, and her continued mentorship.
16 Significant thanks to Dr. Kevin D. Haggerty for his assistance and mentorship during this process and ongoing support with the research project.
18 For those who abide by the “street code,” perceived or actual disrespect often mandates the use of violence for retaliation for such disrespect (Anderson, Code of the Street).
Leave all the afternoon for exercise and recreation, which are as necessary as reading. I will rather say more necessary because health is worth more than learning.

—Thomas Jefferson,
American Founding Father and 3rd US President
Identifying and Assessing Risks in Campus Recreation Programs and Facilities

| Ian McGregor, President, SportRisk, and Zachary Gifford, Director, Systemwide Risk Management, California State University – Office of the Chancellor

Introduction
Recreation directors and risk managers frequently ask the question: are we currently running programs and/or facilities that are just too risky? In other words, even after risk controls are implemented to minimize the risks, is the residual risk still too high, and you simply don’t have the capability or resources to effectively manage that risk? The same question can also be asked about new programs being considered: can you effectively manage the program’s risks?

This article will explore three risk assessment tools which can help you determine how “risky” your programs and facilities are and whether the risk controls you have in place are sufficient.

Measuring the Risks
The starting point in assessing or measuring the risks is establishing a risk profile for all your programs, facilities, and people by separating them into high-risk, moderate-risk and low-risk categories. You then can prioritize to focus on the identified high-risk programs/facilities/people and worry less about the lower risk areas, i.e. don’t sweat the small stuff.

There are two simple ways of looking at risk profile: qualitatively (risk matrix) or quantitatively (risk rating).

In the qualitative approach, you adopt a more intuitive or gut reaction approach to measuring risk. The quantitative approach attempts to put a number on the level of risk by calculating a risk rating.

The following questions will assist with the assessment and measurements:

1. What activities will take place and how many participants will be present?
2. Who could be harmed?
3. What property could be damaged and how severely?
4. What is the maximum likely loss for each activity?
5. Are crowds or bystanders/passersby likely to be involved?
6. Will inherently dangerous activities be involved?
7. Is there a reputational risk to your organization?
8. How likely is it that your organization will be a defendant in the event of a loss?
9. Is the activity consistent and in support of your organization’s mission?

Risk Matrix Approach
The risk matrix, or probability vs. severity grid, is a tool that can help you determine high and low risk. While this risk classification system can be quite subjective, it is the simplest approach, and you often end up with an assessment of risk level that is quite sufficient for your needs.

- **Red Zone Activity**: Probability is high that something will go wrong, or someone will get injured. If something goes wrong, severity of outcome (damage, injury) is high.
- **Amber Zone Activity**: There is a low/medium probability that something will go wrong. If something goes wrong, severity of outcome (damage, injury) is high.
- **Gray Zone Activity**: Probability is medium/high that something will go wrong. If something goes wrong, severity of outcome (damage, injury) is low.
- **Green Zone Activity**: Probability is low that something will go wrong. If something goes wrong, severity of outcome (damage, injury) is low.

![Risk Matrix (Probability vs. Severity Grid)](image-url)
Examples:

Red Zone: Tackle Football
- High probability that someone will be injured
- High severity of injury is likely

Amber Zone: Sky Diving Class
- Low probability of something bad happening
- High severity is guaranteed if something bad does happen

Gray Zone: Pick-up or Intramural Basketball
- High probability of injury happening
- Low severity – e.g. twisted ankle

Green Zone: Chess Tournament
- Low probability/Low severity

The next step is to place each of these programs in one of the four quadrants of the risk grid. The quadrants you are really interested in are the Red Zone and Amber Zone. Programs, facilities, or people falling in either of these two quadrants require special attention.

![Risk Grid Diagram](image)

**Risk Rating Approach**

In this more quantitative approach, numerical values are assigned to probability ($P$) and severity ($S$). This can often be a challenging exercise as assignment of values can be subjective. It is a good idea to have small groups working on this, giving instructions to everyone to use their best judgment and not to over analyze.

**Probability ($P$):** On a scale of 1–5, what are the chances of someone getting hurt or property getting damaged?
1. Unlikely to occur
2. Unlikely but some chance
3. Could occur occasionally
4. Good chance it will occur
5. High probability it will occur

**Severity ($S$):** On a scale of 1-5, how serious could the injury or damage be?
1. Minor injury; no property damage
2. First aid; minor property damage
3. Injury requires medical help; significant property damage
4. Injury may result in serious medical problems; serious property damage
5. Major injury; serious property damage

The risk rating is calculated by multiplying $P \times S$, and the risk level is determined using Figure 3. Note that a risk level of “Extreme” corresponds to a “Red Zone” activity in the risk grid approach.

![Risk Rating Table](image)

**FIGURE 3: Risk Rating**

Applying the risk rating approach to the previous examples results in the following:

<table>
<thead>
<tr>
<th>Description of Risks</th>
<th>Probability ($P$)</th>
<th>Severity ($S$)</th>
<th>Risk Level ($P \times S$)</th>
<th>Risk Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tackle Football</td>
<td>4</td>
<td>4</td>
<td>16</td>
<td>High</td>
</tr>
<tr>
<td>Skydiving Club</td>
<td>2</td>
<td>5</td>
<td>10</td>
<td>Moderate</td>
</tr>
<tr>
<td>Pick-up Basketball</td>
<td>5</td>
<td>1</td>
<td>5</td>
<td>Low</td>
</tr>
<tr>
<td>Chess Tournaments</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>Low</td>
</tr>
</tbody>
</table>

**FIGURE 4: Examples of Various Activities and Their Risk Ratings**
Programs/facilities are then placed on a risk map. Additional programs have been added to this map to demonstrate what a department map might look like. Irrespective of whether you use the risk matrix or risk rating, you will end up with a risk grid or a risk map which contains all your programs, facilities, and people.

This exercise establishes which programs/facilities/people are high risk (red/amber zone or extreme/high risk rating) and which are low risk (gray/green zone or moderate/low risk rating). From a risk management perspective, it is always important to look at programs/facilities/people through a “high risk” lens. This does not mean that you completely ignore the gray and green programs, but realistically you should regard them as small stuff unless parameters change or there are unique circumstances (e.g. if the chess tournament involves a liquor license, then this program immediately jumps to red zone!).

Auditing Your Risk Controls
Implementing control strategies helps you lower your risk rating, hence minimizing the chance of a serious injury or property damage. But how do you know if these controls are sufficient? And how do your controls compare with other campus recreation departments?

A new best practices audit tool has recently been developed to answer these questions. The tool takes a radically new approach to the audit process by focusing on best practices instead of standards. Since there are not many documented standards in the campus recreation setting (aquatics being the exception), a more realistic approach is to develop and agree on a series of best practices and then determine how well a department is performing relative to these best practices.

The following briefly summarizes the methodology used in developing this best practices audit tool, and discusses the results of its implementation at a significant number of institutions in Canada and the United States.

Methodology
Best practices surveys were developed by a group of US and Canadian campus recreation experts, then vetted by staff at various schools across North America. Surveys were piloted at eight schools (four in the United States and four in Canada) before final implementation.

