NAVAL POSTGRADUATE SCHOOL

MONTEREY, CALIFORNIA

THESIS

THE OREGON TRAIL: AN EXPLORATORY CASE STUDY FOR HIGHER EDUCATION EMERGENCY MANAGEMENT PROGRAMS

by

Kelly Dunn

September 2018

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REPORT DOCUMENTATION PAGE	*Form Approved OMB No. 0704-0188*

1. AGENCY USE ONLY *(Leave blank)*	**2. REPORT DATE** September 2018	**3. REPORT TYPE AND DATES COVERED** Master's thesis

4. TITLE AND SUBTITLE THE OREGON TRAIL: AN EXPLORATORY CASE STUDY FOR HIGHER EDUCATION EMERGENCY MANAGEMENT PROGRAMS	**5. FUNDING NUMBERS**
6. AUTHOR(S) Kelly Dunn	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Naval Postgraduate School Monterey, CA 93943-5000	**8. PERFORMING ORGANIZATION REPORT NUMBER**
9. SPONSORING / MONITORING AGENCY NAME(S) AND ADDRESS(ES) N/A	**10. SPONSORING / MONITORING AGENCY REPORT NUMBER**

11. SUPPLEMENTARY NOTES The views expressed in this thesis are those of the author and do not reflect the official policy or position of the Department of Defense or the U.S. Government.

12a. DISTRIBUTION / AVAILABILITY STATEMENT Approved for public release. Distribution is unlimited.	**12b. DISTRIBUTION CODE** A

13. ABSTRACT (maximum 200 words)

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14. SUBJECT TERMS higher education, consortium, emergency management, university, college, emergency management programs, institutions of higher education	**15. NUMBER OF PAGES** 115
	16. PRICE CODE

17. SECURITY CLASSIFICATION OF REPORT Unclassified	**18. SECURITY CLASSIFICATION OF THIS PAGE** Unclassified	**19. SECURITY CLASSIFICATION OF ABSTRACT** Unclassified	**20. LIMITATION OF ABSTRACT** UU

NSN 7540-01-280-5500

Standard Form 298 (Rev. 2-89)
Prescribed by ANSI Std. 239-18

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THE OREGON TRAIL: AN EXPLORATORY CASE STUDY FOR HIGHER EDUCATION EMERGENCY MANAGEMENT PROGRAMS

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Submitted in partial fulfillment of the
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**MASTER OF ARTS IN SECURITY STUDIES
(HOMELAND SECURITY AND DEFENSE)**

from the

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ABSTRACT

Institutions of higher education have underdeveloped emergency management programs despite academic research, industry surveys, and guidance from the Federal Emergency Management Agency and the Department of Education. This research set out to discover what recurring issues are commonly identified in higher education emergency management programs. These issues tended to fall into three broad categories: resources, planning, and engagement. An exploratory case study was then conducted on Oregon's Campus Resilience Consortium to see how this proposed model could address repetitive issues. The research found that Oregon's program is poised to strengthen continuity, communication, and collaboration among institutions across the state. Implementation concerns were identified.

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TABLE OF CONTENTS

LIST OF FIGURES

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LIST OF TABLES

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LIST OF ACRONYMS AND ABBREVIATIONS

Council	Higher Education Safety and Resilience Council
DHS	Department of Homeland Security
DRU	Disaster Resilient Universities
EM	Emergency Management
EMAP	Emergency Management Accreditation Program
EOP	Emergency Operations Plan
FEMA	Federal Emergency Management Agency
HECC	Higher Education Coordinating Commission
HVA	Hazard Vulnerability Analysis
ICS	Incident Command System
IHE	Institution of Higher Education
IMT	Incident Management System
NACUBO	National Association of College and University Business Officers
NCCPS	National Center for Campus Public Safety
NFPA	National Fire Protection Association
NIMAA	National Intercollegiate Mutual Aid Agreement
NIMS	National Incident Management System
NPG	National Preparedness Goal
NPS	National Preparedness System
THIRA	Threat and Hazard Identification and Risk Assessment
Work Group	Oregon Campus Safety Work Group

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EXECUTIVE SUMMARY

Institutions of higher education (IHEs) are key members of their communities and are considered partners in the Federal Emergency Management Agency's "whole community" concept.[1] In times of disaster, IHEs often provide shelter, assistance, and resources to their communities. Because disasters begin and end locally, campuses must be prepared and resilient in order to recover quickly and ensure their education mission continues. Enhancing campus preparedness, response, and recovery in catastrophes could improve the overall resiliency of the jurisdictions in which IHEs reside. However, emergency preparedness and management programs in higher education are still under-developed despite the vast amount of research, surveys, and planning documents provided to them by the Federal Emergency Management Agency and the Department of Education. Incident after incident, common issues arise in IHE preparedness.

This research set out to discover what recurring issues scholars commonly identify in higher education emergency management programs. A literature review showed that recurring issues tend to fall into three broad categories: resources, planning, and engagement.[2] More specifically:

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[1] Federal Emergency Management Agency (FEMA), *National Response Framework*, third edition (Washington, DC: Department of Homeland Security, 2016), 6, https://www.fema.gov/media-library-data/1466014682982-9bcf8245ba4c60c120aa915abe74e15d/National_Response_Framework3rd.pdf; FEMA, *A Whole Community Approach to Emergency Management: Principles, Themes, and Pathways for Action*, FDOC 104–008-1 (Washington, DC: Department of Homeland Security, 2011), 4, www.fema.gov/media-library/assets/documents/23781; Elaine Pittman, "Remember: All Disasters Are Local, Says FEMA Deputy Administrator," *Emergency Management*, November 14, 2011, http://www.govtech.com/em/disaster/Remember-All-Disasters-Are-Local-Says-FEMA-Deputy-Administrator.html.

[2] National Center for Campus Public Safety, "National Higher Education Emergency Management Program Needs Assessment" (report, National Center for Campus Public Safety, 2016), ii–viii, http://www.nccpsafety.org/news/articles/national-higher-education-emergency-management-needs-assessment; Campus Safety & Security Project, "Results of the National Campus Safety and Security Project Survey" (report, Campus Safety & Security Project, 2007), 29–33, https://theoxfordconclave.org/wp-content/uploads/2017/09/CSSPSurveyResults.pdf; Dennis K. Sullivan, "2011 Higher Education Emergency Management Survey," *Journal of Chemical Health and Safety* 19, no. 4 (July 2012): 36–43, https://doi.org/10.1016/j.jchas.2011.10.001; Margolis Healy Solutions for Safe Campuses, *Margolis Healy Campus Safety Survey* (Burlington, VT: Margolis Healy Solutions for Safe Campuses, 2015), http://www.margolishealy.com/files/resources/2015MargolisHealy_CampusSafetySurvey_1.pdf.

- lack of resources to support emergency management programs—such as emergency management staffing, mutual aid agreements, and budget dollars;
- incomplete plans for emergency management assessment, response, and recovery (e.g., emergency operation plans, adequate hazard and vulnerability analysis, continuity planning); and
- absence of engagement from all levels within the institution, most notably in upper management.[3]

Many surveys, assessments, and studies have looked at the emergency preparedness of higher education institutions; however, year after year, few changes are seen improving the areas of planning, engagement, and resources. IHE emergency management programs and roles within those programs are ill-defined and, regardless of the national climate and policy guidance, there has been little progressive change in the academic community regarding campus preparedness and resiliency. What these compounding studies and surveys indicate is that having a plan completed does not ensure the campus is prepared to respond. There are a number of interdependencies in play when discussing planning, engagement, and resources. Often, lack of staffing in emergency management is blamed on budget constraints; poor planning or infrequent training and exercises could themselves be due to lack of staff, and campus community engagement could be blamed on not having enough training and exercises. Undoubtedly, it is difficult to influence one area without affecting others.

In addition to these recurring issues, the average budget trend of IHEs is declining, which means less funding for emergency management activities.[4] Universities and colleges have to strategically look toward the future. With ever-changing technology, rising disaster frequency, and the possibility of continued budget cuts, academic institutions need

[3] National Center for Campus Public Safety, "Needs Assessment," ii–vii; Campus Safety & Security Project, "Results of Survey," 29–33; Sullivan, "2011 Higher Education Emergency Management Survey"; Margolis Healy, *Campus Safety Survey*.

[4] Michael Mitchell, Michael Leachman, and Kathleen Materson, "A Lost Decade in Higher Education Funding," Center on Budget and Policy Priorities, August 23, 2017, https://www.cbpp.org/research/state-budget-and-tax/a-lost-decade-in-higher-education-funding.

to ensure preparedness goals are achieved *before* something happens. These issues are not new to the higher education community, nor have they been solved by the smorgasbord of federal guidance documents; new solutions are needed.

This research reviews the Oregon Campus Resilience Consortium's plan to improve emergency management programming and resiliency in IHEs across the state. In doing so, it also evaluates how the consortium's plan might address the recurring emergency management issues (planning, engagement, and resources) found in the literature. Ultimately, the research showed that the Oregon model could provide positive solutions in a number of areas. The continuity, communication, and collaboration between universities and colleges across the state through shared services, all-hazards incident management teams (IMTs), statewide training, and online resource-sharing will provide uniformity in planning, training, and response. The all-hazards IMT will also align with the state IMT, opening the lines of communication and seamlessly tying IHEs into a state response. Frequent communication with the governor's office, legislature, and campus presidents can bring visibility and accountability for emergency management in IHEs, and can eliminate unknowns for the state's leadership. Finally, collaboration through the National Intercollegiate Mutual Aid Agreement with IHEs nationwide can provide additional stakeholders and support for the Oregon system. Once the Oregon model has been implemented, this case study can be used as a baseline for tracking what changes and gaps the Oregon model fills and could inform other states about how something similar may or may not work in their own region.

Emergency managers have more to do than plan and respond for disaster; they need to think strategically about the future of higher education and emergency management needs as the world rapidly changes. Past case studies and lessons learned have offered historical narratives and helped IHEs understand why decisions were made and what, at that point in time, was lacking or needed. However, IHEs must look strategically at their preparedness programs and determine how they will be funded, supported, and continued as the requirements of homeland security become harder to meet and the funds for higher education decrease. Imagining a future in emergency management where everything is connected, planning is understood, and response is seamless provides a hopeful vision for

what IHE programs could look like. IHEs must determine what works well and what does not so future emergency management programs can flourish. Oregon will be a model to watch and, as the program unfolds, states can take what works from Oregon and implement it in their own jurisdictions, leaving behind whatever portions of the Oregon model are not effective. Building programs off proven tactics will lead to a more robust IHE system and contribute to the overall resiliency of the nation.

ACKNOWLEDGMENTS

I had the opportunity to run the Big Sur Marathon following my fifth in-residence. It was one of the hardest marathons I have ever completed. And, in its wake, I was left thinking about how closely aligned training for—and running in—the race was with completing this master's program, my research, and this thesis. Every hill I didn't think I'd summit, the last miles when I wanted to quit, the final .2 when I saw the finish line, and finally crossing that line—through sweat and tears, promising I'd never run a marathon again—are all so similar to the thesis topic I could not pick, the moments when I wondered how I got into this program, and the times I wanted to quit. Certainly not pretty. Not my personal best. But a moment of pride as the medal was slipped over my head … and, finally, the approval of the thesis, knowing that I would receive my diploma.

With running, as with this academic program, it was much more than just the culmination. It was about the support, love, effort, and growth along the way. This program, much like racing, was not a solo sport; there are a number of people I must thank for their sacrifices.

To the race directors: Those who design the route to push the racer's limits, taking you on an incredibly hard but rewarding journey. For this I thank the instructors who gave me a new way to look at most everything, and for all of the CHDS staff who make this program possible. I also thank the Oregon team and their model, for giving me direction with this thesis.

Next, the support team, which no race could ever be run without. They are there early and stay late, setting up the course and ensuring you have the support you need to be as successful as you can. Thank you specifically to Rick Johnson, who redefines the word *loyal*, and all of my colleagues who filled in for me, picking up endless tasks while I went through this program. The University of Kansas Medical Center is the most supportive and incredible team there is, and it is an honor to serve them.

To the coaches, or in this case my advisors, Glen Woodbury and Lauren Fernandez. For tweaking my thesis "training plan" to ensure I could cross the finish line. And to my

personal trainer, who spent every week with me, going over each and every line of my training logs (thesis drafts), and who I really owe finishing this "race" to: thank you, Kate Egerton. To the racing team, or each of my classmates, who ran the race with me, making me a stronger runner and giving me the encouragement that kept me going. The selfless volunteers, those who just showed up to support without any incentive whatsoever. To Erica Hupka, for our deep talks and your guidance through these hard-to-navigate waters; to Laura Young—our evening walks and your texts of encouragement meant so much—and to Erin Martinez, for always being a true friend and a permanent member on my race crew.

Finally, and most importantly, to my family. There for me in every race I have ever run and truly my heroes in life. They are the reason I wanted to quit—as I hated missing even a moment with them—but also the reason I needed to keep going. Thank you to my wonderful and incredibly supportive husband, Jon; my mom and dad, Neva and Larry; my in-laws, Brad and Janice; my siblings, Kim, Kari, Jeremy, Don, Chris, and Leanna; and my nieces and nephews, Sophia, Colter, Sawyer, Harper, and Alissa. Thank you for the pictures you sent while I was gone and the ears you lent as I complained. The support you gave me to ensure I'd finish truly defines what family is. I hope to be as good of a daughter, sister, aunt, and spouse as you all have been to me. Also, I would be remiss not to mention my actual running partner, Bailey, my favorite four-legged friend, who helped me keep my sanity on long morning runs.

What I learn the most from each run I do, and what was reinforced from writing this thesis, is that not every race—not every paper—will be your personal best. Some are learning experiences, to humble you, make you grow, and teach you to appreciate this wonderfully chaotic life. Each run, each opportunity, is a continual reminder that, yes, the destination is fantastic. But looking back, where you really had the most fun was in the journey itself.

I. INTRODUCTION

Disasters begin and end locally.[1] Emergency management practitioners, the Federal Emergency Management Agency (FEMA), and the Department of Homeland Security (DHS) commonly reference this declaration when proclaiming that the "whole community" is important for national resiliency and homeland security.[2] FEMA's whole community concept stresses that each individual, group, and community can engage in emergency management practices, increasing their understanding of local risks, needs, and capabilities and emerging a more resilient community.[3] FEMA recognizes that the government-centric approach will not meet future challenges posed by crises and, as a nation, we must invest in our communities with social capital in order to prepare for and recover from disasters at the local level.[4]

Institutions of higher education (IHEs) are key members within their communities and are considered partners in the whole community concept. In times of disaster, IHEs often provide shelter, assistance, and resources to their communities. Likewise, campuses may rely on their jurisdictions for support if a crisis occurs locally. Enhancing campus preparedness, response, and recovery in catastrophes could improve the overall resiliency of the jurisdictions in which the colleges or universities reside. However, emergency preparedness and management programs in higher education are still under-developed and behind the curve despite the vast amount of research, surveys, and planning documents provided to them by FEMA, DHS, and the Department of Education. Incident after incident, common issues arise in IHE preparedness on campuses despite the accessibility

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[1] Federal Emergency Management Agency (FEMA), *National Response Framework*, third edition (Washington, DC: Department of Homeland Security, 2016), 6, https://www.fema.gov/media-library-data/1466014682982-9bcf8245ba4c60c120aa915abe74e15d/National_Response_Framework3rd.pdf; Elaine Pittman, "Remember: All Disasters Are Local, Says FEMA Deputy Administrator," *Emergency Management*, November 14, 2011, 1, http://www.govtech.com/em/disaster/Remember-All-Disasters-Are-Local-Says-FEMA-Deputy-Administrator.html.

[2] FEMA, *A Whole Community Approach to Emergency Management: Principles, Themes, and Pathways for Action*, FDOC 104–008-1 (Washington, DC: Department of Homeland Security, 2011), 2, www.fema.gov/media-library/assets/documents/23781

[3] FEMA, 4.

[4] FEMA, 2.

of a number of federal guidance documents, demonstrating that this availability does not equate to prepared campuses. Since disasters begin and end locally, campuses must be prepared and resilient in order to recover quickly and ensure their education mission continues. There are some innovative preparedness programs that universities and colleges have instituted; nonetheless, with the availability of planning guidance to campuses, overall improvement in IHE preparedness programs should be evident; the same issues should not keep bubbling to the top.

This thesis explores what the higher education system in Oregon is implementing in order to make progressive change in the state's IHEs. The universities and colleges are looking beyond their own campus boundaries and exploring how they, both public and private postsecondary institutions, can work together to build their preparedness system to increase resiliency. This exploratory case study focuses on past higher education emergency preparedness studies, unpacking the recurring—yet unresolved—issues that have been identified year after year; it then analyzes if the proposed Oregon model could offer a solution for the repeated gaps that are commonly identified.

A. PROBLEM STATEMENT

Disaster preparedness and response programs in higher education settings are emphasized in homeland security doctrine and various higher education–specific training and guidance.[5] Nevertheless, IHEs remain unprepared to respond to and manage disasters, and confusion within planning and emergency management programs exists.[6] One well-known preparedness example is the 2007 shooting at Virginia Polytechnic Institute and State University (Virginia Tech). Though plans were complete and the university was prepared for certain types of disasters, a retroactive deep dive into Virginia Tech's policy and procedures after the ambuscade shooting tragedy they endured when Seung-Hui Cho

[5] FEMA, *Building a Disaster-Resistant University*, FEMA 443 (Washington, DC: Department of Homeland Security, 2003), https://www.fema.gov/media-library/assets/documents/2288; U.S. Department of Education Office of Safe and Drug-Free Schools, *Action Guide for Emergency Management at Institutions of Higher Education* (Washington, DC: Department of Education, 2009), https://www.hsdl.org/?view&did=38626; "Ready Campus," FEMA, accessed May 14, 2017, https://www.ready.gov/campus.

[6] Ahmad Jaradat, Hajdar Mziu, and Jamaludin Ibrahim, "Disaster Preparedness in Universities," *International Journal of Computer Trends and Technology* 19, no. 1 (2015).

killed thirty-two students and faculty members showed a number of preparedness and response areas where the school was lacking.[7] The response of the institution to this highly publicized incident was scrutinized by various media outlets as legal proceedings lasted years.[8] Virginia Tech, a leading IHE in a number of fields, is still remembered for this tragedy and is used as an example of lessons learned, as gaps and publicized findings pointed out their planning and response failures.[9] Though any number of campuses could have had similar findings after a crisis such as this, many of the identified lessons learned from Virginia Tech have never been addressed at other institutions and can still be found regularly in any IHE after action report. One example is the University of Iowa: After recent campus shootings, the university conducted an internal audit and found its preparedness procedures lacking, despite all of the published lessons learned.[10] Inadequate crisis communication was one audit finding, a key issue that emerged from Virginia Tech years earlier. The University of Iowa did not "learn" from other university incidents, or even its own—a 1991 shooting on the Iowa campus that left six dead.[11]

Campus shootings are not isolated incidents, and an active shooter is not the only threat for which IHEs have to be prepared. Though these huge-hitting, catastrophic headlines lead the news, campuses have day-to-day incidents that can severely impact business and cause economic challenges. FEMA's *Building a Disaster-Resistant University* guide conveys that over the past decade, man-made and natural disasters have been increasing at a disturbing frequency for IHEs, at times causing death and injury and

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7 "Virginia Tech, We Remember," Virginia Tech, accessed July 10, 2017, http://weremember.vt.edu/content/weremember_vt_edu/en/index.html.