There are 16 best practices areas in total:

- **Programs**: Sport Clubs; Intramurals; Youth Camps; Outdoor Program; Instruction
- **Facilities**: Weight Room; Fitness Center; Aquatics; Ice Arena; Fields; Climbing Wall; Facilities (general)
- **General**: Risk Management Committee; Travel; Emergency Response; Waivers

For **programs and facilities**, best practice surveys are generally divided into six categories:

- Staffing
- Supervision and Instruction
- Training
- Facilities and Equipment
- Documentation
- Emergency Response Plan

**General** surveys are all different and have unique categories. A demographics survey is used to obtain key information on each school (e.g. size, state/province, % male: female etc.), allowing comparisons to be made.

For each best practice area, surveys were developed (by the experts) in the form of a series of statements, e.g. “The Weight Room is supervised at all times.”

- **Response Value**: Staff members completing the surveys (on SurveyMonkey) have three response options for all best practice statements, and a response value is assigned to each response:
  - 2: Currently doing this
  - 1: Plan to do this
  - 0: Not planning to do this
Weight Factor: Each best practice is assigned a weight factor using a 3, 2, 1 scale to reflect their relative importance.

- 3: Critical
- 2: Very important
- 1: Important

A score for each best practice statement is determined by multiplying the response value and the weight factor. For example, a response of “currently doing this” (2) coupled with a “critical” weight factor (3) would score a total of 2x3 = 6.

- A category score is calculated for each category (staffing, supervision, etc.) within each survey.
- A total score for each best practice area is obtained by adding the scores of all categories.

Audit Implementation
The best practices audit tool was administered to a number of post-secondary institutions across North America. At the time of writing this article, over 100 schools had participated, including several from the California State University system and all schools from the “BIG 10” athletic conference. All schools received a report which included:

- Benchmark graphs showing each institution’s overall scores compared to the average of all schools participating.

A series of recommendations, specific to each school, based on the institution’s survey responses. This gap analysis focused on the “don’t plan to do” statements weighted at 2 or 3, i.e. the more critical best practices.

It was also recommended to all schools that the results be shared and discussed with the institutional risk manager. Doing this provides an opportunity for the department to explain or justify certain responses, such as why a specific best practice is not being followed. In many cases, there may be a reasonable explanation, or the lack of a best practice is essentially benign in terms of risk. Going through this process would also help the department answer the question, “Should we be doing this?” by seeking the risk manager’s input based on the survey results.

Using the best practices audit tool, it is possible to conduct additional comparisons, such as between schools of the same size, in the same state/province, or within the same system. The large (and growing) database will also allow specific queries to be made, e.g. what is the percentage of schools in California which have a concussion protocol for their sport clubs program?

Figure 6: Sample Institutional Scores Compared to Other Institutions of Higher Education
Conclusion: A Final Word on Residual Risk
The use of the risk rating and best practices audit tools will help an institution determine answers to the initial risk management questions posed:

- How risky are your programs and facilities?
- Do you have sufficient risk controls in place?

Given the fact that you cannot eliminate all risks, and also the fact that some people participate in recreational activities because of the risks involved, an institution will generally have to accept some of the “residual” risks – otherwise no programs and activities would be offered.

But there is a fine line between safe and the point at which the residual risk is just too much to be reasonably managed by an individual or department. This is why there needs to be a broader discussion to ensure that an institution is not taking on too much risk.

For more information and access to the best practices risk assessment tool, go to http://www.sportrisk.com/best-practices/. At the department level, a review of the best practices audit can be performed by a risk management committee or senior management team if this committee does not exist. At the institutional level, the risk manager can play a key role in helping to determine if some activities are just too risky and have the potential to cause damage, including injury, property, and uninsurable losses, such as damage to the institution’s reputation or a chill on promoting further activities that, were it not for a loss, would still occur and advance the organization’s mission.

Figure 7: Sample Breakdown of Scoring and Recommendations
About the Authors

*Ian McGregor*, PhD, is an internationally recognized expert on risk management in the sport and recreation fields. He is a renowned speaker at conferences and workshops throughout the United States and Canada. He was previously director of athletics and recreation at the University of Toronto and Saint Mary’s University in Canada and at Dominican University of California.

Dr. McGregor is president of SportRisk, providing risk management consulting services to campus recreation departments at universities and colleges across North America. He also does extensive work in the area of student event risk management, where he works with universities and their various student groups to cooperatively establish effective event risk assessment and management processes.

Dr. McGregor’s virtual training programs include online webinars and courses, and his online “Risk Management Newsletter” is entering its 11th year of publication. He recently launched a comprehensive best practices risk assessment project targeting university campus recreation programs and facilities.

*Zachary Gifford* is director of systemwide risk management with the California State University (CSU) – Office of the Chancellor and has worked for the CSU since 2008. Mr. Gifford provides direct assistance to the assistant vice chancellor, financing, treasury, and risk management and campuses by providing the day-to-day oversight of the CSU’s property and casualty, workers’ compensation, environmental health and safety, and emergency preparedness/business continuity programs.

Mr. Gifford has put his 26 years of claims handling and risk management experience to work as he tackles the responsibility of supporting the various and at times complex issues of addressing risk management challenges for the country’s largest public university system.

Previous to the CSU, Mr. Gifford was the liability claims manager for the city of Santa Ana. At the city of Santa Ana, Mr. Gifford handled the liability and property programs for this distinctive city that represents the only true urban environment in Orange County, Ca. This city of nearly 400,000 residents is faced with a wide variety of liability exposures, from civil rights to road design.

After graduating from CSU, Long Beach, Mr. Gifford got his start in the field with SAFECO Insurance. Following his experience with SAFECO, Mr. Gifford worked with many diverse governmental entities while handling claims and providing risk management consultation for third party administrator Carl Warren & Co.

In addition to his work experience, Mr. Gifford has been a very active public speaker and has participated in various capacities with risk management organizations such as the Public Agency Risk Management Association (PARMA), California Public Risk Management Association (PRIMA), National PRIMA, and RIMS – The Risk Management Society.
Among the illusions which have invested our civilization is an absolute belief that the solutions to our problems must be a more determined application of rationally organized expertise… The reality is that our problems are largely the product of that application.

—John Ralston Saul,

*Voltaire’s Bastards: The Dictatorship of Reason in the West*
The people who have done big things are those who were not afraid to attempt big things, who were not afraid to risk failure in order to gain success.

—B.C. Forbes,

Financial Journalist and Founder of Forbes Magazine
Introduction
Risk management in a higher education setting is exciting and exposes risk management and administrative personnel to unique challenges and opportunities that are not present in other business arenas. It is not inconceivable that somewhere on a college campus today is the young mind who will discover the cure for cancer or who will make the next great computer discovery. College administrators struggle to find the balance between providing an educational environment that fosters and cultivates the potential for innovative thought and also maintains the safety and direction of the institution as whole.