8 Ian Urbina, "Virginia Tech Criticized for Actions in Shooting," *New York Times*, August 30, 2007, https://www.nytimes.com/2007/08/30/us/30school.html.

9 Virginia Tech Review Panel, "Mass Shootings at Virginia Tech: Report of the Review Panel" (report, Virginia Tech, 2007); Gordon K. Davis, "Connecting the Dots: Lessons from the Virginia Tech Shootings," *Change* 40, no. 1 (February 2008): 8–15; Urbina, "Virginia Tech Criticized."

10 Elianna Novitch, "Audit Reveals Discrepancies in UI Emergency Preparedness," *Daily Iowan*, March 9, 2018, http://daily-iowan.com/2018/03/09/audit-reveals-discrepancies-in-ui-emergency-preparedness/.

11 Mike Klien, "Nov. 1, 1991: The Day a University Shooting Rampage Shocked Iowa," *Des Moines Register*, November 1, 2016, https://www.desmoinesregister.com/story/news/2016/10/28/nov-1-1991-day-university-shooting-rampage-shocked-iowa/92053548/.

always imposing economic challenges on academic institutions as they recover.[12] Instances such as campus closures after Hurricane Katrina, universities affected by tornados demolishing towns, and water main breaks causing flooding and business interruption are a few examples of incidents that can highly impact—and have highly impacted—IHEs.[13]

Despite the continued guidance from federal agencies and the frequency of incidents in the IHE community with publicly shared lessons learned, many studies show that IHEs are not prepared to respond to man-made and natural disasters.[14] David Farris and Robert McCreight, two homeland security professionals who studied the professionalism of emergency management in IHEs, found that emergency planning for campuses lacks continuity, and confusion exists throughout the institutions about how emergency programs are organized and maintained.[15] Numerous surveys conducted at colleges and universities in regards to emergency management support Farris's and McCreight's conclusion. In a number of studies between 2008 and 2016, there were common trends discovered in the analysis:

- lack of resources to support emergency management programs, including emergency management staffing, mutual aid agreements, and budget dollars;
- incomplete plans for emergency management assessment, response, and recovery (e.g., emergency operation plans, adequate hazard and vulnerability analysis, continuity planning); and

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12 FEMA, *Building a Disaster-Resistant University*, iii.

13 Mary C. Comerio, "The Economic Benefits of a Disaster Resistant University: Earthquake Loss Estimation for UC Berkeley" (working paper, Institute of Urban and Regional Development, 2000), http://escholarship.org/uc/item/78g7j8jq; Lars Anderson, "SI Vault: Terror, Tragedy and Hope in Tuscaloosa," *Sports Illustrated*, April 24, 2015, https://www.si.com/college-football/2015/04/24/si-vault-tuscaloosa-tornado-alabama-crimson-tide-athletes; "Timeline of the 1997 Flood," University of North Dakota Chester Fritz Library, accessed January 6, 2018, https://library.und.edu/digital/flood-calls/timeline.php.

14 FEMA, *Building a Disaster-Resistant University*; U.S. Department of Education, *Action Guide*; FEMA, "Ready Campus"; Jaradat, Mziu, and Ibrahim, "Disaster Preparedness in Universities," 1–4.

15 David Farris and Robert McCreight, "The Professionalization of Emergency Management in Institutions of Higher Education," *Journal of Homeland Security and Emergency Management* 11, no. 1 (January 2014): 86, https://doi.org/10.1515/jhsem-2013-0074.

- absence of engagement from all levels within the institution, most notably in upper management.[16]

An additional challenge is that, overall, the average budget trend of IHEs is declining, which means there is less funding for emergency management activities. Figure 1, from the Center on Budget and Policy Priorities, shows an average decrease in state funding for IHEs.[17] Although in recent years funds appear to move upward, state funding remains well below pre-recession levels. This is important because IHEs tend to have increasing annual costs as new technology requires up-to-date equipment, buildings, and research space, which comes with prevention costs (e.g., cybersecurity) to combat continually emerging threats.

[16] National Center for Campus Public Safety, "National Higher Education Emergency Management Program Needs Assessment" (report, National Center for Campus Public Safety, 2016), ii–viii, http://www.nccpsafety.org/news/articles/national-higher-education-emergency-management-needs-assessment; Campus Safety & Security Project, "Results of the National Campus Safety and Security Project Survey" (report, Campus Safety & Security Project, 2007), 29–33, https://theoxfordconclave.org/wp-content/uploads/2017/09/CSSPSurveyResults.pdf; Dennis K. Sullivan, "2011 Higher Education Emergency Management Survey," *Journal of Chemical Health and Safety* 19, no. 4 (July 2012): 36–43, https://doi.org/10.1016/j.jchas.2011.10.001; Margolis Healy Solutions for Safe Campuses, *Margolis Healy Campus Safety Survey* (Burlington, VT: Margolis Healy Solutions for Safe Campuses, 2015), http://www.margolishealy.com/files/resources/2015MargolisHealy_CampusSafetySurvey_1.pdf.

[17] Michael Mitchell, Michael Leachman, and Kathleen Materson, "A Lost Decade in Higher Education Funding," Center on Budget and Policy Priorities, August 23, 2017, www.cbpp.org/research/state-budget-and-tax/a-lost-decade-in-higher-education-funding.

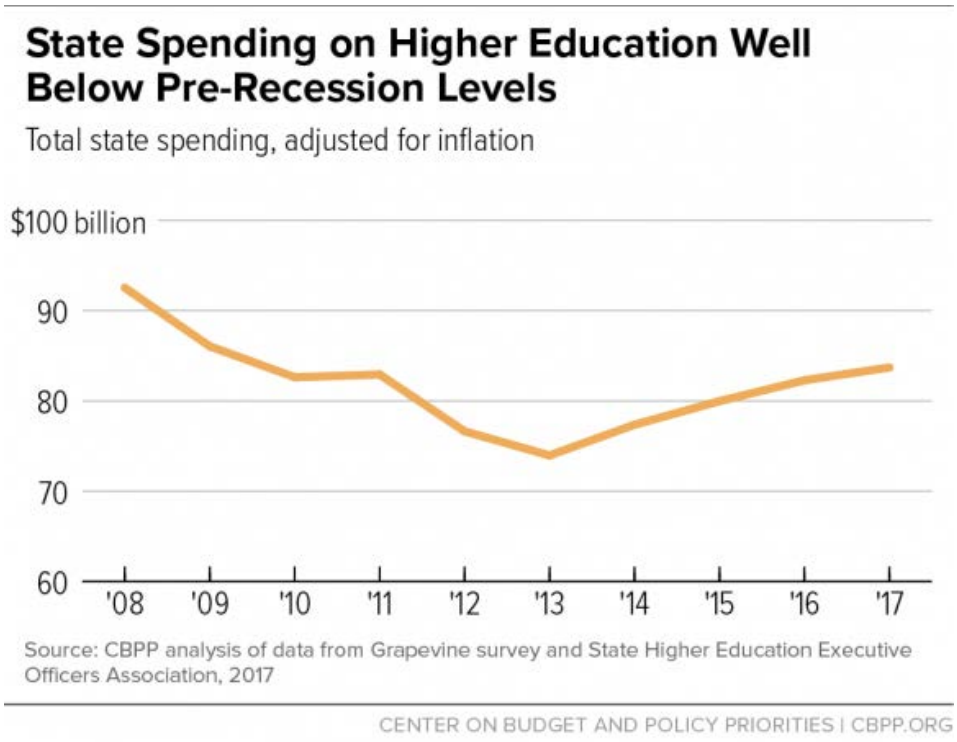

Figure 1. Average Decrease in State Spending on Higher Education[18]

These issues are not new to the higher education community, nor have they been solved by the smorgasbord of federal guidance documents. Understanding of emergency management in IHEs, roles of emergency management staff at institutions, measurements of effectiveness, and progressive solutions still evade most campus practitioners. Despite the numerous studies that have been completed, higher education still spins its wheels. To begin to move toward a resilient and prepared system, it is important to make change; even if that change fails, it is progress in the right direction. Not all policy changes will work, and not all can be implemented at once due to cost, personnel, or other wicked problems. However, it is important to identify higher education leaders who are working toward a solution.

With the findings from recent after action reports and from its own disasters in the past few years, one state is making changes with its postsecondary institutions by

[18] Source: Mitchell, Leachman, and Materson.

leveraging its network of campuses as a consortium with a shared mission.[19] The University of Oregon is leading the charge with the intent to make campuses in the state safer and more resilient. Through building a networked system of IHEs and maximizing resources with a shared services model, Oregon is looking to build sustainable and resilient academic facilities across the state.

B. RESEARCH QUESTIONS

There are a number of questions that could be garnered from the problem space. Why do these repetitive issues continue? Why do we lack the motivation to improve these issues? How do these programs define success or resiliency? This research focuses strictly on outlining the recurring challenges and analyzes Oregon's proposed plan to see if this model could address unresolved gaps. Two main questions arose based on this exploratory research:

- What are the overarching recurring issues in higher education emergency management programs?
- How does the Oregon Campus Resilience Consortium model address recurring higher education emergency management issues?

C. LITERATURE REVIEW

This literature review examines past studies and assessments of emergency management programs within the IHE community and how program effectiveness is commonly measured for any jurisdiction type. A comparison of studies and assessments over time reveals that similar concerns within the academic communities are identified year after year. Existing work tends to focus on three areas—planning, engagement, and resources—as either a way to measure programmatic success, or as an identification of areas that need further development. The following sections explore how emergency management programs are typically measured, showing that the common use of checklists

[19] University of Oregon, "Oregon Campus Resilience Consortium" (draft concept paper, University of Oregon, 2017,) https://safety.uoregon.edu/sites/safety1.uoregon.edu/files/oregon_crc_conceptpaper_042517_draft.pdf.

or frameworks has not led to massive improvements, and conducts a deeper dive into the categories of planning, engagement, and resources.

1. Frameworks and Measurements

"If you can't measure it, you can't manage it" is a saying attributed to Peter Drucker, an Austrian-born American management consultant, author, and educator.[20] In order to achieve what you have set out to do, you must have a way to show progress. If not, how can you know that you have reached your goal? Amy Donahue and Philip Joyce describe emergency management as a complex system and conclude their research with one difficult but important question: "Is it feasible to measure the performance of emergency management activities?"[21] According to Drucker, it is a necessity. However, no one knows how to precisely measure emergency management; there is no model or proven methodology.

Though there are many accepted frameworks for the planning process in any jurisdiction—some even provide checklist-type documents in an attempt to show metrics—they do not include in-depth guidance for how to evaluate effectiveness of the planning efforts. The frameworks do not offer any assessment measures to determine whether or not the IHE, or any jurisdiction using the documents, is actually prepared. Daniel Henstra, as one example, provides a framework for what he identified as "elements" that, if in place, offer best practices for program evaluation, performance, and measurement for local emergency management programs.[22] The author's view of what should be included in an effective emergency management program limits this type of framework. Henstra provides a checklist of low-, medium-, and high-quality "program elements" that he argues are necessary for an effective emergency management program. These elements are separated

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[20] Matthew Cornell, "If You Can't Measure It, You Can't Manage It.— Peter Drucker?," *Matthew Cornell* (blog), July 30, 2007, http://www.matthewcornell.org/blog/2007/7/30/whats-your-feed-reading-speed.html#1.

[21] Amy K. Donahue and Philip G. Joyce, "A Framework for Analyzing Emergency Management with an Application to Federal Budgeting," *Public Administration Review* 61, no. 6 (2001): 738, https://doi.org/10.2307/3110007.

[22] Daniel Henstra, "Evaluating Local Government Emergency Management Programs: What Framework Should Public Managers Adopt?," *Public Administration Review* 70, no. 2 (2010): 236–46, https://doi.org/10.1111/j.1540-6210.2010.02130.x.

into preparedness, mitigation, response, and recovery and include items such as personnel (i.e., dedicated emergency managers), plans (e.g., response, mitigation, and special needs plans), and mutual aid.[23] Each element is scored on its completion and assessment of quality. For example, an emergency management committee with senior officials is higher quality than one with lower officials, according to Henstra. Having these elements in place is a good checklist for an emergency management program, but the list is not fully comprehensive; it is based on the assessor's definition of high, medium, and low quality, and it is not effective for all jurisdictional levels of emergency management programs (e.g., from state to county to city emergency management programs). Additionally, having these items in place does not ensure preparedness.

Completed plans sit at the top of Henstra's framework, as well as many other proposed checklists and frameworks, as a measurement tool for effective programs. Similarly, in the campus setting, past studies also note that plan completion is a key measurement tool in IHE emergency management program effectiveness. Plans are oftentimes said to be the most critical element of an emergency management program in any jurisdiction and can include response, continuity, and recovery plans. However, measuring completion of a plan and equating the measurement to preparedness may not be enough.

2. Planning

Though some would consider emergency management, specifically in higher education, an emerging field, a number of notable studies on campus crises have been conducted. Each study and assessment focused initially on an emergency plan for the institution—after all, FEMA and researchers assert that planning is the most important step in any crisis response. FEMA articulates planning as a critical tool for any organization to mitigate the risk during the initial response, and as a foundational element to response.[24]

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[23] Henstra, 242.

[24] FEMA, *FEMA Incident Management and Support Keystone* (Washington, DC: Department of Homeland Security, 2011), https://www.fema.gov/media-library/assets/documents/26688; John C. Cavanaugh, "Effectively Managing Major Disasters," *The Psychologist-Manager Journal* 9, no. 1 (2006): 5, http://dx.doi.org/10.1207/s15503461tpmj0901_2.

Eugene Zdziarski and J. Michael Rollo describe it as the "single most important crisis management tool a campus can have."[25] A number of frameworks also list "planning" as a key measurement or element needed for an effective program, but a deeper dive into past studies and assessments demonstrates that completed plans do not equate to prepared institutions.

Zdziarski's 2001 study of student affairs administrators concluded that well-prepared IHEs create and maintain written crisis management plans, develop contingency plans to address unique issues presented by different types of crises, and address the pre-crisis, crisis, and post-crisis phases in their planning.[26] The majority of the institutions he surveyed perceived themselves as prepared and had plans to back up their perceptions, with approximately 88 percent of the surveyed group having some kind of written plan.[27] Linda Catullo, who built on Zdziarski's study with published documents after 9/11, did not find significant changes within the student affairs administrators despite the vast changes in crisis response management, such as the adoption of the National Incident Management System (NIMS).[28] Her study showed a slight increase, with 94 percent of institutions having a written plan. The same year that Catullo published her study, the National Association of College and University Business Officers (NACUBO) conducted an all-hazards survey of emergency management professionals, with 342 IHEs responding out of 2,203 surveyed.[29] Similar to the findings of Catullo and Zdziarski, this assessment determined that a high number (85 percent) of campuses had what they considered an all-hazards emergency preparedness plan.

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[25] Eugene L. Zdziarski and J. Michael Rollo, "Developing a Crisis Management Plan," in *Campus Crisis Management: A Comprehensive Guide to Planning, Prevention, Response, and Recovery*, 1st edition (San Francisco: Jossey-Bass, 2007), 74.

[26] Eugene L. Zdziarski, "Institutional Preparedness to Respond to Campus Crises as Perceived by Student Affairs Administrators in Selected NASPA Institutions" (PhD diss., Texas A&M University, 2001), 109.

[27] Zdziarski, 103.

[28] Linda A. Catullo, "Post-September 11, 2001 through Pre-Virginia Tech Massacre, April 16, 2007: The Status of Crisis Management Preparedness as Perceived by University Student Affairs Administrators in Selected NASPA Member Institutions" (PhD diss., Florida Atlantic University, 2008), 61–76.

[29] Campus Safety & Security Project, "Results of Project Survey," 9.

If having a plan of some sort were enough to ensure preparedness, these numbers would be outstanding, and measurements of program effectiveness based on plans would be easily quantifiable. However, as studies continued, the checkmark of having a plan was not enough. Mary Lott researched perceived preparedness at five universities within a consortium of Washington, DC, institutions in 2012.[30] She assessed perceived preparedness of all campus community members including administrators, staff, students and faculty, whereas past researchers focused on one portion, such as student affairs. Lott discovered most administrators and crisis management team members believed their organization was prepared; however, faculty, students, and staff did not share this perception, communicating that they were not familiar with crisis policy or their role in response. If respondents, both those who perceived preparedness and those who did not, happened to know about the plans, they did not know how often the plans were updated and were unsure how often the crisis management team met, suggesting an awareness gap.

An assessment three years later by Margolis Healy for a variety of campus community members resulted in 513 respondents who agreed upon the criticality of emergency management programs on campuses.[31] In alignment with past research and assessments, those surveyed had a high rate of developed emergency operations plans (EOPs), with roughly 86 percent stating their institution had a developed EOP. But when asked about comprehensive hazard and vulnerability assessments, only 54.7 percent stated they had conducted one. Not completing a hazard and vulnerability assessment could mean that EOPs were incomplete and not based on hazards specific to the campus. This key finding was not isolated; a 2016 National Center for Campus Public Safety (NCCPS) survey observed comparable results.[32] Approximately 611 IHEs responded, with either full or partial responses finding that EOP numbers were high while risk assessment (or hazard and vulnerability assessment) numbers were relatively low. The data detailed in Table 1 outline responses in terms of plan completion throughout the surveyed IHEs. The

[30] Mary Keane Lott, "Crisis Management Plans in Higher Education: Commonalities, Attributes, and Perceived Effectiveness" (PhD diss., Gallaudet University, 2012).

[31] Margolis Healy, *Campus Safety Survey*, 1–4.

[32] National Center for Campus Public Safety, "Program Needs Assessment," 2, 22–25.

gap between EOPs being complete and risk assessments conducted spans close to 20 percent, which could mean that some EOPs are not complete. These discoveries raise additional questions about what key pieces must be in a plan to make it complete, though many guidance documents, studies, and assessments note that knowing what risks your institution faces is a key piece of plan development.

Table 1. NCCPS Survey Planning Results[33]

Type of Plan	Yes	No	In progress	Don't know	n
Emergency Operations/Response Plan (EOP)	83%	1%	14%	1%	427
Hazard Identification and Risk Assessment	65%	11%	21%	3%	421
Crisis Communication Plan	64%	12%	20%	4%	428
Strategic Plan	53%	23%	21%	3%	410
Natural Hazard Mitigation Plan	50%	27%	16%	7%	425
Training and Exercising Plan	45%	26%	25%	3%	426
Business Continuity Plan	36%	24%	33%	7%	427
Continuity of Operations Plan	35%	26%	34%	5%	423
Recovery Plan	31%	32%	30%	6%	425

Source: National Higher Education Emergency Management Program Survey, University of Oregon, 2016 Note: n = number of respondents

Maureen Connolly proclaims that even if plans are *technically* done and a crisis team is *theoretically* in place, it does not necessarily mean that a campus is prepared.[34] Connolly posits that every administrator, staff member, and faculty member needs to understand his or her role in a crisis event for true preparedness, though it extends beyond that to students as well. Paradoxically, Megumi Kano et al. showed that 74 percent of staff and students did not know what was expected of them during a crisis response.[35] Though studies show that the campus community assumes it is prepared, when asked what to

[33] Source: National Center for Campus Public Safety, 22.

[34] Maureen Connolly, *Campus Emergency Preparedness: Meeting ICS and NIMS Compliance*, 1st edition (Boca Raton, FL: CRC Press, 2015), 3–4, https://www.taylorfrancis.com/books/9781466587618.

[35] Megumi Kano et al., "Are Schools Prepared for Emergencies? A Baseline Assessment of Emergency Preparedness at School Sites in Three Los Angeles County School Districts," *Education and Urban Society* 39, no. 3 (May 2007): 399–422, https://doi.org/10.1177/0013124506298130.

actually do in an emergency event or where to find the campus's plan, campus personnel (e.g., staff, faculty, administrators) are unable to answer those questions.

Despite the high number of IHEs with claims of completed plans, research shows a lack of complete planning—and planning understanding—at the institutional level.[36] The Margolis Healy study, which showed a high, 86-percent rate of plans developed from those surveyed, noted that institutions lacked a comprehensive hazard and vulnerability assessment, which is critical to drafting an effective plan.[37] When researchers went one step further and analyzed critical parts of the plans, they proved that IHEs may be publishing an EOP, but an incomplete one. Even when crisis response team members are sure their institution is prepared, other campus community members, such as students or faculty, cannot answer key preparedness questions.[38] In relation to incomplete plans, Ian Mitroff, Michael Diamond, and Murat Alpaslan found that when IHEs have a written and published crisis plan, it rarely addresses situations uncommon to the university or college, only addressing "traditional" scenarios such as, fires, lawsuits, and crimes, according to a group of provost respondents.[39] These scenarios (fires, lawsuits, and crimes) are quite different than what other groups would itemize; for example, emergency managers would not claim that lawsuits and crimes are traditional scenarios they prepare for or respond to. This raises two issues, one being inconsistencies in what constitutes a crisis within a university or college, and the second being the limited scenarios IHEs plan for and their tendency to focus their efforts on the most frequent occurrences. IHE leaders who have undergone disasters recommend to plan for events *worse* than imagined scenarios, which is uncommon for institutions to do.[40]

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[36] Jia Wang and Holly M. Hutchins, "Crisis Management in Higher Education: What Have We Learned from Virginia Tech?," *Advances in Developing Human Resources* 12, no. 5 (October 2010): 553, https://doi.org/10.1177/1523422310394433.

[37] Margolis Healy, *Campus Safety Survey*, 1.

[38] Lott, "Crisis Management Plans," iv.

[39] Ian I. Mitroff, Michael A. Diamond, and C. Murat Alpaslan, "How Prepared Are America's Colleges and Universities for Major Crises? Assessing the State of Crisis Management," *Change: The Magazine of Higher Learning* 38, no. 1 (2006): 60–67, https://doi.org/10.3200/CHNG.38.1.61-67.

[40] Cavanaugh, "Effectively Managing Major Disasters," 2.

The type of academic institution also makes a difference in planning. In Dong-chul Seo et al.'s study of IHE disaster response, which included eighty-eight private and seventy-three public IHEs of diverse locations, sizes, and ethnic backgrounds, small schools (those with fewer than 3,000 students) were less likely to have suitable plans to respond to crisis situations, provide training to employees, and have students who understand emergency procedures.[41] Large institutions also had program challenges; of the 161 IHEs studied, 19 percent openly admitted to having no plans to drill campus-wide emergencies, with 29 percent of those being large campuses with more than 10,000 students.[42] On the contrary, Covington claims that small IHEs are generally prepared for crisis situations, evidenced by written response plans, contingency plans, and involvement of necessary internal and external stakeholders.[43] These differences point to the limitations of surveyed research and assessments. Some issues with surveyed findings include small sample sizes of survey takers, different questions across the surveys (which gives varying findings), and survey respondents' biases as to how their respective IHE prepares or does not prepare for a crisis. Synthesis of this survey data can still be useful, but does not show how to measure or conclude that emergency management programs are effective.

The literature described in this section tends to stress a "written plan," yet it is difficult to assess if the written plan is actually complete, effectively disseminated, and well-understood throughout the campus, or if it is something that has been sitting on the shelf for five years.[44] As Brian Jackson powerfully asks in his research, "How certain should we as a nation be that the systems we have put in place to respond to damaging events will be able to deliver when called upon?"[45] Undoubtedly, a plan is an important

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41 Dong-chul Seo et al., "Campus Violence Preparedness of U.S. College Campuses," *Security Journal* 25, no. 3 (July 2012): 202–208, http://dx.doi.org.libproxy.nps.edu/10.1057/sj.2011.18.

42 Dong-chul et al., 208.

43 Philip D. Covington, "Institutional Crisis Readiness as Perceived by Small College and University Senior Student Affairs Officers at NASPA Member Institutions" (PhD diss., The University of Nebraska-Lincoln, 2013), 135.

44 Brian A. Jackson, *The Problem of Measuring Emergency Preparedness: The Need for Assessing "Response Reliability" as Part of Homeland Security Planning* (Santa Monica, CA: RAND, 2008), https://www.rand.org/pubs/occasional_papers/OP234.html.

45 Jackson, vii.

initial step, but it is just one cog in the machine. Mitroff, Diamond, and Alpaslan noted that IHEs only prepare for the crises they have already experienced, suggesting a very reactive approach, and postulated that campuses lack the broad-based programs needed for effective response.[46] Planning for a single or isolated event instead of the interactions that occur when disaster does strike could leave institutions unprepared; for example, the Penn State sexual abuse scandal was not a single Clery finding, but a series of interrelated political, leadership, and abuse crises concluding in a string of firings and resignations, and millions of dollars in fines.[47] Mitroff, Diamond, and Alpaslan believe that planning for a broader range of crisis types and ensuring that the crisis management team is well trained and includes a number of internal and external stakeholders in the planning process would leave IHEs more prepared, as crises are just systems of other crises.[48] If it is not the plan that entirely makes the difference but rather the team and its training, examining engagement in planning would be beneficial. John Cavanaugh states that success is unlikely to be met through use of a disaster plan, claiming the most important element in disaster response is engaged leaders.[49] Cavanaugh argues that leaders will just assume that someone within the organization will handle the crisis and that they—the leaders—do not need to deal with the planning or the response.

3. Engagement

Mutual aid and involvement of both internal and external stakeholders are often defined as key elements of planning within higher education. Zdziarski notes that appropriate internal and external stakeholders need to be a part of an established and well-trained crisis management team for effective response.[50] But, again, a number of studies and assessments concluded that although IHEs identify stakeholders, stakeholders remain

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[46] Mitroff, Diamond, and Alpaslan, "How Prepared," 62–66.

[47] Mitroff, Diamond, and Alpaslan, 62; "Penn State Scandal Fast Facts," CNN, March 28, 2018, https://www.cnn.com/2013/10/28/us/penn-state-scandal-fast-facts/index.html; "Clery" is shorthand for the Jeanne Disclosure of Campus Security Policy and Campus Crime Statics Act, which is discussed further in Chapter II.

[48] Mitroff, Diamond, and Alpaslan, "How Prepared," 62.

[49] Cavanaugh, "Effectively Managing Major Disasters," 4–5.

[50] Zdziarski, "Institutional Preparedness," 34–39.

inconsistent from institution to institution. This inconsistency is expected, as different types of IHEs may need different stakeholders; however, studies show that stakeholders are not always included in the training and planning, which leads to ineffective programs.[51]

The NACUBO survey identified that preparedness is a priority for the surveyed IHEs, but also noted that respondents claimed leadership was disengaged.[52] It is challenging to assert that preparedness is a priority if leadership is disinterested. As Cavanaugh notes, if leaders believe that someone else within the organization will handle the crisis for them, then how can a college or university believe it is prepared?[53] Over half of the IHEs in the NCCPS survey agreed they had committed leadership at their institution, and that in the past five years the level of emergency management at their IHE had increased.[54] What "increased" means was not documented or measured. However, poor institutional engagement, specifically at the leadership level, was also a top finding in the NCCPS survey; 40 percent believed the institution did not have appropriate "buy-in." This question only asked about leadership, leaving out important thoughts about engagement levels from the remainder of campus. As Lott discussed, a number of staff and students believed they were prepared, but when asked probing questions about how they would respond or where to find the plan, they were not able to answer.[55] This could mean that the campus communities and internal stakeholders are not engaged enough to seek out those answers or that emergency management planners have not effectively engaged them.

The NACUBO survey additionally noted differences between larger and smaller institutions, finding that smaller institutions (which they define as institutions with fewer

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[51] Covington, "Institutional Crisis Readiness," 134; Covington concluded that more internal than external stakeholders were involved, with the greatest external stakeholders being fire, police, local emergency management, and local hospitals.

Catullo, "Status of Crisis Management Preparedness," 82; a large number of external stakeholders unfamiliar with campus emergency procedures.

Zdziarski, "Institutional Preparedness," 107.

[52] Campus Safety & Security Project, "Results of Survey," 30.

[53] Cavanaugh, "Effectively Managing Major Disasters," 4.

[54] National Center for Campus Public Safety, Program Needs Assessment, 15–17.

[55] Lott, "Crisis Management Plans in Higher Education," 102.

than 4,000 students) lack presidential participation and dedicated emergency managers.[56] Lack of mutual aid agreements was also demonstrated, which could be considered as lack of external stakeholder involvement and engagement.[57] However, a number of other studies show that small institutions actually have more external stakeholder engagement through mutually beneficial relationships between the community and the campus.[58] In times of crisis, the college or university relies on the city or county in the same way that the external community relies on the college or university for help in disaster response. Despite this external stakeholder engagement, Christopher Akers found smaller institutions to be less prepared due to complacency issues and lack of resources.[59] Conversely, Zdziarski noted that large institutions, those with enrollment of 30,000 or more, actually appeared to be less prepared to respond to campus crisis even though their perception of response preparation was much higher.[60] Neither Akers nor Zdziarski connected response effectiveness to stakeholder involvement. Catullo found no increase in the amount of involvement that external stakeholders played, though it should be noted that her survey mimicked Zdziarski's study, conducted six years later following 9/11—an event that transformed emergency preparedness policy.[61]

Engaging the internal campus community in emergency management planning is difficult with the complex IHE landscape. Rollo and Zdziarski claim that one of the most difficult aspects is the constant turnover of team personnel, which inhibits effective planning and training.[62] Campus personnel (people) are the number one resource; as a practitioner, you need to be able to access that resource. The plan's list of appropriate people is the key resource for use during crisis response. If these individuals cannot be contacted, then the response will be hampered. Campus stakeholders must know who can

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[56] Campus Safety & Security Project, "Results of Survey," 30.

[57] Campus Safety & Security Project, 32.

[58] Christopher Ryan Akers, "Evolution of Emergency Operations Strategies: Structure and Process of Crisis Response in College Student Affairs" (PhD diss., University of Georgia, 2007), 160.

[59] Akers, 160.

[60] Zdziarski, "Institutional Preparedness," 112.

[61] Catullo, "Status of Crisis Management Preparedness," 81.

[62] Zdziarski and Rollo, "Developing a Crisis Management Plan," 76.

be counted on, who is adequately trained, where they can be contacted, who the key decision makers are, and which additional internal stakeholders must be given updates or final reports. NACUBO concluded that universities and colleges have strained resources and budgets, and if internal personnel are not available, networking with local agencies through mutual aid agreements could help alleviate this challenge.[63]

4. Resources

Resources potentially include a number of items, but the most commonly cited in the literature as a necessity for higher education emergency preparedness are staffing and funding.[64] Figure 2 shows the issues respondents identified as "critical needs" in the NCCPS survey. The NCCPS survey respondents noted budget as their top need, though not as their only vulnerability.[65] Staffing levels and planning efforts that focus more on continuity and recovery than response were also considered necessary.

[63] Campus Safety & Security Project, "Results of Survey," 32.

[64] National Center for Campus Public Safety, "Program Needs Assessment," 19; Campus Safety & Security Project, "Results of Survey," 32.

[65] National Center for Campus Public Safety, "Program Needs Assessment," 31–33.

Figure 2. Critical Needs Assessment Survey Findings[66]

It could be argued that budget is the reason for lack of staffing in emergency management. As noted previously, a number of smaller institutions do not have dedicated emergency managers; but even with full-time staff, emergency managers are often required to do a number of other things.[67] The Margolis Healy survey noted that institutions lack emergency management professionals and that additional duties are often added to the workload of those also managing that program.[68] Additionally, NACUBO offered recommendations for improvement, such as restricting the scope of dedicated emergency

[66] Source: National Center for Campus Public Safety, 19.

[67] Farris and McCreight, "Professionalization of Emergency Management," 61.

[68] Margolis Healy, *Campus Safety Survey*, 2.

managers by not adding additional duties to their workload and ensuring the president is actively involved in policy group planning, addressing both the staffing and engagement issue.[69]

Looking again at IHE types, the literature points out differences. Akers found that urban institutions have more resources and external partnerships, yet in a crisis situation they must also expect immediate media engagement, which could hinder their response.[70] While rural IHEs actually have greater control and access of their campuses in times of crisis, despite fewer resources available, the community itself often depends on these campuses for help and resources. However, these arguments are already changing as media are ever-present at all IHE types through smartphones and social media. What the literature does not point out is definitive resource needs. As outlined in the beginning of this section, resources can encompass a large majority of personnel, equipment, and monetary elements within the emergency management program.

5. Summary

Despite the high numbers of IHEs with completed plans, ample research shows a lack of planning at the institutional level. Though many studies showed a high percentage of IHEs with developed plans, institutions lacked comprehensive hazard and vulnerability assessments and institutional understanding, which are critical to implementing effective plans. What these compounding studies and surveys indicate is that having a plan completed or not does not ensure the campus is prepared to respond. Just because a campus has a plan that outlines types of crises, phases in which they prepare, and stakeholders, it does not necessarily mean that the first responders of that university or college, which may include non-administrators, are prepared to respond.

Preparedness surveys on various institutional emergency management programs demonstrate that emergency management programs in higher education lack resources, planning, and engagement. Surveys are useful and offer consistent findings if conducted

[69] Campus Safety & Security Project, "Results of Survey," 32.

[70] Akers, "Evolution of Emergency Operations Strategies," 164–67.

year after year in the same manner on the same populations, but there are limitations to using surveys; for instance, they are specific to an individual community or jurisdiction, the questions from survey to survey differ greatly, and there are biases or perceptions germane to the people who respond to the survey. The surveys conducted averaged a response rate of approximately 10 percent of the total IHEs across the United States. If these surveys are representative of all IHEs, they demonstrate that resources, planning, and engagement at academic institutions are capability gaps that campus leadership should address. Closing these gaps would lead to progressive change in campus emergency management programs, which would further push IHEs toward more efficient response and greater resiliency.

While it is apparent that many surveys, assessments, and studies have looked at the preparedness of higher education, these studies were measured through checklist-type frameworks that equated elements like "completed plans" or "full-time personnel" to institutional preparedness. Amy Donahue and Robert Tuohy demonstrate that in incident after incident, no matter the jurisdiction, the same problems are uncovered in the crisis response after action reports.[71] Though this study focused on lessons learned in crisis management overall, the higher education trend follows suit: year after year, few changes are seen with planning, engagement, and resources. Measurements remain elusive, IHE emergency management programs and roles within those programs are ill-defined, and regardless of the national climate and policy guidance, there is little progressive change in the academic community regarding campus preparedness and resiliency.

Surveys are not enough. Checklists, guidance documents, and presidential directives have not been enough. Practiced action and proven programs must be evaluated to determine what truly works for campus resiliency. Evaluating a proposed model against recurring higher education emergency management issues could be a start.

[71] Amy Donahue and Robert Tuohy, "Lessons We Don't Learn: A Study of the Lessons of Disasters, Why We Repeat Them, and How We Can Learn Them," *Homeland Security Affairs Journal* 2, no. 4 (July 2006), https://www.hsaj.org/articles/167.

D. RESEARCH DESIGN

This research offers a single exploratory case study of the Oregon Campus Resilience Consortium. This study follows Robert Stakes's classification of an intrinsic study.[72] The research is focused on what this consortium is implementing to improve the emergency management programming and resiliency of academic institutions across the state. Over the upcoming years, the consortium's work should provide the opportunity to learn if actions taken by Oregon address the recurring IHE emergency management issues found throughout literature. Though Oregon did not set out to address these specific issues when designing the consortium, this type of case study is useful to gain understanding about the complex nature of emergency management in higher education and potential ways recurring gaps can be resolved.

The researcher chose to review the Oregon consortium as a proactive look into what the state is initiating. This exploratory study provides a baseline for potential gaps that Oregon's program may address. As the Oregon program is implemented, progress can be measured against this initial baseline research in future studies to accurately determine what is working and what is not and if the model has addressed any recurring issues. This will provide proven initiatives, if any, in the Oregon plan that other states can adopt.

This research is relevant and timely. With man-made and natural disasters on the rise, and FEMA's goal of a "secure and resilient nation," having resilient IHEs would strengthen communities.[73] Additionally, universities and colleges have to strategically look toward the future. With ever-changing technology, rising disaster frequency, and the possibility of continued budget cuts, academic institutions need to ensure preparedness goals are achieved *before* something happens. How will institutions ensure they can meet their goals in ten to twenty years if funding is not available? Are there resources that remain untapped? Exploring these solutions through a proposed model will benefit future research.

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[72] Robert E. Stake, *The Art of Case Study Research* (Thousand Oaks, CA: SAGE, 1995), 3.

[73] FEMA, *National Preparedness Goal*, second edition (Washington, DC: Department of Homeland Security, 2015), 1, https://www.fema.gov/media-library/assets/documents/25959; "A secure and resilient nation with the capabilities required across the whole community to prevent, protect against, mitigate, respond to, and recover from the threats and hazards that pose the greatest risk."

The case study includes a section for each category—planning, engagement, and resources—and analyzes gaps with the Oregon Campus Resilience Consortium model to see how the proposed plan could provide solutions. The main body of work used for this case study is a report produced by a multidisciplinary team, titled "Campus Safety at Oregon Post-secondary Education Institutions: A Report from the Oregon Campus Safety Work Group."[74] The report outlines the proposals of the work group and how the recommendations will be implemented. Using one case study cannot validate or disprove the model, but it can provide a basis for future research, as this concept is still in its draft form and has not yet been implemented across Oregon. Additionally, because the model has not yet been implemented, limitations in the effectiveness, cost, and other analysis may be estimated or projected.

[74] University of Oregon Community Planning Workshop, "Campus Safety at Oregon Post-secondary Education Institutions: A Report from the Oregon Campus Safety Work Group" (report, University of Oregon, 2016), https://gis.uoregon.edu/campussafety/OCSWG_Full_Report_FNL_11-04-16.pdf.

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II. INSTITUTION OF HIGHER EDUCATION LANDSCAPE

IHEs are unique environments with distinct populations, which make them vulnerable to a variety of man-made and natural disasters. This chapter explores what makes academic institutions unique compared to other institutions in their jurisdiction. Challenges faced by campus emergency management practitioners and solutions to the issues identified in the literature review could be affected by the nuances that come with academia, such as the transient population, governance, or environment. The following sections provide an overview of the IHE landscape and potential planning challenges.