Risk managers and organizational leaders need to be strategic in balancing the desire to provide opportunities for students and faculty to explore different areas of interest while ensuring that the institution is not exposed to unnecessary risk. Saying “yes” to a new project can sometimes enlist a gut feeling approach to risk management that does not always fully quantify or identify all potential risks. The “gut feeling” approach to risk management does not always yield the best possible outcomes; this instinctual response may overlook risk or may attribute more risk to a situation than is warranted.

This article examines how to implement elements of strategic analysis used by top business administrators as a methodology for evaluating and quantifying risk.

Quantified SWOT Analysis
SWOT analysis is used by business professionals to assess the potential benefits and drawbacks associated with business transactions. SWOT analysis, which stands for Strengths, Weaknesses, Opportunities, and Threats, can provide significant benefits to organizational risk managers and can assist in evaluating and identifying risks associated with various types of activities and projects. SWOT analysis involves the identification and evaluation of four components:

1. Strengths
2. Weaknesses
3. Opportunities
4. Threats

Originally developed in the 1960s as part of a research project at Stanford University to evaluate why business planning failed, SWOT is now used as a platform for strategic decision making. The purpose of SWOT analysis is to provide a connection between objectives and business decision making. SWOT provides a concrete methodology for assessing potential business opportunities. From an institutional perspective, colleges and universities are subject to similar variables as a traditional for-profit business; however, the underpinning aim of institutions of higher education is not profit. Rather, the primary goal of educational institutions is to provide higher education opportunities to students and to contribute to the scientific, cultural, and technological development of the human race. Though not traditionally used in a higher education setting, SWOT analysis techniques can be very beneficial in evaluating organizational risk and developing strategies for addressing identified risk exposures.

Because not all SWOT elements have the same potential impact on the outcome of the decision, adding a quantitative element to the SWOT analysis provides further depth to the analytical process by ascribing more weight to elements that are likely to have more impact on organizational decision making. Weighted scores assist in
quantifying the overall measure of risk to benefits outlined within the SWOT analysis itself.

**SWOT Process**

The identification and evaluation process is used to assist in critical decision making and to help business leaders make decisions about the direction and future of their businesses. The aim of these analytic processes is to assist in the decision making process by allowing business leaders to evaluate and quantify competing business opportunities. The same type of decision making process is also useful to risk management professionals when called on to evaluate and quantify risk.

**Identification:** Identify the potential institutional strengths/weaknesses of a proposed activity/project. Identify the potential third-party or external opportunities/threats posed by the proposed activity/project.

**Evaluation:** Prioritize the identified strengths/weaknesses and opportunities/threats.

**Strengths/Weaknesses:**
- **Importance:** How important a strength/weakness is for the institution within its field. Some strengths/weaknesses may be more important than others. A number from .01 to 1.0 should be assigned to each S/W identified; the grand total for all S/W should equal no more than 1.0.
- **Rating:** Assign a rating of 1-3 to each factor to determine whether it is a major or minor strength/weakness. A rating of 1 signifies the strength/weakness is least likely to have an impact on the organization; a rating of 3 indicates the strength/weakness is mostly likely to have an impact on the organization.
- **Score:** Determined by multiplying importance by rating. The score allows for the prioritization of strengths/weaknesses by determining how much impact internal strengths may have to offset any identified weaknesses.

**Opportunities/Threats:**
- **Importance:** Identifies the extent to which an opportunity/threat has the potential to impact the institution. A number from .01 to 1.0 should be assigned to each O/T identified; the grand total for all O/T should equal no more than 1.0.
- **Probability:** Probability of an occurrence having an impact on the institution (positive or negative). Assign a rating of 1-3 to indicate how probable or improbable an occurrence might be. A rating of 1 signifies the lowest degree of probability; a rating of 3 indicates a high degree of probability.
- **Score:** Determined by multiplying importance by probability. This allows for the prioritization of opportunities/weaknesses by how likely they are to occur and impact the institution.

**Quadrants of Risk: Multiple-Attribute Decision Making (MADM)**

Undertaking a full SWOT analysis or critical issue analysis can be a fairly involved process and can be somewhat cumbersome when faced with a question or situation that requires a quick response. Adding a second level of analysis in addition to SWOT allows the organization to hone in on key risk areas.

**MADM** uses SWOT analysis as a threshold for identifying key organizational objectives and loss potential and then developing a quantification process that allows for quick repeat analysis of similar situations. In this
The SWOT analysis is divided into four zones, or quadrants, which are assigned specific internal and external evaluation criteria (see Figure 1: Evaluation Matrix).12

MADM is used to evaluate decisions in the presence of multiple competing criteria. From an organizational risk management perspective this refers to the balancing act between the potential for a loss versus institutional objectives.13 In SWOT analysis, internal capabilities are evaluated by identifying strengths and weaknesses, while external influences are evaluated by identifying opportunities and threats.14 This bifurcation of evaluation works well in the MADM quadrant analysis for organizational risk.

In its simplest form, the quadrant analysis outlined in this article attempts to classify risk management events into three different categories: Low Risk, Moderate Risk, and High Risk.

- **Low risk activities** are those unlikely to pose a liability risk OR those risks that fit within established risk transfer mechanisms. Example: A student organization seeks use of campus facilities to host a social event for its members.

- **Moderate risk activities** are those that may pose a liability risk without proper preparation OR those risks that do not quite fit within established risk transfer mechanisms. Example: A student organization seeks to hire a belly dancing troupe to perform at a social event on campus.

- **High risk activities** are those activities which are inherently dangerous and may pose a significant liability risk OR those risks that cannot be transferred through the use of established risk transfer mechanisms. Example: A student organization seeks to hire a fire poi belly dancing troupe to perform at a social event on campus.

**Establishing Evaluation Criteria (Getting to “Yes”)**

Just as no two businesses will have identical SWOT results, no two colleges or universities will have the same SWOT result. SWOT results will vary as a result of institutional goals, risk tolerance, access to particular resources, and overall organizational size.15 For example, a university with a strong life sciences program may already have risk transfer mechanisms in place to respond to a potential research opportunity involving human trials, whereas an institution with a liberal arts focus may not have a similar program in place.

Using SWOT analysis at the outset of the evaluation allows the institution to establish categorical thresholds for each of the four quadrants.

- **Low Risk:** Evaluation emphasis should be placed on those activities that strengthen/drive forward the goals of the institution and which pose little risk outside of existing risk transfer mechanisms.

- **Moderate Risk:** Evaluation emphasis should be placed on activities that strengthen/drive forward the goals of the institution but for which adequate risk transfer is not in place.

- **High Risk:** Evaluation emphasis should be placed on activities that do not necessarily fit within the goals of the institution and which may pose a significant risk, even within existing risk transfer mechanisms.
Strengths/Opportunities: Represent activities or projects that strongly support the mission or institutional goals of the college, while representing a low risk for potential loss.16 (Low Risk/High Support)

Weaknesses/Threats: Represent activities or projects that do not necessarily support the mission or institutional goals of the college, while representing a strong risk for potential loss.17 (High Risk/Low Support)

The most desirable activities/projects are those that fall firmly within the Low Risk, High Support quadrant, while the least desirable activities are those that fall firmly within the High Risk, Low Support quadrant.18

Here are a few examples:

• High Risk/High Support (HR/HS): A graduate student in the Department of Psychology receives a research grant to study the effects of certain counseling techniques on post traumatic stress disorder (PTSD) patients. The department does not typically provide counseling services to patients in an experimental setting.