A. HIGHER EDUCATION TYPES AND STATISTICS

Higher education can refer to a university, college, postsecondary school, tertiary education institutions, or third-state or third-level education institution, though it is mostly thought of as simply "college." There are many types of alternative degrees, program areas, and certificates that one can pursue in higher education. This type of education can be sought through a variety of institutions, most being described as one of four types—private, public, two-year, or four-year institutions—though there are intricacies and outliers.[75] IHEs can be urban or rural, oftentimes spanning large geographical areas; many IHEs serve more than one city, state, or even county. The University of Kansas, for example, has a large public university in Lawrence, Kansas, a medical center contiguous with a private hospital in Kansas City, Kansas, and various other schools and programmatic work sites across the state.[76] Additionally, many IHEs have distance-learning programs, which serve students remotely but still depend on the campus infrastructure. Table 2, however, outlines the two broad, overarching IHE classifications: public and private. Some geographic and demographic traits apply to both private and public institutions and are not listed in the table; for instance, the IHEs described in Table 2 can be located in either rural or urban environments and can have either large or small populations.

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[75] "Types of Postsecondary Schools and Education," e Reference Desk, accessed January 25, 2018, http://www.ereferencedesk.com/education/types-of-schools/#Types of Postsecondary Schools.

[76] The University of Kansas, accessed January 26, 2018, https://ku.edu.

Table 2. Overview of IHE Types[77]

Institution Type	Breakdown	Characteristics
Private Institutions	**College or University for Profit:** Runs as a business.	Varied in academic emphasis, backgrounds, and character. For example, some may be religious and others secular. More costly than state institutions, even if similar.
	College or University Non-profit: Independent and not funded by state.	
	Junior College: Independent and privately funded.	Comparable to community colleges. More costly than state institutions, even if similar.
Public Institutions	**Community College (Junior College, Technical College):** Awards 2-year associate's degrees, certificates, or vocational degrees.	Less strenuous standards for admission. Usually cheaper than a 4-year college. Supported by state and local revenues. Majority serve nearby community members by offering technical courses and continuing education courses.
	College: Awards 2-year associate's degrees, bachelor's, and advanced degrees.	Colleges can offer a broad range of curriculum or specialized degrees. Usually smaller than a university, affording students more personal care from faculty.
	University: Awards 2-year degrees, bachelor's degrees, and master's degrees, including for specialized graduate programs (e.g., medical or law).	Larger than a college. Often has a large course range and plenty of resources. Depending on the university, class sizes are often larger, but vary based on the university size and course type.

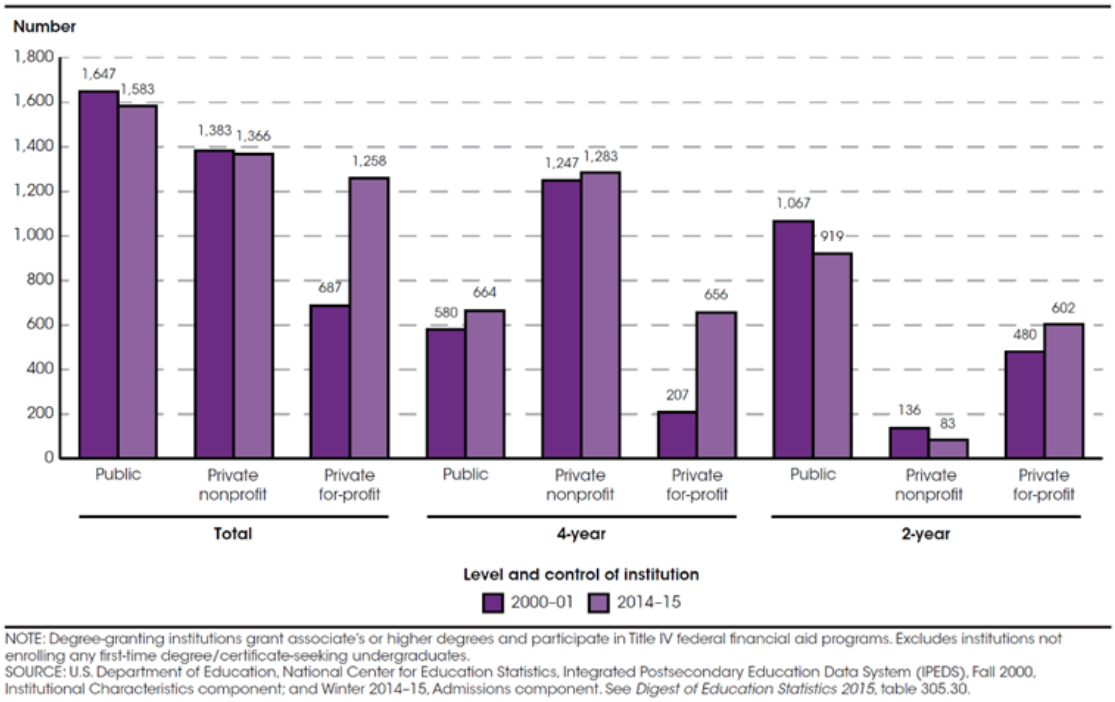
There are over 4,000 IHEs across the United States, as shown in Figure 3, which contains data gathered by the Department of Education.[78] These IHEs offer an associate's degree or higher and participate in federal financial aid programs.[79] Their communities are vast, employing approximately 3.9 million people and educating roughly 20.2 million

[77] Adapted from "Types of Schools," Federal Student Aid, May 16, 2017, https://studentaid.ed.gov/sa/prepare-for-college/choosing-schools/types; Laura Bridgestock, "Guide to Types of University in the US," Top Universities, February 17, 2015, https://www.topuniversities.com/student-info/choosing-university/guide-types-university-us; "Types of Postsecondary Schools and Education," e Reference Desk, accessed January 25, 2018, http://www.ereferencedesk.com/education/types-of-schools/#Types of Postsecondary Schools.

[78] "Digest of Education Statistics, 2015," National Center for Education Statistics, accessed June 5, 2017, https://nces.ed.gov/programs/digest/d15/ch_3.asp.

[79] "Characteristics of Degree-Granting Postsecondary Institutions," National Center for Education Statistics, last updated May 2017, https://nces.ed.gov/programs/coe/indicator_csa.asp.

students annually.[80] That equates to a community of 24 million people. This personnel number does not account for the various types of allied institutional resources that college and university campuses may have (e.g., agricultural or engineering centers, medical centers), which could all potentially be considered resources for emergency management planning and response, depending on the institution and emergency management program.



NOTE: Degree-granting institutions grant associate's or higher degrees and participate in Title IV federal financial aid programs. Excludes institutions not enrolling any first-time degree/certificate-seeking undergraduates.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), Fall 2000, Institutional Characteristics component; and Winter 2014–15, Admissions component. See *Digest of Education Statistics 2015*, table 305.30.

Figure 3. Degree-Granting Institutions[81]

Assessing and analyzing the needs of emergency management program requirements for higher education is challenging because of the various IHE types. Community colleges with a commuter population may have different emergency management needs than a large, rural university that houses 25,000 students. Institution size also affects individual IHE preparedness and response. Though there are no set standards on size, small institutions tend to have fewer than 5,000 students, medium

[80] National Center for Education Statistics, "Characteristics"; "Digest of Education Statistics, 2015."

[81] Source: National Center for Education Statistics, "Digest of Education Statistics, 2015."

intuitions have between 5,000 and 15,000, and large institutions have more than 15,000 students.[82] Different amenities accompany these varying sizes; smaller institutions may offer more personalized attention to students, or serve a very specified career track (e.g., medical centers), whereas large institutions could have more resources, including resources for disaster response. Size of the institution is not the only factor when reviewing amenities; the jurisdiction (county, city, or town) in which the IHE resides is another key consideration. A small college in an urban city could have more response resources than a large college in a rural area, assuming the campus relies on the county for disaster assistance. A program that leverages the strengths and weaknesses of each individual institution could strengthen the resiliency of a region. Understanding the higher education environment is an important component to planning because academic communities may offer distinct resources, based on IHE type, to the jurisdictions in which they reside.

B. ENVIRONMENT AND DEMOGRAPHICS

The campus setting, transient population, geographic structure, and cultural variances are just some of the distinctions that make IHE emergency management planning challenging. University and college campuses are built to be open and welcoming; they invite students, staff, and visitors to come and go at ease. The educational environment is one of research and learning, often having buildings accessible at all hours for students to study. Depending on the type of IHE, this could mean accessibility at all hours in heavily urbanized or rural communities, bringing varying security concerns to the institutions.

Colleges and universities tend to house concentrated populations often comprising young high school graduates who are leaving home for the first time and are not used to being self-sufficient; this leaves them ill-prepared for emergencies.[83] And older students who do not fit this typical student model may hold a myriad of responsibilities outside of school. As numbers of both younger and older students continue to rise, it will be challenging to plan emergency management capabilities to accommodate the diversity of

[82] "College Size: Small, Medium or Large?," COLLEGEdata, accessed January 26, 2018, https://www.collegedata.com/cs/content/content_choosearticle_tmpl.jhtml?articleId=10006.

[83] Frances L. Edwards and Daniel C. Goodrich, "The Role of Transportation in Campus Emergency Planning" (report, Mineta Transportation Institute, 2009), 1.

the student body.[84] Additionally, the population changes from day to day and year to year.[85] Campus populations are diverse and transient: students graduate and populations change from semester to semester, depending on the program. Academic institutions also see a growing international population, bringing students who may be unfamiliar with U.S. culture, the English language, and hazards of the area.[86] If emergency management programs do not encompass institutional demographics, much of the campus may lack knowledge of emergency management plans and procedures. An IHE's geography causes additional challenges for emergency management practitioners, as IHEs can span multiple cities, states, and countries. Emergency management leaders may be expected to provide continuity and preparedness planning for their virtual student bodies, too.

C. VULNERABILITIES

College and university campuses face the same natural and man-made disasters as their jurisdictional counterparts. Natural disasters are on the rise in the United States, and terrorist threats to educational institutions are increasing worldwide.[87] FEMA's *Building a Disaster Resistant University* guide conveys that over the past decade disasters have been occurring at a disturbingly increasing frequency at U.S. IHEs, at times causing death and injury and always imposing economic challenges for the institutions as they recover.[88] In 2003, then-Federal Bureau of Investigation (FBI) Director Robert S. Mueller stated that IHEs, as soft targets, could see increasing terrorist attacks, as their accessibility makes them

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84 "Table 303.40. Total Fall Enrollment in Degree-Granting Postsecondary Institutions, by Attendance Status, Sex, and Age: Selected Years, 1970 through 2026," National Center for Education Statistics, accessed July 14, 2018, https://nces.ed.gov/programs/digest/d16/tables/dt16_303.40.asp?current=yes.

85 U.S. Department of Education, *Action Guide*, 1.

86 "Enrollment Trends: Previous Years," Institute of International Education, accessed July 24, 2018, https://www.iie.org/Research-and-Insights/Open-Doors/Data/International-Students/Enrollment/Enrollment-Trends.

87 "Overview of Natural Catastrophe Figures for 2016," Munich RE, March 27, 2017, https://www.munichre.com/topics-online/en/2017/topics-geo/overview-natural-catastrophe-2016; Gillian Chan, "HigherEd," *Is Your University Prepared for Threat and Evacuation?* (blog), June 2, 2017, http://highered.easyuni.com/2017/06/is-your-university-prepared-for-threat-and-evacuation/.

88 FEMA, *Building a Disaster-Resistant University*, iii; DRU gives numerous examples throughout the guide of disasters that have caused IHEs economic challenges (e.g., June 2001 tropical storm Texas at Houston Medical School had $205 million in damage; Northridge earthquake caused a loss of $380 million for California State University, etc.).

easy targets.[89] Additionally, a study completed in 2014 by the University of Maryland's Global Terrorism Database shows that terrorist attacks targeting educational institutions began dramatically increasing in 2004.[90] Figures 4 and 5 show the upward trend for natural disasters in the United States, and for terrorist events at IHEs internationally. Campus emergency management professionals should consider these trends as they build their programs. Both terrorism and natural disasters are portions of the core mission areas that DHS has prioritized: mitigating, preventing, and ensuring resilience.[91]

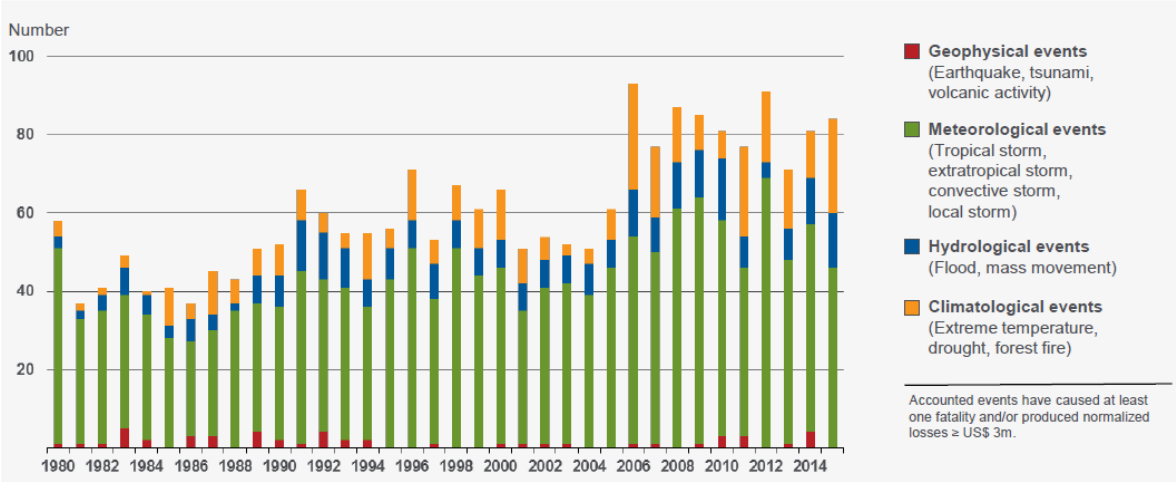

Figure 4. Natural Disasters Increasing across the United States[92]

89 Robert S. Mueller, "Statement of the Record of Robert S. Mueller, III," FAS, February 11, 2003, https://fas.org/irp/congress/2003_hr/021103mueller.html.

90 Chan, "HigherEd."

91 "Our Mission," Department of Homeland Security, accessed May 29, 2017, https://www.dhs.gov/our-mission.

92 Source: Munich RE, "Natural Catastrophe Figures."

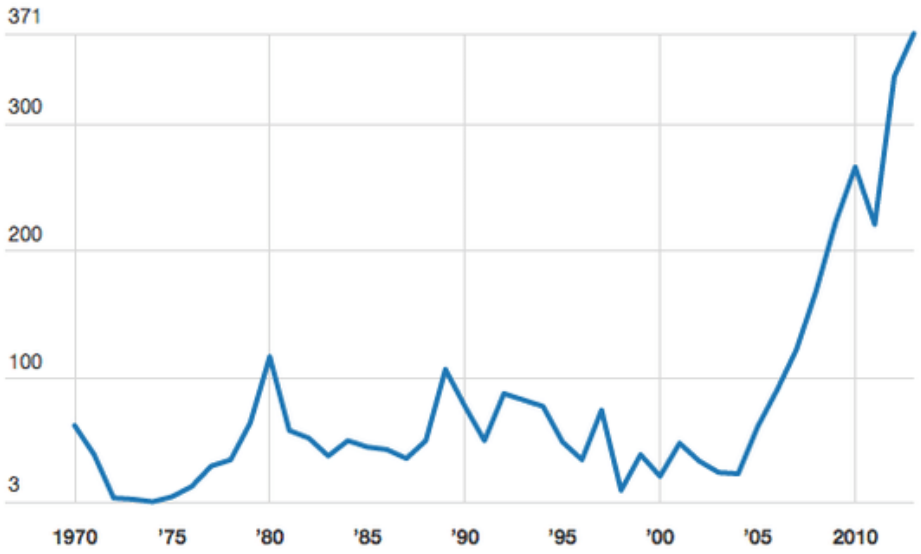

Figure 5. Terrorist Attacks Targeting Education Institutions Worldwide, 1970–2013[93]

Due to their welcoming campuses and specific resources, IHEs may invite potential domestic and international terrorism alike.[94] Their open environments have little security and the students and staff move around campus, which makes them soft targets for man-made threats.[95] Additionally, academic institutions have a wealth of information and equipment, from research labs and expensive medical equipment to chemical and radiation sources, personnel documents, and copious data and research stored electronically, which can be appealing to criminals.[96]

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93 Source: Chan, "HigherEd."

94 Richard H. Martin, "Soft Targets Are Easy Terror Targets: Increased Frequency of Attacks, Practical Preparation, and Prevention," *Forensic Research and Criminology Journal* 3, no. 2 (2016): 00087, http://medcraveonline.com/FRCIJ/FRCIJ-03-00087.pdf; David B. Muhlhausen and Jena Baker McNeill, *Terror Trends: 40 Years' Data on International and Domestic Terrorism* (Washington, DC: Heritage Foundation, 2011), http://www.heritage.org/terrorism/report/terror-trends-40-years-data-international-and-domestic-terrorism; "The Top Ten Schools Supporting Terrorists," Frontpage Mag, October 5, 2016, http://www.frontpagemag.com/fpm/264397/top-ten-schools-supporting-terrorists-frontpagemagcom.

95 Rick Amweg and Paul Denton, "Why Do Terrorists Target Colleges and Universities?," *Campus Safety*, February 7, 2017, http://www.campussafetymagazine.com/article/why_terrorists_target_colleges_campus_universities/.

96 Erica Hupka, "Innovation Increase: How Technology Can Create Open, Decentralized, and Trackable Data Sharing" (master's thesis, Naval Postgraduate School, 2018), 2–8; Amweg and Denton, "Why Do Terrorists Target Colleges and Universities."

D. MISSION

IHEs' core educational missions clearly separate them from other institutions in their jurisdiction. Nonetheless, in terms of the services they provide to the campus members and surrounding communities, they are quite similar. Separate from their educational missions, IHEs usually operate businesses such as restaurants, hotels, retail and shopping outlets, and sporting complexes, each adding another challenge to emergency management planning.[97]

Many universities and colleges use some form of the incident command system, planning to utilize the county team for assistance in preparedness and response. However, planning and response differ between the campus and other institutions in the jurisdiction. For instance, IHEs cannot rely upon the hazard vulnerability analysis (HVA) conducted by the county because campuses have different threats than their surrounding jurisdictions and should perform HVAs specific to the individual institution. For example, looking at the Wyandotte County, Kansas, HVA, the highest-ranked hazards include utility infrastructure failure, hazardous materials, and winter weather.[98] Conversely, the University of Kansas Medical Center in Wyandotte County, Kansas, ranked its highest hazards as cybersecurity incidents, winter weather, and mass casualty incidents.[99] Academic institutions also tend to have their own utilities and generators, and their own expectations in an emergency. HVA planning and response to vulnerabilities will vary.

The municipality's emergency procedures may not coincide with the IHE's. Hurricane Katrina is one example. As a result of the hurricane and flooding, fourteen IHEs in Louisiana had to close for extended periods of time. School administrators, not the municipality, had to find continuity of education for the approximately 100,000 displaced

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[97] Mitroff, Diamond, and Alpaslan, "How Prepared," 63.

[98] Wyandotte County Emergency Management, "Wyandotte County Emergency Operations Plan" (planning document, Wyandotte County, 2012), 18, https://www.wycokck.org/WycoKCK/media/Emergency-Management/Documents/2012-Wyandotte-County-Emergency-Operations-Plan.pdf.