• Low Risk/High Support (LR/HS): The School of Engineering would like to purchase new computers that allow students to participate in an on campus robotics simulation lab.

• Low Risk/Low Support (LR/LS): An engaged couple request use of the campus chapel for a wedding ceremony.

• High Risk/Low Support (HR/LS): Several undergraduate students request approval to start a fireworks club on campus with the goal of putting on a fireworks displays for the student body.

The critical role of the effective risk manager comes in identifying and developing a risk management mechanism for addressing those highly desirable, but risky projects and activities. In such cases, it is important to examine three different factors:

1. Can the risk be transferred by shifting the risk of loss to another party?
   a. Contractual risk transfer
   b. Insurance

2. Can the risk be reduced by modifying the proposed activity?
   a. Change of Location
   b. Engage an expert
   c. Eliminate a component of the activity/project

3. Can the risk be retained?
   a. Does the institution have the ability to absorb the identified risks within its current operations?
   b. Is the benefit such that any potential risk of loss is significantly outweighed by the immediate benefit of the activity/project?

SWOT in Action: Analytical Example
(High Risk/High Support)

A graduate student in the Department of Psychology receives a research grant to study the effects of certain counseling techniques on PTSD patients. The department does not typically provide counseling services to patients in an experimental setting.

Step 1: Identification

Strengths:
1. Prestigious grant that can provide key visibility for the college within the field of psychology
2. Fully utilizes potential of highly talented students
3. Allows for further development and growth of the psychology department

Weaknesses:
1. No prior on-campus clinical activities
2. Lack of supervisory counseling staff
3. Lack of adequate controls to ensure effective counseling techniques
4. No on-campus counseling facilities
Opportunities:
1. Desire of patients suffering from PTSD to have access to innovative treatment
2. Contribution to the science and study of PTSD
3. Potential availability of future research opportunities/funding from external sources

Threats:
1. Lack of clinical experience may discourage participation
2. Potential for malpractice suit in the event of misdiagnoses or ineffective treatment
3. Potential for increased exposure to bodily injury/property damage to third parties coming on campus
4. Potential for loss of institutional reputation in the event of project failure

**Step 2: Evaluation**

**Strengths:**

<table>
<thead>
<tr>
<th>Item</th>
<th>Importance</th>
<th>Probability</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
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<td>0.5</td>
<td>3</td>
<td>(0.5 x 3) = 1.5</td>
</tr>
<tr>
<td>2.</td>
<td>0.2</td>
<td>1</td>
<td>(0.2 x 1) = 0.2</td>
</tr>
<tr>
<td>3.</td>
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<td>3</td>
<td>(0.3 x 3) = 0.9</td>
</tr>
<tr>
<td>TOTAL</td>
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<td>2.6</td>
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</table>

**Weaknesses:**

<table>
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<th>Importance</th>
<th>Probability</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>0.3</td>
<td>3</td>
<td>(0.3 x 3) = 0.9</td>
</tr>
<tr>
<td>2.</td>
<td>0.3</td>
<td>1</td>
<td>(0.3 x 1) = 0.3</td>
</tr>
<tr>
<td>3.</td>
<td>0.3</td>
<td>1</td>
<td>(0.3 x 1) = 0.3</td>
</tr>
<tr>
<td>4.</td>
<td>0.1</td>
<td>1</td>
<td>(0.1 x 1) = 0.1</td>
</tr>
<tr>
<td>TOTAL</td>
<td>1.0</td>
<td></td>
<td>1.6</td>
</tr>
</tbody>
</table>

**Opportunities:**

<table>
<thead>
<tr>
<th>Item</th>
<th>Importance</th>
<th>Probability</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
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<td>(0.2 x 2) = 0.4</td>
</tr>
<tr>
<td>2.</td>
<td>0.3</td>
<td>2</td>
<td>(0.3 x 2) = 0.6</td>
</tr>
<tr>
<td>3.</td>
<td>0.5</td>
<td>2</td>
<td>(0.5 x 2) = 1.0</td>
</tr>
<tr>
<td>TOTAL</td>
<td>1.0</td>
<td></td>
<td>2.0</td>
</tr>
</tbody>
</table>

**Threats:**

<table>
<thead>
<tr>
<th>Item</th>
<th>Importance</th>
<th>Probability</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>0.2</td>
<td>2</td>
<td>(0.2 x 2) = 0.4</td>
</tr>
<tr>
<td>2.</td>
<td>0.3</td>
<td>3</td>
<td>(0.3 x 3) = 0.9</td>
</tr>
<tr>
<td>3.</td>
<td>0.1</td>
<td>3</td>
<td>(0.1 x 3) = 0.3</td>
</tr>
<tr>
<td>4.</td>
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<tr>
<td>TOTAL</td>
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<td></td>
<td>2.4</td>
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</table>

**Outcome**

To assess in which quadrant in the evaluation matrix the project or activity falls, subtract Weaknesses from Strengths and Threats from Opportunities.

Strengths - Weaknesses: 2.6 - 1.6 = 1.0
Opportunities - Threats: 2.0 - 2.4 = -0.4

In this example, the activity falls into the upper left quadrant, indicating it would be a High Risk/High Support activity. The college has the potential to significantly benefit from pursuing the research grant opportunity provided to the graduate student since Strengths outweigh Weaknesses. However, the identified Threats present a risk to the organization as they outweigh Opportunities.

A review of the identified weaknesses/threats appears to demonstrate that the main identified risks center...
around the institution's lack of prior experience in this area. Lack of experience in a particular area or field can prompt an institution to hesitate to undertake new projects, especially when faced with the potential for significant organizational liability.

In this case, there is high support for institutional aims, but also high risk of potential liability. It is important to weigh the implications of the potential negative consequences against the potential benefits. There are several methods that can be utilized in this particular example to mitigate the risks associated with accepting the grant and undertaking the clinical research project.

1. Professional liability insurance would provide coverage for the institution, faculty, and student for rending or failure to render professional services in a clinical setting.

2. The institution can capitalize on a prior relationship with a local mental health facility that specializes in treating/counseling patients suffering from PTSD. The college had placed counseling students in practicums at the facility in the past. This relationship will allow the college to:
   a. Transfer the premises liability hazard to the mental health facility.
   b. Capitalize on clinical expertise in PTSD to minimize potential liability associated with a malpractice suit.
   c. Provide access to an already established patient base in the target treatment area.

Simplification
Engaging in a full SWOT/MADM analysis each time a new project or activity presents itself is not always practical or desirable. The analytical process can be time consuming and labor intensive and may not lend itself well to the need for quick decision making. There are numerous similar activities/projects that may occur on a regular basis on campus. Grouping these types of activities/projects together and engaging in a threshold SWOT analysis of categorical activities is one way to engage in a more comprehensive risk review of organizational risks. Based on the outcome of the SWOT analysis for different categories of activities, activities/projects can be identified as low, medium, or high risk.

- **Low Risk**: Activities that fall within the LR/HS and LR/LS categories. These are areas where the institution has established strengths and an existing framework for addressing risk transfer objectives.
- **Moderate Risk**: Activities that fall within or close to the HR/HS category. These are areas where the institution has an organizational objective in engaging in the project/activity but where additional risk management mechanisms may be needed in order to fully address identified exposures.
- **High Risk**: Activities that fall within or close to HR/LS. These are activities that pose significant organizational risks to the institution without any real accompanying benefits to the institution. Activities falling into this category are ones that should generally be avoided.

Periodic review of assigned risk categories is essential; institutional objectives change over time as does organizational risk tolerance.

**Conclusion**
There are many different analytical tools available to institutional risk managers. One such available tool is the use of SWOT analysis as a method to identify and prioritize risk. Though SWOT analysis has been widely used in business activities for decades, it is less popular with risk management professionals because of its time consuming and labor intensive processes. Using SWOT and MADM zones analysis to create quadrants of risk provides a valuable shortcut which can be used to quickly evaluate the most common types of risks which may arise on a college campus.
About the Author

Mya Almassalha is the director of higher education programs at Professional Solutions Insurance Services – Encampus, a full service insurance brokerage. She has over a decade of general insurance and risk management expertise with a strong focus on higher education, not-for-profit, and organizational risk management. Prior to joining the brokerage world, Mya worked for national A.M. Best rated insurance carriers in both underwriting and claims roles and as a risk manager for a global transportation firm with over $2 billion in annual revenues. Mya holds a Juris Doctor from Wayne State University and an MBA in business administration and finance from Baker College.

Endnotes

2 Ibid., 140.
4 Thompson and Martin, Strategic Management: Awareness & Change, 140.
6 Thompson and Martin, Strategic Management: Awareness & Change, 140.
7 Ibid., 90.
8 Ibid., 284-308.
9 Hsu-Hsi Chang and Wen-Chih Huang, “Application of a Quantification SWOT Analytical Method,” Mathematical and Computer Modeling, 43 no. 1&2 (January 2006), 158.
10 Ibid., 158.
11 Ibid., 160.
12 Ibid., 158-169.
14 Chang and Huang, “Application of a Quantification SWOT Analytical Method,” 158-159.
16 Chang and Huang, “Application of a Quantification SWOT Analytical Method,” 160-161.
17 Ibid., 160-161.
18 Ibid., 160-169.
If you look up the synonyms for the word “risk,” you will likely receive results such as: danger, hazard, threat, peril, and gamble. So why do people, companies, governments, and countries expose themselves to risk? The answer is simple: without risk there is no reward.

—KSENIYA (KATE) STRACHNYI, RISK MANAGER
Introduction
Concerns about risks hang like a heavy cloud over all manner of industries and institutions these days. While this heightened concern may seem rather recent, a study of history informs us that this cloud has been in existence since time immemorial. Truly, since the beginning of humankind, there have been numerous efforts to manage the risks that are prevalent in everyday life. One of the principal risk management efforts over the last two decades has come in the form of enterprise risk management (ERM). The Committee of Sponsoring Organizations (COSO) and the ISO 31000 ERM frameworks are the most recognized. Yet there has been reticence to adopt, much less embrace, the use of ERM frameworks, especially in university settings. This article introduces an alternative ERM framework that could be better suited to institutions of higher education where deliberations and options are valued and leveraged to arrive at consensus and more sustainable decisions.

Background
Risk management began with the first steps on the planet. Creatures of prey had to balance risks against rewards to survive. Evolution has carried us forward to modern times where we have implemented a variety of tools to help us better understand and manage complex risks. It is instructive to study the ancient Chinese symbol for risk, which actually consists of two figures. The first figure represents danger and the second figure opportunity. These symbols translate perfectly to our current vernacular of risk and opportunity management. From the times of the ancient Greeks, there was great concern about feast and famine with weather and crop variations, necessitating resultant action to protect and hedge those risks.

In the latter part of the last century, a number of economists and financial analysts developed theories, models, and approaches to understand financial risk and seize opportunities to take advantage of discontinuities in the market place. Harry Markowitz focused on a portfolio selection framework through the development of his mean-variance theory. William Sharpe and John Lintner carried the concept further with their capital asset pricing model, which was developed to measure the risk of a security. Subsequently, Myron Scholes collaborated first with Fisher Black and then with Robert Merton to develop methods for pricing options and derivatives, for which the latter duo were awarded the Nobel Prize in Economics. Clearly, these models culminated in a highly refined set of tools that made quantification of risk more accessible than ever before.

Yet with all this precision, it has not been sufficient to avoid a myriad of financial disasters and costly catastrophes. Ivan Boesky and Michael Milken used insider information in 1986 to invest in companies that were being acquired, amassing illegal gains of hundreds of millions of dollars. Charles Keating and several other savings and loan officials enriched themselves and caused hundreds of millions of investor losses in 1989. Enron, under the leadership of Ken Lay, went from being regarded as the most innovative company in the world to the dustbin of history with its fraudulent off-book entries in 2001. The very next year, Bernie Ebbers and Worldcom were found guilty of improperly valuing assets by as much as $11 billion, causing 30,000 lost jobs and costing investors $180 billion in losses.

In response and in recognition of the frailties of human nature, the federal government promulgated a series of regulations to tighten oversight of public companies. In
addition, it was recognized that company internal controls were at the center of preventing fraud and manipulative practices. It is useful to know that independent auditors were issuing reports that reassured investors, even as some of the books were being manipulated. To their credit, the premier accounting associations acknowledged these inconsistencies and determined to strengthen internal controls through self-regulation.  

**Origin and Issues with the COSO ERM Framework Model**

In one of their first decisive acts, the American Accounting Association, the American Institute of Certified Public Accountants, the Financial Executives International, the Institute of Management Accountants, and the Institute of Internal Auditors formed the Committee of Sponsoring Organizations (COSO) to study causal factors that lead to fraudulent financial reporting. In 1992, they published Internal Controls—Integrated Framework as a compliance tool for public companies. Going further and in the face of continuing financial improprieties, COSO published Enterprise Risk Management—Integrated Framework to enhance internal controls and to explicitly address risk in internal affairs of public companies. This enterprise risk management (ERM) instrument has been adopted by 60 percent of US public companies, and it has served as a useful instrument for compliance and rigor in internal controls.

Like many accounting-based frameworks, it is exceedingly complex, with a 16-page executive summary. Like many accounting-based frameworks, it is exceedingly complex, with a 16-page executive summary.