[99] Data obtained during interviews with University of Kansas Medical Center subject-matter experts, January 2018.

students.[100] Although collaborative proactive planning with the municipality is beneficial, disasters begin and end locally, including with the IHE, and campuses must be prepared to respond to their own objectives without relying on outside assistance.[101]

E. GOVERNANCE

IHEs are complex systems. Many different types of institutions are formally organized and managed, usually in a bureaucratic manner.[102] Many campuses function like counties or municipalities, operating their own police forces and fire departments. The University of Kansas Medical Center's police force operates as a separate jurisdiction but collaborates with the surrounding city police agencies.[103] If an incident occurs within the University of Kansas Medical Center jurisdiction, city police will not respond unless requested by the University of Kansas Medical Center police force.

IHEs have to abide by state statutes in congruence with their surrounding municipality.[104] However, IHEs must align with federal requirements, which mandate specific documentation and response in emergency incidents, oftentimes with higher expectations than required by municipality responses—as demonstrated by various laws enacted due to events and emergencies on campus, such as the Jeanne Clery Disclosure of Campus Security Policy and Campus Crime Statics Act, also known as the Clery Act.[105]

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100 "New Orleans Universities Open after Hurricane Katrina," PBS, accessed July 13, 2017, http://www.pbs.org/newshour/bb/education-jan-june06-colleges_1-17/.

101 FEMA, *National Response Framework*, 10.

102 "Colleges and Organizational Structure of Universities - Governing Boards, The President, Faculty, Administration and Staff, Students, Future Prospects," Education Encyclopedia, accessed July 2, 2017, http://education.stateuniversity.com/pages/1859/Colleges-Universities-Organizational-Structure.html.

103 Accredited through CALEA, which is not a requirement for police departments. "About the University of Kansas Police Department," University of Kansas Medical Center, accessed July 11, 2017, http://www.kumc.edu/police-and-security-services.html.

104 "State Universities Granted Same Powers as Municipalities and Counties—Authority to Issue Bonds," Utah Code, Title 11 Ch. 17 § 17, 1993, https://le.utah.gov/xcode/Title11/Chapter17/C11-17-S17_1800010118000101.pdf.

105 American Council on Education, "Recalibrating Regulation of Colleges and Universities: Report on the Task Force on Federal Regulation of Higher Education" (report, American Council on Education, 2013), http://www.acenet.edu/news-room/Documents/Higher-Education-Regulations-Task-Force-Report.pdf.

The Clery Act is a federal statute enacted after a student at Lehigh University was raped and murdered in her campus residence hall in 1986.[106] This law mandates additional requirements for counting crimes, campus training, and emergency management procedures. This additional strain of regulatory oversight could be why there is lack of engagement in emergency management—campus resources are put elsewhere. These regulatory requirements are mandated for IHEs, even though campuses tend to be safer than the general community. The community has higher expectations for postsecondary institutions than it does for other businesses and even municipalities in the jurisdiction; IHEs are expected to ensure the safety of their students.

F. SUMMARY

The IHE landscape is challenging for emergency management program managers. Maintaining continuous engagement with a high-turnover, transient population, or staff and faculty who are not invested in emergency management, is difficult. Program management across state borders requires multiple plans, and a variety of external stakeholders who bring their own authorities and policies. Maintaining security while still catering to an open campus environment is also an ongoing issue. The unique IHE landscape must be taken into account for emergency management planning.

Virginia Tech is one example of an incident that leads parents, students, lawmakers, and media to as if campuses were safe. Numerous regulations and law were put into place after this event; Chris Rasmussen and Gina Johnson, "The Ripple Effect of Virginia Tech: Assessing the Nationwide Impact on Campus Safety and Security Policy and Practice" (report, Midwestern Higher Education Compact, 2008), https://eric.ed.gov/?id=ED502232.

Murder of a college student in 1986 enacted the Clery Act, required to be followed by IHEs receiving any Title IV funding; "Summary of the Jeanne Clery Act," Clery Center, accessed July 24, 2018, https://clerycenter.org/policy-resources/the-clery-act/.

106 Clery Center, "Summary of the Jeanne Clery Act."

III. THE OREGON MODEL

In 2000, FEMA piloted the Disaster Resistant University program.[107] The grant program, which supplied guidance and grant money, was beta tested with six universities that were working to become more disaster resistant.[108] However, the program was terminated in 2005 and no new grants have been given. Though the University of Oregon was not one of the six pilot universities, the school found value in the program and worked with the University of Washington (a grant test school) to preserve this common-sense approach for emergency management and crisis planning. They quickly began the Disaster Resilient Universities (DRU) listserv to continue the conversation among higher education practitioners charged with preparedness planning.[109] Today, the listserv reaches approximately 800 institutions and has 1,400 members. The DRU listserv concept evolved over time; it spawned caucuses and groups, including the University and College Caucus and the National Intercollegiate Mutual Aid Agreement (NIMAA) program. The University of Oregon has been leading these emergency management innovations.

Despite new programs and outreach, there were still issues in Oregon that bubbled to the surface after the Umpqua Community College shootings in October 2015. In response to this crisis, Governor Kate Brown established the Oregon Campus Safety Work Group (or Work Group).[110] The Work Group produced a report titled "Campus Safety at Oregon Post-secondary Education Institutions," which outlines the group's proposals and how its recommendations should be implemented.[111] The majority of the following case study is based on this report, which is evaluated against the recurring campus issues in resources, planning, and engagement.

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[107] FEMA, *Building a Disaster-Resistant University*.

[108] Arthur Oyola Yemaiel, "Disaster Resistant Universities: In Search of Strategies for Resilient Higher Education Institutions," *International Journal of Mass Emergencies and Disasters* 24, no. 2 (August 2006): 4, http://ijmed.org/articles/224/download/.

[109] "Disaster Resilient Universities (DRU) Network," University of Oregon, April 1, 2016, https://safety.uoregon.edu/disaster-resilient-universities-network.

[110] University of Oregon, "Campus Safety."

[111] University of Oregon.

A. IHEs IN OREGON

Oregon has more than fifty-five two- and four-year IHEs, which enroll over 350,000 students statewide.[112] The institutions are rural and urban, large and small, including seven public universities, twenty-four private, four-year institutions, seventeen public community colleges, and a number of other trade schools and independent colleges. Figure 6 shows a map produced by the Work Group displaying the location of each institution.

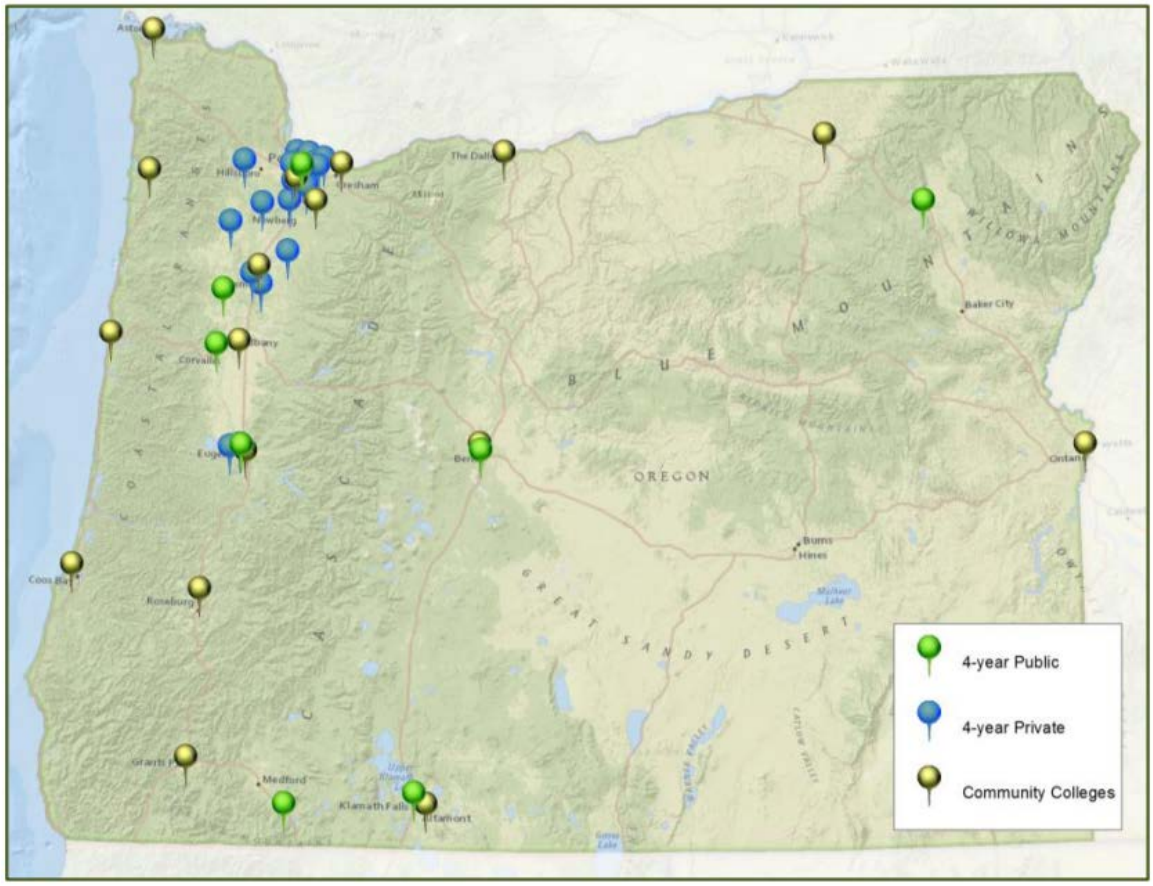

Figure 6. Map of IHEs in Oregon[113]

[112] University of Oregon, 1.

[113] Source: University of Oregon, title page.

Three organizations support the campuses and universities in Oregon:

- Oregon Community College Association supports the publicly chartered community colleges, including faculty, staff, administration, and students.[114]
- Oregon Alliance of Independent Colleges and Universities represents a number of accredited, nonprofit, private colleges and universities across the state.[115]
- Higher Education Coordinating Commission (HECC) is a fourteen-member, governor-appointed volunteer commission that develops and implements programs and policies in support of Oregon's higher education network.[116]

Similar to IHEs across the nation, the academic institutions in Oregon provide research, education, patient care, and many other services. They are also considered part of the community, and are some of the state's largest employers.[117] In times of crisis, IHEs are often key stakeholders in response, sending resources and helping the community recover.

B. WORK GROUP STRUCTURE

The Work Group was charged to enable a coordinated approach across the IHE system and analyze protocols and practices to effectively manage future responses and increase campus resiliency.[118] Members of the group were divided into four multidisciplinary subgroups to develop recommendations:

- leadership and policy: focused on implementation of the recommendations from the other subgroups;

114 "About Us," Oregon Community College Association, accessed July 25, 2018, http://occa17.com/about-us/.

115 "About Us," Oregon Alliance of Independent Colleges and Universities, accessed July 25, 2018, http://oaicu.org/about-us/.

116 "Higher Education Coordinating Commission," Oregon.gov, accessed April 22, 2018, http://www.oregon.gov/highered/about/Pages/commission.aspx.

117 University of Oregon, "Campus Safety," 1.

118 University of Oregon, i.

- response, continuity, and recovery: focused on filling gaps for IHEs for disaster response, for both short-term response and long-term recovery;
- physical security and law enforcement: analyzed access to officers and law enforcement infrastructure, such as cameras and alarms; and
- behavioral threat assessment prevention: focused on policies that could mitigate the impact of an incident, or lower the risk of an incident.[119]

The subgroups crossed categorical lines; for example, the physical security and law enforcement subgroup looked at information relating to response, continuity, and recovery. The subgroups worked independently, reviewing case studies, policies, and strategies of various programs across the nation.[120]

Each multidisciplinary team consisted of internal stakeholders such as campus faculty, staff, and students from various IHE types and external stakeholders like state police and staff from the HECC.[121] No subgroups were the same; for example, the response, continuity, and recovery subgroup consisted of eleven people from nine different organizations, including community colleges, universities, campus police departments, and the governor's office. The leadership subgroup, on the other hand, had only six personnel. Keeping the state's overall mission in mind, the Work Group made sure each subgroup contained subject-matter experts, was small enough to make authoritative decisions, and included all applicable stakeholder groups in the process.

Each subgroup met multiple times to discuss issues and develop recommendations. For example, the response, continuity, and recovery subgroup met approximately five

119 University of Oregon, 2.

120 University of Oregon, 3; previous research included: "Matric of Campus Safety and Security Needs for Oregon Community Colleges" (2016), "National Campus Emergency Management Needs Assessment" (2016), "Securing Our Future: Best Practice Recommendations for Campus Safety and Violence Prevention" (2016), "Oregon Task Force on School Safety Report to the Oregon State Legislature" (2015), and "The Governor's Task Force on Campus Safety in Oregon Recommendations and Summary" (2008). Many of these documents are also included as part of this case study.

121 University of Oregon; a full subgroup list can be found in the introduction of the report.

times between June and October 2016, and brought back recommendations to the larger work group for approval.

A number of recurring issues emerged when the subgroups analyzed past studies and research, including:

- lack of resources to support emergency management programs, including emergency management staffing, mutual aid, and budget dollars;
- incomplete plans for emergency management assessment, response, and recovery (e.g., emergency operation plans, adequate hazard and vulnerability analysis, and continuity planning); and
- absence of engagement from all levels within the institution, most notably in upper management.[122]

The Work Group's report also incorporated information and feedback from various internal and external stakeholders that regularly collaborate with the academic institutions, such as the state fire marshal, journalism students, campus safety professionals, and DRU members.[123] Critical information was also assessed through three surveys, which the Work Group analyzed to determine the needs of Oregon IHEs.[124]

The report and surveys specifically focused on Oregon's top challenges: lack of funding and resources, insufficient training, and inadequate staffing. Through the various subgroups, the Work Group identified a number of recommendations; this case study focuses on resources, plans, and engagement. The following chapter dives deeper into each category and analyzes the issues against Oregon's proposed model.

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[122] National Center for Campus Public Safety, "Program Needs Assessment"; Campus Safety & Security Project, "Results of Survey"; Sullivan, "2011 Higher Education Emergency Management Survey"; Margolis Healy, "Campus Safety Survey."

[123] University of Oregon, "Campus Safety," 3; a full list of Work Group participants can be found in the report.

[124] University of Oregon, 3; three surveys included: "Physical Safety and Law-Enforcement Survey," "National Center for Campus Public Safety Higher Education and Emergency Management Needs Assessment Survey," and "Physical Security Needs Inventory."

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IV. CASE STUDY ANALYSIS

The themes of resources, planning, and engagement warrant additional analysis. It is clear from past research that surveys and recommendations have not been effective at increasing emergency management program understanding; if they were, these common problem themes would not recur. Perhaps trial and error of programs and policies is what is necessary for progressive change in IHE emergency management programs. Exploring Oregon's proposed program will provide a good baseline; it can help determine if the planned activities could mitigate common challenges.

The case study in this chapter examines each category independently, first reviewing their possible root causes and the strategies other institutions have used in an attempt to address them. The case study then examines the Oregon model to see how the program could mitigate challenges previously identified by campuses. It is important to note that the categories can be interdependent; often, staffing issues in emergency management are blamed on budget constraints…and poor planning or infrequent training exercises are blamed on staffing issues…while poor campus or community engagement are blamed on infrequent training exercises. Undoubtedly, it is difficult to influence one area without affecting others. Sections of the case study are therefore, by necessity, mutually reliant.

A. RESOURCES

When discussing emergency management, resources can include a number of items. Personnel, budget, and mutual aid were all listed as resource needs in the literature review, particularly finance, staffing, and mutual aid. Mutual aid can include mutual aid agreements, by which resources and assistance are agreed upon in advance. Connections to external stakeholders count, as you cannot have mutual aid agreements without external stakeholder engagement. In this chapter, mutual aid is analyzed in both the resources and engagement sections.

1. Environment

As discussed in Chapter I, Section A, many IHEs are experiencing budget cuts each year, which could mean less funding for emergency management activities if those activities are not prioritized. Additionally, tuition and fee increases are on the rise. Figure 7, from Washington State's Budget and Policy Center, shows an average decrease in state funding for IHEs, together with the rising tuition costs needed to cover the difference.[125] In addition to budget battles, emergency managers also have to ensure engagement and buy-in from the students as they begin funding more and more IHE initiatives.

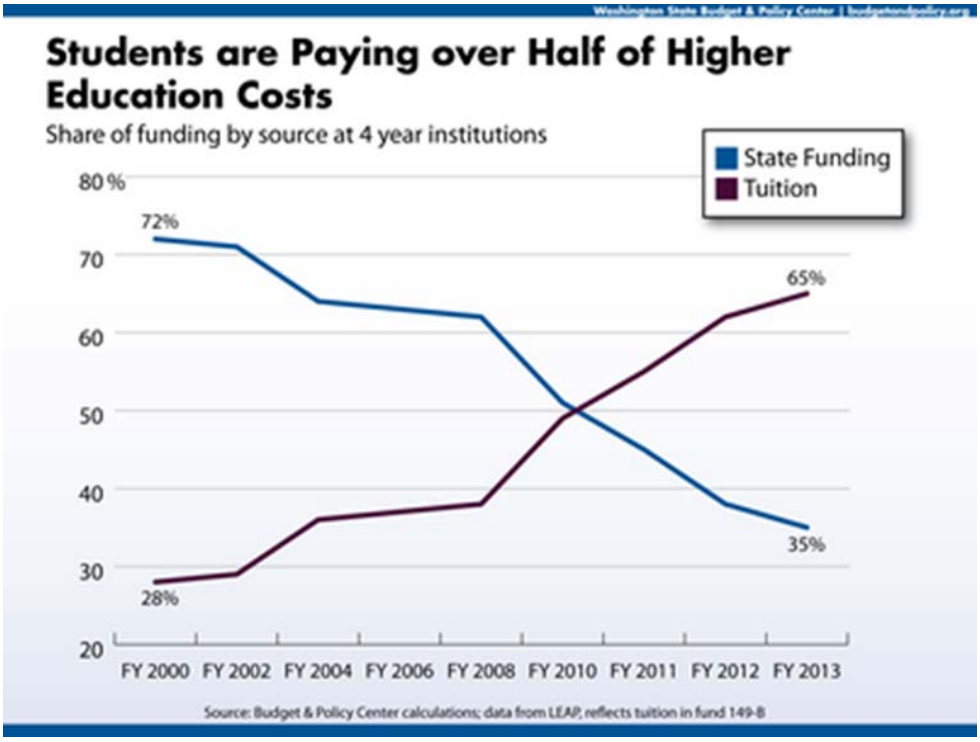

Figure 7. State Funding for IHEs Decreases as Tuition for Students Increases[126]

[125] Washington State Budget and Policy Center, "Cuts to Higher Education Lead to Increases in Tuition," *Schmudget Blog*, June 6, 2012, http://budgetandpolicy.org/schmudget/cuts-to-higher-education-lead-to-increases-in-tuition.

[126] Source: Washington State Budget and Policy Center.

Emergency management in higher education may appear short staffed either because of the number of personnel or because the personnel tasked with emergency management are overwhelmed with other duties as well. If IHEs have emergency managers, the managers are also often responsible for security, Clery, or a number of other additional duties.[127] Oftentimes, especially in smaller IHEs, no specifically identified emergency manager exists and the tasks of the emergency management program fall to the student affairs director, security officer, or environmental health and safety manager.[128] Geographic footprints, student turnover, the level of preparedness maintenance expected on campus, and other nuances discussed in Chapter II offer additional challenges to the emergency management staff.

Shared services may address staffing and financial resource constraints, as observed in a study by Rebekah Green.[129] Three IHEs in Washington addressed resource limitations by pooling resources through a consortium. These colleges found it difficult to maintain compliance with drills, exercises, and plans and did not have the funds to support three separate positions for emergency planning. The campuses adopted a shared-services model and hired a single half-time staff person responsible for coordination. Through this program, the institutions were able to complete compatible emergency plans, develop videos to institutionalize the culture of preparedness, and conduct joint exercises. The consortium offers a collaborative atmosphere of IHE accountability and competition that could be an example for other institutions. Additionally, providing compliant templates to emergency managers who are overwhelmed with other duties, or to personnel who hold entirely different positions (e.g., student affairs administrator) but have emergency management tasks, will lessen the load. The next section evaluates the Oregon model to

[127] James A. Hyatt, *Ready to Respond: Case Studies in Campus Safety and Security* (Washington, DC: National Association of College and University Business Officers, 2010); Rebekah Green, "Resilient Campuses: Leveraging Resources among Small- and Moderate-Sized Institutions of Higher Education," *Journal of Emergency Management* 12, no. 1 (February 2014): 23, https://doi.org/10.5055/jem.2014.0159; Farris and McCreight, "Professionalization of Emergency Management," 80–83.

[128] Farris and McCreight, "Professionalization of Emergency Management," 81.

[129] Green, "Resilient Campuses."

see if a shared-services model or other proactive strategies are included to mitigate IHE budget and staffing constraints.

2. Oregon Model

Looking specifically at the Oregon model, the Work Group also identified staffing and budget issues as an emergency management concern. The Work Group concluded that Oregon institutions do see emergency management as a priority. To address resource needs, the group recommended four options:

- establish a shared-services emergency management program;
- develop an IHE-specific all-hazards incident management team (IMT);
- adopt the NIMAA for all Oregon IHEs; and,
- hire two full-time employees to support the developing program.[130]

a. Shared Services

Mirroring the Washington consortium, the Work Group recommended shared services in some areas for resource and budget consciousness. Recognizing the need for statewide training, resource allocation, and general coordination, the Work Group is recommending a Higher Education Safety and Resilience Council (or Council) to coordinate cooperation between departments and agencies.[131] The state believes that increasing cooperation would enable the institutions to share resources and eliminate duplicative efforts. This would be completed by hiring two people in shared services positions to serve as the Council coordinator and the training and resources coordinator.[132] The coordinators would spearhead collaboration in the networked system. These positions would require new funding; however, they could also help save money across a number of institutions. For example, if five IHEs do not have emergency management positions but

[130] University of Oregon, "Campus Safety," iii.

[131] University of Oregon, 6.

[132] University of Oregon; discussed further in section C, 2, a., 7.

have personnel able to complete and customize an emergency operations plan template specific to their school's needs, then having personnel at the state level providing consistent templates to them would benefit the institutions.

Oregon developed the consensus that IHEs need financial support, awareness of best practices, and training to improve plans, such as emergency operations and continuity plans.[133] The Work Group recommended implementation of statewide training templates, which should be made for and shared with all postsecondary schools, to ensure consistent training and planning across the state. The training models would be made and disseminated by the Council coordinator and training resources coordinator. The Work Group also recommended using students and faculty as resources to create short training videos, which the coordinators could then distribute to all campuses.[134]

Shared services would also help with training, another commonly identified issue for the campus network.[135] Training and exercises do require resources and time; a good full-scale or functional exercise can take up to twelve months to plan.[136] The Work Group recommended that a statewide training program be established using the shared-services model and personnel.[137] The model would follow an established program in Oregon called "Partnership for Disaster Resilience" and would garner personnel from IHEs who would travel across the state and provide training.

b. All-Hazards Incident Management Team

According to the Work Group report, IHEs do not have enough trained staff members needed to respond to a crisis.[138] To alleviate this need, the Work Group

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[133] University of Oregon, 11.

[134] University of Oregon, 12, 23; University of Oregon students and faculty created a training called "Unspoken" for active-shooter threats, which has been a successful. However, the journalism students believed that short training videos would be an important vehicle to expand training.

[135] University of Oregon, 12; National Center for Campus Public Safety, "Program Needs Assessment."

[136] FEMA, *Homeland Security Exercise and Evaluation Program (HSEEP)* (Washington, DC: Department of Homeland Security, 2013), https://www.fema.gov/media-library/assets/documents/32326.

[137] University of Oregon, "Campus Safety," 9.

[138] University of Oregon, 10.

recommended that institutions across the state form a networked response by implementing education-based all-hazards IMTs.[139] An IMT model has already been effectively implemented internally at the University of Oregon, where the IMT is trained to a FEMA level Type III, and is divided into two groups: the Emergency Operations Center Team and the Field Team.[140] The University of Oregon IMT was able to assist Umpqua Community College for seven days in response to a 2015 shooting, which helped the Umpqua administrators with a variety of response and short-term recovery needs, such as business and academic continuity and communications.[141] Having an IHE-centric response team that understands how campuses work is important for effective response. If a county-wide incident were to occur, though the traditional response team would try to help the college or university in any way it could, the team's priorities would extend beyond campus boundaries. For an IHE-specific IMT, the main objective would be the continuation of education, which would improve the resiliency of those institutions. For Umpqua Community College, the deaths and injuries of campus community members were traumatic for leadership, staff, and students. Having to respond to your own institution's disaster can often have unforeseen emotional consequences. Allowing responders you trust to come and help could allow the campus members to seek counseling and support. Good rapport builds trust, and many IHEs have relationships with each other, but do not have relationships with county first responders or state-level IMTs.

Oregon plans to implement three to five statewide Type III IHE-specific IMTs. Campuses may choose to have an internal team or allow personnel to train and serve on a shared-services IMT. The Work Group surmised that these teams would help provide coverage across the state and be able to support campuses with response and recovery efforts. Training of these teams would be critical to their success, so some downsides for

139 University of Oregon, 10.

140 "Incident Management Team," University of Oregon, February 23, 2018, https://safety.uoregon.edu/incident-management-team; "An Overview of Incident Management Teams," U.S. Fire Administration, February 9, 2016, https://www.usfa.fema.gov/training/imt/imt_overview.html.

141 University of Oregon, "Campus Safety," 10.

the campuses may include the time needed for adequate training, and time away for response. This recommendation also meets the need for mutual aid.

c. National Intercollegiate Mutual Aid Agreement

Above and beyond the statewide team, the Work Group also recommended that all Oregon IHEs adopt the NIMAA program.[142] This program recognizes that IHEs cannot "go it alone" and recommends that institutions can work together in terms of mutual aid. NIMAA is essentially a mutual aid agreement for IHEs that can be signed into by individual institutions before a disaster occurs, which would provide assistance to already resource-constrained institutions. Similar to the IMT, in times of crisis, this model would allow for resource sharing and assistance from other IHE response practitioners across state lines. This would help with staffing issues during long-lasting events, when IHEs could quickly run out of resources. While the IMT would use state response teams and resources, looking beyond state boundaries offers a good contingency for bigger emergencies that affect a large portion of the state.

d. Full-Time Staff

The two new recommended staff members—the Council coordinator and the training and resources coordinator—would serve in a shared-services model and be housed at one university in the state, though their work would benefit all state postsecondary institutions.[143] The coordinators would use existing plans, personnel, and models, such as the "Partnership for Disaster Resilience," to create statewide templates for dispersal, or build new models for the state to approve and use. These templates would provide a layer of continuity and collaboration across the state for new training and planning standards. The duo's oversight would also ensure accountability at the individual institutional level; both staff members would report directly to the Council, which would be expected to report

142 "IAEM-USA Universities and Colleges Caucus (UCC)," International Association of Emergency Managers, accessed July 27, 2018, http://www.iaem.com/page.cfm?p=groups/us-caucuses/universities-colleges&lvl=2.

143 University of Oregon, "Campus Safety," 6–7.

the program's progress directly to the governor, state agency leaders, and the HECC.[144] However, a limitation of this model would be future administrative changes. When a new governor is appointed, he or she may have different goals and objectives for higher education in the state.

These hires, along with a three-year statewide training initiative, would be implemented in phase one of the Work Group's plan.[145] According to the Work Group, the estimated cost of this phase is $500,000. If the campuses were expected to support this cost, it would be approximately $3,000 per campus, per year. To determine cost savings, this cost would have to be compared with the cost of doing nothing, and then experiencing a crisis.

3. Conclusion: Resources Pros and Cons in the Oregon Model

Table 3 summarizes the pros and cons of the Oregon model, in light of the emergency management issues identified in the literature. The "+" symbol in the table shows what needs the Oregon model addresses, and the "–" symbol demonstrates deficiencies in the model, or cons to implementation. For example, additional staff is a benefit for personnel, but the cost of the additional personnel is a con.

[144] University of Oregon, iii, 6–7.

[145] University of Oregon, 25.

Table 3. The Oregon Model: Resources

Resource Need	Issues	Oregon Model	Assessment
Personnel	• Short staffed • EM role poorly defined • Additional duties on EM	Shared services	+ Allows for cooperation, continuity, and communication between IHEs.
			+ Additional staff not necessary when resources are shared and existing resources are effectively used.
			+ Eliminates duplicative work.
			– Model does not specifically address additional duties for emergency management (EM), or the exact EM roles.
		All-hazards IMT	+ Fills staffing gap for crisis response.
			+ Trained personnel dedicated to IHEs able to help.
			– Time for training and response to other institutions.
		NIMAA	+ Allows for resource sharing across state lines.
		Full-time staff	+ Coincides with shared services and allows consistency at each institution.
			+ Direct tracking of progress and frequent reports to the governor for accountability.
			– Could be easily eliminated based on administrative agendas.
Budget	• Budget cuts • Rising tuition • EM sustainability	Shared services	+ Saves money if IHEs do not need to fund an emergency manager at every institution.
			+ Saves money through shared resources.
			– Requires ongoing funding to support.
		All-hazards IMT	+ Response is internal to IHEs, could be more cost effective than having a state IMT respond; also allows for shared resources.
			+ Knowledge of documentation of the response could allow for more accurate reimbursements.
			– Cost associated with training and response to other institutions.
		NIMAA	+ Allows for resource sharing across state lines.
		Full-time staff	+ Maximizes resources by capitalizing on personnel and plans already in place.
			– Could be easily eliminated based on administrative agendas.
			– Ongoing cost associated with additional staff.

Resource Need	Issues	Oregon Model	Assessment
Mutual Aid	• Lack of mutual aid for IHEs • Inconsistency in external stakeholder involvement	Shared services	+ Allows for consistency across IHEs.
		All-hazards IMT	+ Allows for integration into city, county, and state response, building networks and mutual aid.
			+ Builds external stakeholders from other IHEs.
		NIMAA	+ Builds mutual aid networks nationwide, maximizing resources for response as needed.
			+ Builds external stakeholders from other IHEs.
			– Not well defined for IHEs, and external stakeholders could remain inconsistent.
		Full-time staff	– As a shared resource, would drive consistency across the state, building mutual aid continuity.

The literature commonly points out that if campuses have a dedicated emergency manager, it is usually a single person who wears multiple hats.[146] The report did not address specific taskings of Oregon academic emergency managers, so it is unknown if the "resource deficiency" is due to emergency managers being overtasked. The report also did not address prioritization of the emergency management program in the various universities and colleges. There could be instances where budget, and possibly personnel, are available but the institution does not see emergency management as a priority and therefore does not dedicate resources toward the program. Additionally, some studies note that where you sit as the emergency manager within your institutions affects your bottom line. The higher you are toward the top, the more budget allocations you may see.[147] The organization charts of the Oregon campuses were not included within the report. Reviewing specific tasks of IHE emergency managers and analyzing how the prioritization of emergency management programs directly correlates, or does not correlate, to the emergency manager's position within the organization would offer progressive benefits to the field in future studies.

[146] Farris and McCreight, "Professionalization of Emergency Management," 76–78.

[147] Farris and McCreight, 77.

B. PLANNING

Planning is often cited as the most important component of emergency management.[148] As noted in a number of after action reports in response to the Virginia Tech shooting and Hurricane Katrina, a well-rehearsed plan that includes personnel involved in decision-making practicing together at all levels of the university or college is the best way to build resiliency and to mitigate losses. [149] Plans can have diverse components; for this research, however, *plans* refer to emergency operations (EOP) and continuity plans, two documents noted to be key elements for an effective emergency management program.[150] Training and exercises related to these plans are also discussed in this section.

1. Environment

As described in Chapter I, plans, mostly EOPs, are completed at a high percentage of universities and colleges. When surveyed, more than 80 percent of IHEs responded that their emergency plans were complete.[151] However, upon closer examination, plans thought to be complete were missing foundational pieces (such as hazard vulnerability assessments), or students, faculty, and staff were unaware of the plan and their role in disaster response. Farris and McCreight assert that planning for IHEs is confusing and lacks continuity throughout the various campuses in terms of how emergency programs are organized and maintained.[152] There is no blueprint for program organization and implementation in a campus setting, and the myriad of guidance documents could leave IHE planners confused. The guidance seemed to be clarified upon President George W. Bush's enactment of Homeland Security Presidential Directive 5, after September 11,

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[148] Society for College and University Planning, *The Presidential Role in Disaster Planning and Response: Lessons from the Front* (Ann Arbor, MI: Society for College and University Planning), http://www.ncef.org/content/presidential-role-disaster-planning-and-response-lessons-front.

[149] Matthew A. Tarr et al., "Hurricane Katrina: Impacts at Four University Chemistry Departments in New Orleans," *Journal of Chemical Health and Safety* 14, no. 5 (September 2007): 15–24, https://doi.org/10.1016/j.jchas.2007.03.001; Davis, "Connecting the Dots"; Green, "Resilient Campuses."

[150] Hyatt, *Ready to Respond*, 2.

[151] National Center for Campus Public Safety, "Program Needs Assessment," 22.

[152] Farris and McCreight, "Professionalization of Emergency Management," 86.

2001. This directive established a single national emergency management system, NIMS. The primary goal of NIMS was to ensure that all levels of government "work together to prepare for, prevent, respond to, recover from, and mitigate the effects of incidents."[153] Any jurisdictions that receive federal funding are required to comply with NIMS, which, in the case of IHEs, includes receiving federal preparedness dollars from the Department of Education, DHS, or Department of Health and Human Services.[154] NIMS is for all jurisdictional levels and is used to manage incidents ranging from minor traffic accidents to large-scale crises.[155] As incidents occurred across the nation, the preparedness directives transformed, eventually culminating in the National Preparedness Goal (NPG) and National Preparedness System (NPS) as directed by Presidential Policy Directive 8. The NPS includes activities focused on developing a process for planning and preparedness activities in order for the "whole community" to achieve the NPG.[156] The six components of the NPS (identifying and assessing risk, estimating capability requirements, building and sustaining capabilities, planning to deliver capabilities, validating capabilities, and reviewing and updating) work together to shape, sustain, and deliver the core capabilities needed to carry out the NPG.

The goal of the NPG is to create "A secure and resilient Nation with the capabilities required across the whole community to prevent, protect against, mitigate, respond to, and recover from the threats and hazards that pose the greatest risk."[157] The NPG details achievement of the goal as follows:

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153 "NIMS: Frequently Asked Questions," FEMA, accessed July 15, 2018, https://www.fema.gov/pdf/emergency/nims/nimsfaqs.pdf.

154 "NIMS Implementation Activities for Schools and Institutions of Higher Education," Readiness and Emergency Management for Schools, accessed July 27, 2018, 1–2, https://rems.ed.gov/docs/NIMS_ComprehensiveGuidanceActivities_2009-2010.pdf.

155 FEMA, *National Incident Management System*, third edition (Washington, DC: Department of Homeland Security, 2017), 1.

156 FEMA, *National Preparedness System* (Washington, DC: Department of Homeland Security, 2011); FEMA, *National Preparedness Goal*.

157 FEMA, *National Preparedness Goal*, 1.

- Preventing, avoiding, or stopping a threatened or an actual act of terrorism.
- Protecting our citizens, residents, visitors, assets, systems, and networks against the greatest threats and hazards in a manner that allows our interests, aspirations, and way of life to thrive.
- Mitigating the loss of life and property by lessening the impact of future disasters.
- Responding quickly to save lives, protect property and the environment, and meet basic human needs in the aftermath of an incident.
- Recovering through a focus on the timely restoration, strengthening, and revitalization of infrastructure, housing, and the economy, as well as the health, social, cultural, historic, and environmental fabric of communities affected by an incident.[158]

There are five mission areas within the NPG: prevention, protection, mitigation, response, and recovery. Under each mission area are thirty-two defined core capabilities needed to achieve the goal. Table 4 outlines each of the mission areas and supporting capabilities. Additionally, national frameworks for each of the mission areas provide a common planning platform, allowing the whole community to work together for the greater accomplishment of the goal. These frameworks are meant to allow for whole-community information sharing, coordination, and teamwork by fostering an understanding of roles and responsibilities.[159]

158 FEMA, 1.

159 "National Planning Frameworks," FEMA, October 31, 2017, https://www.fema.gov/national-planning-frameworks.

Table 4. National Preparedness Goal Missions and Capabilities[160]

<table>
<tr><th>Prevention</th><th>Protection</th><th>Mitigation</th><th>Response</th><th>Recovery</th></tr>
<tr><td colspan="5">Planning</td></tr>
<tr><td colspan="5">Public Information and Warning</td></tr>
<tr><td colspan="5">Operational Coordination</td></tr>
<tr><td colspan="2">Intelligence and Information Sharing</td><td rowspan="4">Community Resilience
Long-term Vulnerability Reduction
Risk and Disaster Resilience Assessment
Threats and Hazards Identification</td><td colspan="2">Infrastructure Systems</td></tr>
<tr><td colspan="2">Interdiction and Disruption</td><td rowspan="3">Critical Transportation
Environmental Response/Health and Safety
Fatality Management Services
Fire Management and Suppression
Logistics and Supply Chain Management
Mass Care Services
Mass Search and Rescue Operations
On-scene Security, Protection, and Law Enforcement
Operational Communications
Public Health, Healthcare, and Emergency Medical Services
Situational Assessment</td><td rowspan="3">Economic Recovery
Health and Social Services
Housing
Natural and Cultural Resources</td></tr>
<tr><td colspan="2">Screening, Search, and Detection</td></tr>
<tr><td>Forensics and Attribution</td><td>Access Control and Identity Verification
Cybersecurity
Physical Protective Measures
Risk Management for Protection Programs and Activities
Supply Chain Integrity and Security</td></tr>
</table>

In conjunction with FEMA, the Department of Education published the *Guide for Developing High-Quality Emergency Operations Plans for Institutions of Higher Education*.[161] Similar to the NPG, this guide shares the same five mission areas of prevention, protection, mitigation, response, and recovery. However, the guide makes no mention of the NPS, NPG, any of the thirty-two core capabilities, or the national frameworks. Similar to the NPG, the guide does encourage IHEs to utilize the standardized

[160] Source: FEMA, *National Preparedness Goal*, 3.

[161] U.S. Department of Education, *Guide for Developing High-Quality Emergency Operations Plans for Institutions of Higher Education* (Washington, DC: U.S. Department of Education, 2013).