![FIGURE 1: COSO ERM Framework](image)

**FIGURE 1: COSO ERM Framework**

Referred to as the COSO ERM Cube, it has three dimensions. The front facing dimension provides eight risk management actions ranging from a survey of the internal environment to a monitoring function. The top facing dimension has four categories of risk from strategic to compliance. The right facing dimension has four organizational levels from entity-level to subsidiary. As noted in the 2004 Executive Summary, COSO stipulates that enterprise risk management encompasses the following:

- Aligning risk appetite and strategy
- Enhancing risk response decisions
- Reducing operational surprises and losses
- Identifying and managing multiple and cross-enterprise risks
- Seizing opportunities
- Improving deployment of capital

Just as the maturity of ERM continues to advance, so, too, must COSO continue to evolve. In fact, COSO is in the process of updating the framework to modernize the committee’s enterprise risk guidance. The Exposure Draft was recently released for public comment. The update is entitled, Enterprise Risk Management—Aligning Risk with Strategy and Performance. As it is in the development and coordination phase, the new framework will not be evaluated in detail here. However, it is instructive to note that the update is intended to “address the evolution of enterprise risk management and the need for organizations to improve their approach to managing risk in today’s business environment.”

**Origin and Issues with the ISO 31000 ERM Framework Model**

Another enterprise framework was introduced by the primary risk management organizations in the United Kingdom and is entitled ISO 31000 Risk Management—Principles and Guidelines. It was spurred by the 2008 global financial crisis and is modeled after the COSO framework in that it is principle-based and not prescriptive. It differs from the COSO model in that it abandons the familiar cubic shape and substitutes a two dimensional representation of the principles, the flow, the mechanisms, and the attributes of a typical and hopefully successful risk management system.
There has been some criticism of the ISO 31000 model, ranging from it being unclear, can lead to illogical decisions if followed, is not possible to comply with, and is not mathematically based. However, it does provide more flexibility to the user, has the prestige of being an international standard, and provides an alternative framework for tailoring to a specific institution.

A Perspective on ERM at Institutions of Higher Education

Experts believe that an integrated approach to risk management provides benefits by “connecting the dots” for any company and institution. There seems to be little doubt that managing risks in isolation from the larger whole creates vulnerabilities that have, can, and will be exposed at some point in the life of an institutional entity. While it is important for the individual elements of an entity to manage risks at their level because they understand the situation best, risks in one area can create risks or impact operations in another part of a company or entity. Additionally, a mitigation effort in one element of a company might actually cause unforeseen and unintended consequences in another element, resulting in the cure being worse than the disease.

ERM is seen as the gold standard of risk management systems, whether they be in private industry, government, or academia. Yet the adoption of ERM in an institution does not guarantee a successful or sustainable outcome. In fact, many institutions who claim to have implemented ERM have really only automated their manual processes and already existing risk culture.

In most surveys of colleges and universities, the data indicate that attitudes among administrators and boards of trustees are shifting to be more involved in risk management matters and to consider industrial practices. Yet there is still a tentativeness to embrace risk management as a strategic imperative or to explicitly state it as a strategic competency.

There is a robust structure of supporting professional associations and consultant companies that provide networking opportunities, education, development, and certificates of competence for university risk management officials. Conferences, publications, and online collaborations provide healthy forums for sharing of best practices.

Key thought leaders are active in promoting the benefits of risk management in university settings, often convening disparate groups for the purpose of creating momentum and enthusiasm for ERM implementation or simply to gain consensus for improved risk management systems. Sometimes these forums are advanced to highlight products or to grow revenue, but nonetheless they serve to improve interactions in the profession.

There are highly diverse approaches to risk management across the university spectrum. Some have implemented ERM in accordance with COSO, some have used the ISO 31000 framework, and some have created their own frameworks. Some have moved swiftly to centralize their risk management systems, and some have chosen to move deliberately and cautiously. Some universities include risk management as a strategic objective, though most have not. Some boards of trustees include risk management oversight in their charters; again, though, most do not. Some university presidents have assigned risk management accountability to a chief risk officer, some to their chief financial officer, some to
their internal audit departments, and some have dispersed the accountability to their individual colleges or departments.

Scholarly research is rather thin and is generally qualitative in nature. Most articles have been written by consulting firms and those university centers of excellence that seek to advance their financial prospects. Many universities have utilized consulting firms to understand their vulnerabilities, improve their risk management systems, and decide upon courses of action. Unfortunately, most of these consulting engagements are proprietary in nature, and quantitative data is difficult to obtain and share.

Professional associations, university centers of excellence, and consulting firms conduct periodic surveys that give insight into the progress being made among universities. However, only general conclusions can be drawn from these surveys, and no quantitative comparative analyses have been performed. Maturity models fashioned after the software capability and competence models are being utilized by many universities, but they are also heavily qualitative and not particularly valuable for comparative analyses.

There have been no comparative evaluations of the various risk management frameworks, such as the COSO model, the ISO 31000 model, and other alternatives. This prevents institutions from examining the pros and cons before they decide upon a framework for their institution.

Comparative Analysis of Current ERM Frameworks

A comparison of three ERM models is conducted here in terms of their consistency with selected critical characteristics. These characteristics have been deemed desirable in the context of articles found in the literature review.16 The first characteristic is the general acceptance and use of the model. Second is the availability of operational definitions for the terms of the model. The third characteristic is the independence of the terms, such as risk categories and organizational levels. Fourth is the linkage to measurable effect. The final characteristic is consistency of results. Each of these will be applied to three models under consideration and then summarized.

COSO ERM Framework Model

The COSO ERM framework model is a generally accepted framework and has been adopted in its original and adapted form by a large number of corporations and government agencies. Operational definitions, however, are vague due to the framework being more principle-based than prescriptive in nature. As currently structured, the model components are not independent and overlap in some risk categories. The model is not linked to performance measures that have been consistently applied since there is wide discretion for entities to tailor the model extensively to fit unique organization structures and cultures. Finally, there have not been any robust empirical studies conducted to assess repeatability of results under similar circumstances.

ISO 31000 Model

The ISO 31000 model is very similar to the COSO model since it was patterned after it. The ISO 31000 pictorial is unique in that it attempts to display the process interactions versus the structure of COSO. It is a generally accepted framework and is prevalently used in Europe and other countries outside the United States. Operational definitions, as with COSO, are lacking and not intended to be specific due to the desire to provide maximum flexibility to implementing entities. Here again, the model components are not independent, and there is no link to measurable results. There has been no rigorous attempt to assess consistency of results.

University of Washington (UW) Model

In its 10-year journey since incorporating ERM into its operations, the University of Washington (UW) has continued to mature and improve its ERM implementation.17 UW has approached the implementation in a
systematic and methodical way, remaining committed to the journey and gaining acceptance by stakeholders slowly but surely. This implementation provides rare insight into the detailed steps and obstacles provided by an academic culture. UW’s ERM framework cannot be considered generally accepted except in the sense that it is adapted from the COSO framework model. However, the changes they have made are unique to the university and its specific objectives. Operational definitions suffer from the same deficiencies as the COSO model in that the framework is meant to be broad and non-specific for implementation purposes. For the same reasons, the components are not independent. As to links to measures, UW’s ERM implementation has focused to date more on increasing awareness and acceptance than making operational measurements. Thus, there has been no attempt to conduct empirical studies to assess repeatability of results.

A summary comparative analysis table of the three ERM framework models is shown in Figure 3. The three models are compared against the five critical characteristics.

There are obvious gaps with each of the prevalent ERM framework models that are in practice today. The comparative analysis table points out that additional research and development of alternative models would be helpful to close the gaps in the areas of component independence, links to measures, and empirical tests to ensure consistency of results.

The lack of empirical examinations in the literature corroborates the gaps in Figure 3. No longitudinal studies have been conducted that address the long-term implications of implementing an ERM framework model. Definitive studies comparing the effects of different models or standards do not exist. Furthermore, no articles have been published on the definition of standard or comparable measures of results from ERM implementations. As a result, empirical studies that address these gaps would contribute significantly to the expansion of the risk management body of knowledge.

An Alternative Model for Universities

The COSO framework is the most extensively used in the United States with the ISO-31000 international standard closely parroting similar elements. In both cases, the intent of the framework is to be as broad and inclusive as possible without being overly prescriptive. As a result, they are primarily principle-centered and do not attempt to be specific. As discussed above, this is an understandable approach since so much of risk management depends upon the specific goals and objectives of a particular entity.

The best way for a university to be prepared for both highly unusual sets of conditions and more routine, everyday risks is to adopt a risk management framework that is broad, like the COSO and ISO 31000 frameworks, but then to follow up with significant specificity tailored to the institution’s strategic goals and objectives. In this manner, the framework will be consistent with generally accepted risk management standards while also being focused on the institution’s dearest and most meaningful concerns.

Most of the risk management models in vogue today depict three dimensions. The COSO three dimensions are noted in Figure 4. The top face of the cube represents the categories of risk, from compliance to reporting to operations to strategic risk. The categories are intended to be hierarchies of risk components, such that lower level risks would fit into one of the four categories. For example, the operational risk category could include health and

<table>
<thead>
<tr>
<th>ERM Framework Model</th>
<th>Generally Accepted</th>
<th>Operational Definitions</th>
<th>Component Independence</th>
<th>Link to Measures</th>
<th>Consistency of Results</th>
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<td>ISO 31000</td>
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</tr>
<tr>
<td>UW</td>
<td>No</td>
<td>Some</td>
<td>No</td>
<td>No</td>
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</tr>
</tbody>
</table>

**FIGURE 3: Comparative Analysis of Model Critical Characteristics**
safety risk, facilities risk, and traffic risk. The compliance risk category could include legal risk and regulatory risk. The right face of the cube represents the organizational levels of a corporation, from entity-level to division to business unit to subsidiary. They are generic in this form and would be different for every corporation and industry. The front face of the cube represents risk management activities from internal environment objective setting to risk monitoring. The working concept of the COSO ERM model is that each organizational unit would be involved in applying the risk management activities to every risk category in its specific area of responsibility.

The primary concern with the COSO framework has to do with the top face of the cube. The listed categories are not independent. For example, one could envision an operational risk that is strategic along with the other categories. The COSO model mixes up categories by trying to combine differences in types of risks, severity of risks, and risk time horizons. As a result, the categories are confusing.

There are similar concerns with the UW model. As with the COSO top face of the cube, UW’s categories of risk are unclear and not independent. UW’s model introduces a mega category, which exacerbates the confusion of the COSO model. In addition, the UW model adds a non-organization level to the right side of their ERM cube, called “Alternatives.” The model was developed by many different academic committees, which may have added to this increased level of model complexity.

This case study simply reinforces the difficulty of implementing an institution-wide initiative in a university environment that is characterized by autonomy and independence. There has to be a compelling case for change, and it must fit within the university culture. In the case of UW, the driving force for launching the ERM initiative was a $35 million settlement for overbilling of Medicare and Medicaid claims. Even with this significant event and accompanying case for change, UW is still proceeding cautiously in their journey to reach its ERM objective.

**Guiding Principles for an Alternative ERM Model**

The following principles guide the creation of an alternative enterprise risk management model for an institution.
of higher learning:

- Promote integrity and ethical conduct
- Emanate from the core purposes and strategic objectives of the institution
- Establish holistic and integrated consideration of risks
- Encourage vertical and horizontal communication and collaboration
- Provide clarity in the operational definitions of terms of reference

From these principles, the following model design considerations are developed:

- Strive for independence and logic in the risk model framework
- Do not be constrained by three dimensions as popularized by the COSO ERM Model
- Leverage existing risk frameworks and operational definitions

**Alternative ERM Model: Five Dimensions**

As a result of the above considerations, the alternative ERM model consists of five dimensions. These five dimensions would be integrated together as a system.

The first dimension addresses institutional accountability levels. This is similar to the right face of the COSO and UW ERM cubes but with distinct differences. For one, the alternative model recognizes the two unique chains of command in a university: the administrative chain and the academic chain. The two unique chains are displayed in Figure 7.

**FIGURE 6: Institutional Accountability Levels**

<table>
<thead>
<tr>
<th>Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>Board of Trustees</td>
</tr>
<tr>
<td>President</td>
</tr>
<tr>
<td>Executive Staff/College Deans</td>
</tr>
<tr>
<td>Staff Directorates/Academic Departments</td>
</tr>
<tr>
<td>Staff Personnel/Faculty</td>
</tr>
</tbody>
</table>

**FIGURE 7: Two Chains of University Accountability**

Note that the term “accountability” has been used because it is more meaningful than just an organizational structure. It connotes that each cascading entity is accountable to the entity above for a particular task or action and reflects the overall structure (i.e. “Person X is accountable to Person Y for Thing Z”). In this dimension, each accountability level would be engaged in risk management activities by considering and coordinating with each of the other four dimensions.

The second dimension addresses risk categories:

**FIGURE 8: Risk Categories**

- Institutional Viability
- Academic Credentials
- Safety and Health
- Finance and Budget
- Compliance, Legal, and Regulatory
- Program and Project

It is akin to the top face of the COSO and UW ERM cubes, but it strives to keep each category independent from the other categories. Thus, there is no mention of a “strategic” category, which could be considered as part of each of the other categories. As with the COSO and other frameworks, there is a need to avoid a proliferation...
of categories; each listed category represents a grouping of risks in each category. As with the other dimensions, there is coordination and collaboration among the five dimensions. An example would be that the college dean would be concerned with health and safety, just as would other employees. However, they would identify and be concerned with unique sets of health and safety risks commensurate with their specific responsibilities. Nevertheless, the implementation of the model would encourage every level of accountability to spend time considering institutional cross-cutting risks and opportunities.

The third dimension deals with risk response processes, similar to the front face of the COSO and UW ERM cubes. For this alternative ERM framework model, *A Risk Analysis Standard for Natural and Manmade Hazards to Higher Education Institutions*, produced by the ASME Innovative Technologies Institute, LLC, was utilized. This standard defines seven well-developed risk management processes, but it does not include the step of setting a strategic objective from which to base the subsequent steps. Thus, “strategic goals” were added as a first process step in the alternative ERM framework model for this dimension, which is shown below. Typically, as part of their strategic planning cycles, university boards of regents establish annual or multi-year objectives for the administrative leaders of the university to implement in their management systems. For example, the Texas Tech University System establishes five strategic priorities for each of their campuses and measures their progress accordingly. This provides the necessary context for the administrative leaders to develop implementation plans and to frame their most critical risks and opportunities in the alternative ERM framework.