NIMS approach in response to disasters; however, the lack of continuity between the two documents may cause confusion even among planning professionals. This higher education guide stresses the importance of collaborative planning with community partners and stakeholders; however, their understanding at the city, county, or state level of emergency preparedness may align more with NPS and NPG doctrine. On top of the planning guidance are unfunded mandates. These mandates specify that IHEs must notify the community in a "reasonable" timeframe whenever threats to safety exist, and must inform the public annually of crimes and fires on campus.[162]

Further guidance, such as the National Fire Protection Association (NFPA) 1600 and the Emergency Management Accreditation Program (EMAP) guidance standards, refer to improved practices in prevention, preparedness, mitigation, response, and recovery. These goals align with the five mission areas but do not address protection. Additionally, neither guidance document references the core capabilities or the national frameworks. Finally, federal documents and programs, such as Disaster Resistant University (not to be confused with the Disaster Resilient University or DRU Network) and Ready Campus, muddy the waters of a standardized approach similar to what the NPS is offering.[163] Many guidance documents claim "flexibility" is a key component to their implementation. Though flexibility is beneficial within planning and preparation, inconsistencies within planning directives do not allow for a whole-community approach and limit how the IHE can integrate with external stakeholders for response efforts.

The same confusion exists with continuity planning, which IHEs rarely complete. A number of studies show that social networks, connections, and stakeholder involvement enhance resiliency in institutions, as networks build trust and collaboration.[164] After action reports following Hurricanes Katrina and Rita also claim that having a "system

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[162] U.S. Department of Education, *The Handbook for Campus Safety and Security Reporting* (Washington, DC: U.S. Department of Education, 2016), https://www2.ed.gov/admins/lead/safety/campus.html; Higher Education Opportunity Act, Pub. L. No. 110–315, 432 (2008), https://www2.ed.gov/policy/highered/leg/hea08/index.html.

[163] FEMA, *Building a Disaster-Resistant University*; "Ready Campus."

[164] Iraj Mohammadfam et al., "Applying Social Network Analysis to Evaluate Preparedness through Coordination and Trust in Emergency Management," *Environmental Hazards* 14, no. 4 (October 2015): 329–40, https://doi.org/10.1080/17477891.2015.1080654.

membership" is vital for campus recovery and resiliency, noting that pre-existing agreements allow continuity of operations to continue.[165] However, even internally, continuity planning is still limited, much less extended to key external stakeholders. EMAP and NFPA 1600 both address portions of continuity planning but provide only generalized guidance that could leave certain personnel more confused.

In addition to simply having effective EOP and continuity plans, campuses must be able to test those plans. IHEs can use a number of federal guidance documents, such as the Homeland Security Exercise and Evaluation Program, for exercise development and testing.[166] If these practices were standardized within the IHE community, as well as with external jurisdictions, the continuity in training and exercises could improve. Campuses have additional mandates from higher education–specific regulations, such as the Clery Act.[167] These legal mandates differ from the FEMA guidance documents on training and exercises, adding to the emergency management program confusion. Even with the mandates, a number of IHEs do not actively participate in training and exercises, and if they do participate it tends to be only on an annual basis, which is not enough given the turnover rate at a typical IHE.[168]

2. Oregon Model

Campus emergency management programs must understand that type of planning that is necessary and then implement user-friendly plans. Once effective plans are in place, training and exercise programming to test the plans on a regular basis also need to be institutionalized. As the literature has shown, the EOP is often confusing or conflicting from one institution to the next, while continuity planning remains a major need among

165 Mahauganee D. Shaw, "Pathways to Institutional Equilibrium after a Campus Disaster," *Journal of Contingencies and Crisis Management* 25, no. 2 (June 2017): 109, https://doi.org/10.1111/1468-5973.12128.

166 FEMA, *Homeland Security Exercise and Evaluation Program*.

167 Department of Education, *Handbook for Campus Safety*.

168 Sullivan, "Emergency Management Survey"; Campus Safety & Security Project, "Results of Survey," 16; National Center for Campus Public Safety, "Program Needs Assessment," 17.

many IHEs. The Work Group recognized this challenge among Oregon institutions and recommended the following steps to mitigate the incongruence of planning across the state:

1. Establish a shared-services emergency management program and training model, as described in section A of this chapter, which would also apply to continuity and recovery planning.

2. Establish an online resource directory to connect campuses on a daily basis.

a. Shared Services

As described in Section A of this chapter, the Work Group recommended a shared-services team that would help with training and planning for all phases of emergency management.[169] This model would build standardized planning templates, including EOP and continuity planning as needed, across the state, and the IMT training and resources coordinator would ensure plans are complete for all campuses. The Work Group felt this solution would ensure a coordinated strategy for the state's postsecondary institutions.[170]

The Oregon model also recommends building training and plan templates using the NFPA 1600 standard on Emergency Management and Business Continuity Programs, the EMAP, and FEMA's Threat and Hazard Identification and Risk Assessment (THIRA), because a good threat assessment is necessary for emergency management program planning.[171] Upon completion of planning, a training model following the model of the Oregon Partnership for Disaster Resilience would be implemented, to include training and plan testing.[172]

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169 University of Oregon, "Campus Safety," 8.

170 University of Oregon, 7.

171 Emergency Management Accreditation Program (EMAP), *2016 Emergency Management Standard*, ANSI/EMAP 4–2016 (Lexington, KY: EMAP, 2016), https://emap.org/index.php/root/about-emap/96-emap-em-4-2016/file; National Fire Protection Association, *NFPA 1600, Standard on Disaster/Emergency Management and Business Continuity Programs* (Quincy, MA: National Fire Protection Association, 2013); University of Oregon, "Campus Safety," 9.

172 University of Oregon, "Campus Safety," 9.

Although using EMAP, NFPA 1600, and THIRA would allow Oregon to offer continuity between postsecondary institutions, some disconnect remains between those documents, the *Guide for Developing High-Quality Emergency Operations Plans for Institutions of Higher Education*, and FEMA's NPG. Additional planning to ensure continuity between IHEs, the county, and the state would need to occur for shared stakeholder understanding.

b. Online Resource Directory

The Work Group noted that IHEs would benefit from awareness of best practices through an Oregon-specific resources directory and repository.[173] Though the DRU, this Oregon-specific directory would unite campuses and be beneficial for planning. The online resource center that the Work Group recommended would collect best practices that IHEs could access as needed.

Much like the DRU listserv—or any listserv, this directory could seem overwhelming depending on how it is managed. Staff time for development and upkeep of the system, time invested in compiling up-to-date and useful information, and hard costs to set up the tool are all projected within the Work Group report. The report estimated these costs to be approximately $20,000 to $50,000, and they are lumped with the phase one implementation costs.[174]

3. Conclusion: Planning Pros and Cons in the Oregon Model

The Oregon model plans to incorporate standardized planning with accountability across the state based on current best practices and national standards. A shared-services training program, in addition to helping with resource constraints, would ensure continuity in response and actions across the state. However, this may not fill the "confusion" gap. With so many guiding documents out there, and the county and state following NPG guidance, planning may still leave some questioning what approach to take. Effective training and consistency throughout the IHE system will be necessary to ensure success.

[173] University of Oregon, 13.

[174] University of Oregon, 27.

Table 5 summarizes the pros and cons of the Oregon model in addressing the issues with planning found throughout the literature.

Table 5. The Oregon Model: Planning

Planning	Issues	Oregon Model	Assessment
Planning	• Confusion for planners in campus settings • Inconsistencies across IHEs • Incompatible with city, county, and state NPG planning • Lack of understanding within IHEs	Shared services	+ Allows for consistency for plans using predesignated templates across IHEs.
			+ Builds plan blueprints and builds continuity.
			+ Eliminates duplicative work.
			– Templates may follow guidance different from city, county, and state (e.g., NFPA 1600 vs. NPG); this could still cause confusion when response is at a larger level.
		Online resource directory	+ Oregon-specific resource
			+ Trained personnel dedicated to IHEs able to help.
			– Ongoing cost for implementation and upkeep.
			– An additional resource, which could be overwhelming to users.

C. ENGAGEMENT

Another issue observed in the literature is lack of campus engagement. The engagement element is an odd dichotomy; administrators often voice that emergency management is important and offer their support, but the campus community knows little about emergency management plans and does not frequently participate in campus training and exercises. There could be a number of reasons for poor engagement. Even if administrators support campus emergency management in theory, it may be an additional duty that they do not have time for, especially when considering the low probability of emergency events. Finally, arduous training in unfamiliar territory, transient populations, and turnover could also contribute to poor engagement.

1. Environment

Engaging leadership, faculty, staff, and students is a continued struggle within the preparedness community. Administrators have their own work to complete; they may run an entire institution or department, and wear many hats from day to day. Staff, similar to administrators, have daily jobs of their own. Attempting to navigate the learning environment of NIMS and the Incident Command System (ICS) could leave them confused; the curriculum does not lend to a user-friendly experience. Faculty are busy working on teaching and research and are often not full-time employees at one particular institution. And if plans are not congruent across university and college systems, then faculty members may have more than one plan to learn. Additionally, adjunct faculty numbers continue to increase due to budget cuts, but few institutions offer adjunct faculty members orientation to campus emergencies or additional pay and benefits for participation in events (e.g., training and exercises).[175] Finally, students, engaged in their academic programs are disinterested in emergency management programs because they plan to graduate in the near future.

IHEs differ from other county and city institutions, where roles are defined and tasks are consistent.[176] For example, county transportation departments, fire and rescue services, and city police departments practice the responses they would use in a crisis every day (e.g., provide transportation, secure a perimeter, establish incident command). In a campus setting, first responders consist of administrators, faculty, staff, and potentially students who do not deal with crisis or high-stress situations on a daily basis. Therefore, response procedures must be "negotiated" with these solicited campus members who choose (or are assigned) to be trained and take ownership of their assigned responsibility. For instance, a researcher could be designated as an operations section chief and required to understand ICS terminology and response in accordance with FEMA guidance. The idea of stepping far outside of day-to-day tasks and assuming drastically different roles could

[175] Denise Dedman and William J. Pearch, "Perspectives on Adjunct and Other Non-tenure Faculty," *The Community College Enterprise; Livonia* 10, no. 1 (2004): 23, 31.

[176] Farris and McCreight, "Professionalization of Emergency Management," 86.

be a reason for lack of engagement, as learning these skills in full takes time away from research, and there is no incentive to take on these additional tasks.

The "National Higher Education Emergency Management Program Needs Assessment" found that leadership is important for engagement.[177] If the leader shows up to exercises and trainings, other campus community members will follow.[178] Some recommendations noted within the literature suggest that an emergency management curriculum and training program targeted at leadership would engage the executive levels. However, the same report claimed that staffing levels are inadequate for emergency management, which would make the recommendation difficult to enact.[179] Additionally, the argument could be made that it is not about the availability of training; FEMA offers online ICS courses specifically designed for policy group leaders, executives, and senior officials.[180] It is more likely that leadership are not engaged because they simply do not have enough time in the day, and proactive preparation for crisis response is not a priority. Adding an annual training requirement may not be able to close this gap, as the extra training hours would add more strain to an already packed schedule. Nevertheless, research has shown that repetitive training allows information to stick with personnel. Perhaps a better solution would be for emergency management staff to sit in and participate as a standing agenda item in leadership meetings, offering short but repetitive training nuggets. The constant view of emergency management and the continued updates in various segments of emergency preparedness could foster better engagement from leadership.

Unhelpful or disinterested behavior due to relationship quality or trust may be another barrier to engagement, but could also be used to leverage a more effective program. Jessica Ford et al. note that it may be a problem with relationship quality that causes the campus community to deliberately ignore messages and other official emergency

177 National Center for Campus Public Safety, "Program Needs Assessment," v.

178 National Center for Campus Public Safety, 31.

179 National Center for Campus Public Safety, 32.

180 "Incident Command System (ICS) Overview for Executives and Senior Officials," FEMA, May 13, 2015, https://training.fema.gov/gstate/downloadmats.aspx?rd=1&course=G0402%20-%20ics-402%20-%20incident%20command%20system%20(ICS)%20overview%20for%20executives%20and%20senior%20officials.

management communications.[181] Other studies find that cohesion of teams directly correlates to the number of interactions a team has; effective engagement requires network connectedness before a crisis occurs, support, and trust from stakeholders, which in turn improves response and recovery and bolsters overall program success.[182] Nevertheless, harvesting these types of relationships does require energy, personnel, funding, and time, which—as discussed in Section A—are resources that are lacking.[183]

External engagement is equally as important as internal engagement for a well-developed emergency management program, but studies show that this type of engagement, either with stakeholder relationships or through mutual aid agreements, is lacking. Community stakeholders are important for the campuses, but the campuses also contribute to the community's resiliency.[184] Many agencies have worked to strengthen IHE and community partnerships after recognizing the role and resources that universities and colleges bring to preparedness and response.[185] However, barriers still exist—unfamiliarity with organizational personnel, cultural differences between academia and outside organizations, and concerns of ownership and legal issues inhibit effective engagement.[186] These barriers, along with incomplete and disjointed planning for IHE contributions within the various jurisdictions, contribute to poor external stakeholder involvement.

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[181] Jessica L. Ford et al., "A Network under Stress: Using Embeddedness to Understand Uncertainty Management and Resilience in Campus Emergencies," *Journal of Applied Communication Research* 44, no. 3 (July 2016): 319, https://doi.org/10.1080/00909882.2016.1192288.

[182] Mohammadfam et al., "Social Network Analysis"; Ford et al., "Network under Stress"; Ashlie J. Siefkes-Andrew, "A Crisis of Trust or Trust in Crisis? Examining Internal Stakeholder Trust in Higher Education" (PhD diss., Regent University, 2017), 116–17, https://nps-illiad-oclc-org.libproxy.nps.edu/illiad/illiad.dll?Action=10&Form=75&Value=190784.

[183] Siefkes-Andrew, "Crisis of Trust," 117.

[184] Anne L. Dunlop, Kristi M. Logue, and Alexander P. Isakov, "The Engagement of Academic Institutions in Community Disaster Response: A Comparative Analysis," *Public Health Reports* 129, no. 4 (2014): 88, https://doi.org/10.1177/00333549141296S412.

[185] The U.S. Department of Housing and Urban Development established the Office of University Partnerships in 1994; "The Office of University Partnerships (OUP)," U.S. Department of Housing and Urban Development, accessed May 5, 2018, https://www.huduser.gov/portal/oup/about.html.

[186] Dunlop, Logue, and Isakov, "Engagement of Academic Institutions," 94.

2. Oregon Model

As discussed, there are a number of potential reasons for poor engagement. Campus personnel could be too busy, they may not trust or have quality relationships with the emergency management professionals, or the program may not be a priority. Both internal and external engagement must be analyzed, as both groups of stakeholders are crucial to institutional and state resilience. As John Peters notes, "when a crisis hits, campus leaders may feel the need to manage the situation with only their resources, internally, on campus. However, crises events are complex, and it's unrealistic to expect internal staff to have the expertise needed for all types of crises. It is important for the campus to reach out beyond the institution for specialized expertise."[187] To address engagement and ensure program implementation will work in Oregon, the Work Group recommended the following:

- establishing a Higher Education Safety and Resilience Council and hiring a program coordinator,
- establishing a statewide training model that engages campus community members,
- establishing an IHE-specific all-hazards IMT,
- integrating with state emergency management teams, and
- adopting NIMAA.

a. Higher Education Safety and Resilience Council and Coordinator

The leadership and policy subgroup acknowledged that campus engagement is vital to the success of the program's implementation.[188] Committed faculty, staff, students, and especially leaders are of the utmost importance for resilient campuses. The literature pointed out that engagement in planning and program understanding were lacking because students and staff did not know what to do, or even if they had a plan; this demonstrates

[187] John G. Peters, *Managing the Unthinkable: Crisis Preparation and Response for Campus Leaders*, ed. Gretchen M. Bataille and Diana I. Cordova (Sterling, VA: Stylus Publishing, 2014), 106.

[188] University of Oregon, "Campus Safety," 5.

that preparedness perceptions do not always align with reality.[189] University and college assessments found that even with supposed leadership buy-in to emergency management initiatives, leadership was not engaged in exercises and planning, which must be prioritized if an effective program is the goal.[190]

The Work Group report recognizes that current gaps in institutional engagement mirror past gaps.[191] In 2008, in response to the Virginia Tech and Northern Illinois campus shootings, Oregon approved the Governor's Task Force on Campus Safety; although the task force made progress, it had clear shortcomings.[192] The state created the task force to improve crisis response, security, and safety on Oregon campuses.[193] The Work Group report claims that the 2008 initiative did not succeed due to lack of oversight. To address accountability, the Work Group recommended establishing the previously mentioned Higher Education Safety and Resilience Council.[194] The Council would be a multidisciplinary group of IHE leaders, emergency management practitioners, and safety experts that would give the governor's office, HECC, and legislature advice about gaps and needs for the IHE community, which they would assess by tracking the project's progress and successes. The report notes that empowering the Council to guide these efforts would ensure traction, and therefore improve involvement of campus communities—specifically the leaders.

To ensure the Council has time to continue the oversight work, the Work Group recommended that one full-time employee be hired and embedded with an existing emergency management program.[195] This statewide coordinator would be a shared-services asset to all campuses and would have the ability to staff the Council with a

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189 Lott, "Crisis Management Plans in Higher Education," 102.

190 National Center for Campus Public Safety, "Program Needs Assessment," 15–20.

191 University of Oregon, "Campus Safety," i.

192 University of Oregon, 6.

193 Theodore Kulongoski, "Executive Order No. 08-05, Governor's Task Force on Campus Safety in Oregon," Oregon.gov, February 4, 2008, 1, http://www.oregon.gov/gov/Documents/executive_orders/eo0805.pdf.

194 University of Oregon, "Campus Safety," 6–7.

195 University of Oregon; discussed further in section A, 2, a., 7.

multidisciplinary team of stakeholders. Research supports that the closer the emergency manager is to the top of the organization, the more engagement, funding, and support the program will receive.[196] Therefore, if the governor's office is engaged with and prioritizes emergency management initiatives, presidents, provosts, chancellors, faculty, staff, and students are also more likely to be engaged with and prioritize emergency management initiatives.

b. Statewide Training Model with Campus Community

Preparedness is a shared responsibility for the entire campus, but preparedness programs will be lacking without engagement from the campus community, even if they have dedicated emergency managers. The Work Group identified lack of training as an issue for engagement, as it means the campus community is not prepared.[197] Training requires staff and money; however, the Work Group's solution for training with limited funding and resources was to leverage the resources that currently exist. The Work Group suggested that usable statewide training templates be made and shared with all postsecondary schools to ensure consistency and continuity across the state. Furthermore, engaging the campus community by recruiting students and faculty to create short training videos could garner engagement. The University of Oregon has previously shown that development of training documents and peer-to-peer trainings allows for more community participation in emergency management programs.[198] Expanding this method for other emergency preparedness initiatives could be effective.

c. All-Hazards Incident Management Team and Adoption of NIMAA

As discussed in Section A of this chapter, the Work Group recommended that three to five campus-specific IMTs be supported throughout the state. The teams would be trained as Type III IMTs. This level of training mirrors state requirements, which means

196 Farris and McCreight, "Professionalization of Emergency Management," 77.

197 University of Oregon, "Campus Safety," 12.

198 University of Oregon, 12, 23; University of Oregon students and faculty created a training for active shooter threats called "Unspoken," which has been a successful way for their campus community to be trained.