The risk response process dimension would work in the following way, consistent with traditional risk response methodologies. Strategic goals for a particular accountability level and a particular risk category would be identified. Assets such as facilities, people, or systems would be identified in the asset characterization step. Threats associated with these assets would then be characterized. Consequences would be identified, such as the worst or best possible outcomes of the threat in question. A vulnerability analysis would then be conducted to ascertain the probability that a particular incident would adversely affect the asset. A threat analysis would then be used to assess the probability that an incident would occur. The risk analysis would estimate the risk of each incident for each asset. Finally, the risk resolution step would include evaluating options, making decisions, implementing the decision, and monitoring and follow up.

The fourth dimension addresses an appropriate time horizon, providing a measurable perspective for leaders to consider in their risk identification and management activities. For example, facilities managers need to consider and deal with risks that not only impact their day-to-day operations, but also those that could impact the viability of their areas of responsibility some number of years hence in order to ensure a complete risk identification.

The fifth dimension focuses on level of severity. While the consequence analysis step of the risk response process dimension deals with the severity of a specific asset exposure, this dimension ensures that risk leaders give full consideration to all risks from relatively minor items to those that can be categorized as extreme events.
For example, it is important for college deans, as well as the Board of Trustees, to consider one-off events from their specific perspective. Consider, for instance, the tragic shootings at Virginia Polytechnic Institute and State University. Perhaps if Virginia Tech officials had incorporated the concerns of the teacher who reported the shooter’s disturbed writings into their risk discussions more fully, the risk of such an event occurring might have been mitigated. Likewise, when considering the sex abuse scandal at the Pennsylvania State University, perhaps the Penn State Board of Trustees could have played an active role in asking tougher questions, demanding explanations, and stopping Jerry Sandusky’s egregious actions earlier than they were.

Tying these five dimensions together in a university-focused ERM system allows for more robust risk deliberations and enhanced opportunities for improved outcomes consistent with institutional strategic objectives. Consider a university team exercising its risk management duties for the institution. The team would use the alternative framework with a substantial training effort that emphasized flexibility and choices to tailor individual team member involvement to his or her specific role. It would be stressed that not every element in the five dimensions would have to be considered or used. Rather each team member would select elements in the five dimensions that make the most sense to his or her area of operation and/or expertise. A university dean would utilize very different elements than would a facility operations manager. A vice president’s time horizons and severity levels would differ greatly from a department chair.

The key issue would be the frequency and robustness of the discussions once risks are identified by the various team members and considered by the team.

**Summary**

Currently, there are no empirical studies to assess repeatability of results, nor are there comparable quantitative measures of effectiveness for risk management systems or ERM frameworks. Unlike hardware systems with specific quantitative performance specifications that can be measured, a risk management system is one whose measure of success is often determined by the absence of adverse conditions. Consequently, many institutions use risk maturity model instruments to assess the robustness of their policies and procedures in the hopes that these latter conditions equate to ultimate success. However, ongoing research is in the process of collecting and analyzing data from sets of universities to enable them to compare their risk management systems to their peer institutions and to assess their states of preparation to deal with ongoing and emerging risks and opportunities.

As noted, there is no single ERM framework that will work for every institution of higher education. There are benefits and drawbacks for every model in existence, and a university must consider its strategic objectives and predominant culture when establishing an ERM framework. Institutions of higher education have the freedom to tailor an existing or emerging approach to ensure compatibility with what has made the institution a success.

Given the nature of our universities, the structure and legacy of each must be respected when setting out to improve risk management systems. A balance must be struck. It is important neither to be overly intrusive nor to be too timid. No matter what actions are taken, universities will face criticism and opposition. While frustrating in the tactical sense, universities must encourage dialogue from all spectrums of the institution. An ERM implementation may take longer, but it will be much more sustainable and successful.

The alternative ERM framework model presented here provides the benefit of increased degrees of freedom for a university in considering the many dimensions of risk. The dimensions operate independently and allow leaders to identify risks from a variety of perspectives, time horizons, and severity levels. Perhaps its use will spur further consideration and refinement of additional models for use in university settings. After all, as in all active learning, providing additional pathways to common objectives generally serves to enrich the discussion and generate more effective solutions to complex problems.
Francisco (Frank) A. Figueroa is president and owner of The Figueroa Group LLC, which provides general, scientific, and technical consulting services to corporations. He is also president and owner of Francisco A. Figueroa CPA CFP LLC, which provides financial and business services to individual and corporate clients. Previously, he served as the first president and general manager for the Mission Support Alliance, a joint venture comprised of Lockheed Martin, Jacobs Engineering, and Wackenhut Services, Inc. to provide mission support services at the Department of Energy Hanford Site in Washington State. He also served as the vice president and chief financial officer at Sandia National Laboratories in Albuquerque, New Mexico. He also held the position of vice president and chief financial officer for Lockheed Martin Energy Systems in Oak Ridge, Tennessee. Figueroa began his industrial career with Martin Marietta in Denver, Colorado. The company ultimately merged with Lockheed to become Lockheed Martin Corporation. Prior to joining Martin Marietta, Figueroa completed a 20-year career with the United States Air Force Space program.

Figueroa is a Certified Project Management Professional, a Certified Public Accountant, a Chartered Global Management Accountant, and a Certified Financial Planner. He was a member of the 1997–98 class of Leadership New Mexico and was chairman of the National Hispanic Cultural Foundation Board of Trustees. Figueroa is a member of the Board of Directors of the Presbyterian Healthcare System of New Mexico and serves on the Finance and Compliance and Audit Committees. Figueroa teaches Junior Achievement classes at the elementary, middle school, and high school levels. He was selected as the East Tennessee Junior Achievement volunteer of the year in 2014. Figueroa’s professional recognitions include being inducted into the Texas Tech University Electrical Engineering Academy in 2004 and being selected as a Texas Tech University Distinguished Engineer in 2005. He received a Master of Science in systems management from the University of Southern California, a Master of Science in electrical engineering from Texas Tech University.

While an undergraduate student at Texas Tech, Figueroa was the wing commander of all cadets in the Air Force Reserve Officer Training Corps and was elected to Tau Beta Pi Engineering Honorary Fraternity, Eta Kappa Nu Electrical Engineering Honorary Fraternity, and the Arnold Air Society. He is currently a PhD candidate in systems engineering management at Texas Tech University with a dissertation focus on risk management in institutions of higher learning and has been selected as a member of Phi Kappa Phi Honor Society and the Golden Key International Honor Society. Figueroa has been married for 47 years to Sharon and they have two sons and four grandchildren.

Endnotes
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The major difference between a thing that might go wrong and a thing that cannot possibly go wrong is that when a thing that cannot possibly go wrong goes wrong it usually turns out to be impossible to get at or repair.

—Douglas Adams, English Author and Humorist
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