IHE IMTs could train and build relationships with state IMTs. Additionally, coverage for the state could be provided as needed from university and college resources. This type of relationship building would be beneficial to both the academic institution and the community, as research shows that networks and relationships allow for a more coordinated response.[199] The Work Group also recommended that all Oregon IHEs adopt the NIMAA program—this would build not only state-wide but also national relationships.[200]

The Work Group's method for engaging stakeholders will allow Oregon's academic institutions to be connected to a large infrastructure of resources, information, and practitioners. Multiple studies link connectedness to improvement of trust, information flow, and resiliency.[201] The more connectedness a person or institution has, the better the person's or institution's relationships and the more coordinated and consistent their responses to crises will be. Future studies of Oregon's program should look specifically at the social networking of these mutual aid agreements to determine if IHEs across Oregon have more connections and serve as informational nodes to other institutions across the nation.

3. Conclusion: Engagement Pros and Cons in the Oregon Model

The reason campuses are not engaged is because there is no accountability for emergency management programming goals. To address this issue, the Work Group recommended oversight from the governor's office. The measurement of success will be completed plans and trainings by the IHEs as reported through the Council to the governor, HECC, and legislative team. If engagement at the institutional level occurs quickly, there may not be a need for additional funding or resources, and current resources will be used before requests for additional state funds. Additionally, if solid relationships are built inside and outside the campus with all stakeholders, strategic plans and projects will be better

199 Mohammadfam et al., "Social Network Analysis," 329–40.

200 International Association of Emergency Managers, "IAEM-USA."

201 Mohammadfam et al., "Social Network Analysis," 329–40; Ford et al., "Network under Stress"; Siefkes-Andrew, "Crisis of Trust."

implemented. The Work Group's report did not directly address behavioral issues, specificity of relationship building, or other engagement issues that could be found throughout the studies. However, programs such as IMT and NIMAA would allow for engagement based on psychological studies, as teams would need to train and work together frequently to ensure success.

The extent of training and exercises was not discussed in the report; the report only that there would be an organized model to implement a training and exercise program. If implementation of training and exercises follows federal mandates, such as Clery, campuses will have only one drill or test annually, which may not be enough for true engagement. A statement of expectations surrounding training calendars, the number of trainings, and the types of trainings would be beneficial for measurements of this program moving forward. Additional studies on engagement in training and exercises after this program is implemented would be important to the emergency management field. Knowing how often training and exercises are conducted and if engagement improves because of them would be helpful information for other jurisdictions.

Table 6 summarizes the pros and cons of the Oregon model in addressing the issues found throughout the literature.

Table 6. The Oregon Model: Engagement

Engagement Needs	Issues	Oregon Model	Assessment
Leadership engagement	• Does not make program a priority • Poor involvement in exercises and program	Higher Education Safety and Resilience Council and coordinator	+ Reports status/progress of IHE emergency management program directly to governor's office.
			+ Prioritizes the emergency management program within IHEs.
			– Does not show how leadership will add this additional prioritization to their already busy calendars.
		Statewide training model	+ Will ensure standardized training for leadership team.
			+ Allows for resource sharing across state lines.
		All-hazards IMT and NIMAA	+ Leadership do not have to be subject-matter experts; trained IMT personnel will respond.
			– Leadership would need to be involved in mutual aid agreements, taking additional time.
Relationships and trust	• Interaction and rapport with IHE emergency management • Legality and ownership with external stakeholders	Higher Education Safety and Resilience Council and coordinator	+ Allows for interaction with IHE and state leadership on a regular basis, which builds rapport.
			– Could be dissolved if new state leadership is elected.
		Statewide training model	+ Ensures a regular training program is conducted on campuses, allowing for visibility.
			+ Peer-to-peer trainings and curriculum designed by internal stakeholders emphasize engagement.
			– Does not specify how much training should be done each year.
		All-hazards IMT and NIMAA	+ Ensures specified personnel from IHEs work and train together, enhancing engagement throughout the campuses.
			+ IMT will integrate into state IMT response, engaging external stakeholders.
			+ Involvement on a national level allows for engagement from campus stakeholders across the nation.
			– Does not lay out requirements for IMT teams or training recommendations for ongoing engagement.

Engagement Needs	Issues	Oregon Model	Assessment
IHE landscape	• Transient population • Adjunct faculty • Faculty engagement • Additional duty	Higher Education Safety and Resilience Council and coordinator	– Does not address the nuances of transient population, adjunct faculty, or additional duties.
		Statewide training model	+ Peer-to-peer trainings and curriculum designed by internal stakeholders emphasize engagement.
			+ Would require ongoing training to account for transient population.
			– Does not address adjunct faculty engagement specifically. If adjunct faculty numbers continue to increase, their engagement will need to be directly addressed.
		All-hazards IMT and NIMAA	+ May relieve some additional duty from faculty if trained IMT members are able to respond to campus.
			– Does not fully address the nuances of transient population, adjunct faculty, or additional duties.

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V. DISCUSSION

Campuses, though similar to other institutions in the municipalities in which they reside, are distinct communities in their own right. Small and large crisis situations have affected universities and colleges and, as their own individual jurisdictions, they have been required to respond and recover, relying on their internal resources or mutual aid with stakeholders. As higher education budgets decrease and requirements for emergency preparedness continue to increase as a result of natural and man-made disasters, it is important for IHEs to examine how they can innovatively improve and sustain effective emergency management programs. Years of study and research have shown that IHEs have the same recurring issues despite lessons learned that have been shared across campus systems. The Oregon model may fix some of these ongoing issues by collectively networking a system of postsecondary institutions together in order to plan and train ahead of crises, and respond together if disaster occurs. This model of shared services, high-level visibility, and uniformity across the state has the potential to fill gaps identified in resources, planning, and engagement while maximizing resources among university and college campuses. This chapter summarizes the case study findings and discusses implementation barriers for states hoping to adopt similar models.

A. OREGON SUMMARY

Table 7 assembles the findings in each Oregon model area. The issues the Oregon model addresses span from staffing issues and rising tuition, to budget cuts and confusion with planning. Since the issues identified during the analysis are summarized at the end of each section in Chapter IV, they were not included in this table. The table outlines the Oregon model's recommendations and assesses how they could alleviate the issues identified in previous research.

Table 7. Oregon Model Summary

Oregon Model	Assessment
Shared services	+ Allows for cooperation, continuity, and communication between IHEs.
	+ Additional staff not necessary when resources are shared and existing resources are effectively used.
	+ Eliminates duplicative work.
	+ Saves money if IHEs do not need to fund an emergency manager at every institution.
	+ Saves money through shared resources.
	+ Allows for consistency across IHEs.
	+ Allows for consistency for plans using predesignated templates across IHEs.
	+ Builds plan blueprints and builds continuity.
	+ Eliminates duplicative work.
	– Model does not specifically address additional duties for EM, or the exact EM roles.
	– Requires ongoing funding to support.
	– Templates may follow guidance different from requirements of the city, county, and state (e.g., NFPA 1600 vs. NPG); this could still cause confusion when response is at a larger level.
All-hazards IMT	+ Fills staffing gap for crisis response.
	+ Trained personnel dedicated to IHEs able to help.
	+ Response is internal to IHEs, could be more cost effective than having a state IMT respond; also allows for shared resources.
	+ Knowledge of documentation of the response could allow for more accurate reimbursements.
	+ Allows for integration into city, county, and state response, building networks and mutual aid.
	+ Builds external stakeholders from other IHEs.
	+ Leadership will not have to be subject-matter experts; trained IMT personnel will respond.
	+ Ensures specified personnel from IHEs work and train together, enhancing engagement throughout the campuses.
	+ IMT will integrate into state IMT response, engaging external stakeholders.
	+ May relieve some additional duty from faculty if trained IMT members are able to respond to campus.
	– Time for training and response to other institutions.
	– Could be easily eliminated based on administrative agendas.
	– Cost associated with training and response to other institutions.
	– Does not lay out requirements for IMT teams or training recommendations for ongoing engagement.
NIMAA	+ Allows for resource sharing across state lines.
	+ Builds mutual aid networks nationwide, maximizing resources for response, as needed.
	+ Builds external stakeholders from other IHEs.

Oregon Model	Assessment
	+ Involvement on a national level allows for engagement from campus stakeholders across the nation.
	– Not well defined for IHEs, and external stakeholders could remain inconsistent.
	– Leadership will need to be involved in mutual aid agreements, taking additional time.
Full-time staff	+ Coincides with shared services and allows consistency at each institution.
	+ Direct tracking of progress and frequent reports to the governor for accountability.
	+ Maximizes resources by capitalizing on personnel and plans already in place.
	– Could be easily eliminated based on administrative agendas.
	– Ongoing cost associated with additional staff.
	– As a shared resource, would drive consistency across the state, building mutual aid continuity.
	– As a shared resource, would drive consistency across the state, building mutual aid continuity.
Online resource directory	+ Oregon-specific resource.
	+ Trained personnel dedicated to IHEs able to help.
	– Ongoing cost for implementation and upkeep.
	– An additional resource, which could be overwhelming to users.
Higher Education Safety and Resilience Council and coordinator	+ Reports status/progress of IHE emergency management program directly to governor's office.
	+ Prioritizes the emergency management program within IHEs.
	+ Allows for interaction with IHE and state leadership on a regular basis, which builds rapport.
	– Does not show how leadership will add this additional prioritization to their already busy calendars.
	– Could be dissolved if new state leadership is elected.
	– Does not address the nuances of transient population, adjunct faculty, or additional duties.
Statewide training model	+ Ensures standardized training for leadership team.
	+ Allows for resource sharing across state lines.
	+ Ensures a regular training program is conducted on campuses, allowing for visibility.
	+ Peer-to-peer trainings and curriculum designed by internal stakeholders emphasize engagement.
	+ Requires ongoing training, continual training for transient population.
	– Does not address adjunct faculty engagement specifically. If adjunct faculty numbers continue to increase, their engagement will need to be directly addressed.
	– Does not specify how much training should be done each year.

The analysis shows that the Oregon model could provide solutions in a number of areas. The continuity, communication, and collaboration between universities and colleges across the state through shared services, an all-hazards IMT, statewide training, and online resource sharing will provide uniformity in planning, training, and response. The all-hazards IMT will also align with the state IMT, opening the lines of communication and seamlessly tying IHEs into a state response. Frequent communication with the governor's office, legislature, and campus presidents should bring visibility and accountability for emergency management in IHEs, also eliminating unknowns for the state's leadership. Finally, collaboration through NIMAA with IHEs nationwide will provide additional stakeholders and support for the Oregon system.

B. IMPLEMENTATION CHALLENGES

As the phases are implemented over the upcoming years, the staff will be able to identify challenges of the model. The following sections highlight potential implementation issues, which may be addressed as the Work Group begins to implement the program, but no sourced documents speak to the potential program gaps. Additionally, certain implicit challenges could occur as the phases are applied at the institutions. These elements will need to be addressed further as the program rolls out, or studied in further detail if they hinder progress.

1. Funding

As funding, on average, declines for higher education institutions, this model could provide a needed budget reprieve through shared services. This cost-savings initiative would provide more services with resources already in place. However, as noted in the analysis, this initiative requires upfront costs. Identifying the resources that are currently out there, organizing these resources in a systematic way, and ensuring consistency across the IHEs requires staff and ongoing funding. The Work Group identified an approximate cost of $500,000 for phase one of the program.[202] This would include $167,00 for two full-time employees—the Council coordinator and the training and resources coordinator—for

[202] University of Oregon, "Campus Safety," ii, 27.

three years, $20,000–$50,000 for an online resource center, and funds to develop and implement resource and training materials and training program essentials. This equates to approximately $166,666 per year for the initial three years. The cost would have to be provided by the state, or each of the campuses would have to contribute $3,030 per year.

Dividing the cost among the IHEs seems to be the most cost-effective way to implement these phases. A price tag of $3,030 per institution per year in return for a seamless and integrated emergency management program seems like an obvious choice; however, the cost of emergency management is often difficult to see on the front end. Disasters like the Virginia Tech shooting and Hurricane Katrina are seen as few-and-far-between, if-only catastrophic events, such as Virginia Tech or Hurricane Katrina; however, emergency management programs in higher education address *all* hazards on campus. This can include water main breaks, elevator entrapments, campus protests, and proactive event planning (e.g., graduation). All campus events and crises can benefit from proactive emergency management programming. Additionally, the National Institute of Building Sciences conducted a study on hazard mitigation and determined that every dollar spent on actions to reduce disaster losses saves roughly four dollars in future benefits.[203] Though this study was specific to FEMA and not higher education, the benefits of proactive planning and preparedness are similar. Nevertheless, marketing this program and having each campus fund a portion of it could be challenging if its benefits are not immediately tangible.

2. IHE Landscape

Accountability for growth in this model depends on state leadership, since the Higher Education Safety and Resilience Council will report program progress to the governor's office and legislature. This could be detrimental for the program, depending on the climate of state administration and the constituents that elect these officials. Within a

[203] Multihazard Mitigation Council, *Natural Hazard Mitigation Saves: An Independent Study to Assess the Future Savings from Mitigation Activities*, Volume 1 (Washington, DC: National Institute of Building Sciences, 2005), iii, 5, https://www.floods.org/PDF/MMC_Volume1_FindingsConclusions Recommendations.pdf; "Multihazard Mitigation Council," National Institute of Building Sciences, accessed July 27, 2018, https://www.nibs.org/page/mmc_projects#nhms.

few years, this program could collapse with administration change, particularly if the results and benefits of the program are not immediately identifiable. Funding through each individual university and college could eliminate some of this need. If the state's leadership is not funding the program but is still profiting from the results—even in the long term—the program has a better chance of survival. However, as shown in the literature and as evidenced by Oregon's failed 2008 program, leadership engagement and buy-in are needed for a successful program.

Leadership challenges also occur within the academic institutions. The Work Group report did not address the interpersonal rivalries or relationships within the various IHE types, nor did it discuss how challenges with leadership between entities can be overcome. In many states, public and private institutions are very different. Their funding streams, budget allocations, and programs in general differ from one another. This could pose a challenge as the program is implemented. If all institutions have pledged their support, clear lines about how the program will work for each institution will have to be outlined. For example, if one IHE has a dedicated emergency manager and another does not, will the shared services coordinator have to spend more time at the one without a full-time employee? If that occurs, will other campuses feel left out and also want more of the coordinator's time? How will shared funding be collected across the different budget lines and fairly distributed? If one IHE opts out of the program, will that institution be unsupported by other state IHEs when a disaster occurs? There are many questions and challenges that will need to be addressed as the model is phased in.

Governance and geography for states that choose to implement the Oregon model could have unforeseen challenges, as structures, policies, processes, and relationships differ. Each state will have to look at the Oregon model's benefits and determine what portions would work in their own jurisdiction. Cities—such as Kansas City, which spans the Kansas–Missouri border—may want to look into a regional consortium for the metro-area colleges and universities. This system would bring a number of limitations due to state statutes, but could provide tremendous benefits for the resiliency of the city. States may find a statewide consortium too vast for initial implementation and could begin smaller consortiums with geographically clustered schools prior to statewide implementation.

3. Emergency Management Guidelines and Roles

The Work Group report noted that training and policy requirements will use a combination of federal guidance documents, including the NFPA 1600, EMAP standard, and THIRA.[204] However, these guidance documents, though supportive of incident command and NIMS, do not specifically parallel the NPG. If jurisdictions such as the county or city plan to support emergency functions or capabilities as the NPG outlines, there could still be confusion, from the IHE jurisdiction to the city, county, or state. These challenges can be mitigated through frequent internal–external stakeholder meetings and combined drills and exercises; however, this will require time and resources from all involved personnel. Change to the overall policy guidelines would need to occur at the federal level, with FEMA, the Department of Education, NFPA, EMAP, and other guiding stakeholders all coming together and building one integrated program in support of Homeland Security Presidential Directive 5. This would be a massive undertaking at the federal level, which is why states and IHEs need to work closely together to better define how they will align in their own jurisdictions.

Additionally, the Work Group report did not specifically address the emergency manager's role. Emergency managers tend to wear multiple hats; although this model does not alleviate their workload, it could help, as plans and training models will be designed through the Council. Additional observation of the emergency manager's role will be needed to determine if the program overburdens managers, or if the shared-services model lightens their load.

4. Attaining Engagement

Unengaged faculty, staff, students, and administrators who are busy with their day-to-day jobs and not looking to become experts in emergency management may see a benefit to an organized, system-wide program. In a crisis situation, the campus would have to support itself, with the benefit of knowing that, within twenty-four hours, a trained response team made up of higher education personnel will be there to support their

[204] University of Oregon, "Campus Safety," 9.

response and recovery. However, believing that someone else will show up to resolve the incident could potentially cause greater gaps in engagement. This is why the model specifically addresses engagement through campus-wide training that relies on peer-to-peer trainings and an involved campus community. All of this does take time—time away from studies, and time away from daily duties. As with the emergency manager's role, future studies should evaluate the effect the Oregon model has on stakeholders' time.

VI. CONCLUSION

Emergency managers have to do more than plan and respond for disasters; they need to think strategically about the future of higher education and emergency management needs as the world rapidly changes. Past case studies and lessons learned have offered historical narratives and helped IHEs understand why decisions were made, and what, at that point in time, was lacking. In the future, however, IHEs must look strategically at their preparedness programs and determine how they will be funded, supported, and continued as the requirements of homeland security become harder to meet and the funds for higher education decrease.

IHEs can hope that resources will be available, that a crisis situation will not occur on their campus, and that funds are unlimited in times of disaster. But this head-in-the-sand outlook is the opposite of preparedness. Imagining a future in emergency management where everything is connected, planning is understood, and response is seamless provides a hopeful vision for what IHE programs could look like. Taking action to meet that vision must begin now, even if failure in certain areas occurs. IHEs must determine what works well and what does not so future emergency management programs can flourish.

A. SUMMARY OF RESEARCH

This research set out to discover what the recurring issues are in higher education emergency management programs and if the Oregon model could address them. Common issues from past studies and surveys fell into three categories: planning, resources, and engagement. Underlying causes for each category were then evaluated against the Oregon model. The true program outcomes will not be known until Oregon implements the program; however, this research asserts that the Oregon model will be successful in allowing uniformity across the state, ensuring continuity between institutions, and saving money in the long term. Challenges, including administration and emergency management confusion, could materialize as the program rolls out; however, if Oregon is able to pivot quickly when these roadblocks arise, the program shows potential of great success. If the

Oregon model proves successful and is applied nationally, our IHE system's capacity and performance could contribute greatly to our nation's resiliency.

B. FUTURE STUDIES

This initial study provides a baseline for a future examination of the Oregon model. Decision-makers will have tangible programs that work or do not work based on the outcome of the Oregon model. This case study can be used as a baseline for tracking changes with and gaps in the Oregon model, and could inform other states about how something similar may or may not work in their own region.

This research offers a number of ideas for future studies, including:

- Cost savings and investment: Since this program has not yet been implemented, there is no estimation of its cost savings. However, calculating cost savings would provide valuable information for future studies if research can show that the funds invested made IHEs more prepared despite spending fewer dollars on response.

- Comparisons: As the program is implemented, data should be compared to see which initiatives worked and which did not. As other states implement similar programs, they can cherry-pick the most effective policy changes.

- Outcomes: The Oregon model, after it is implemented, should be analyzed to see if recurring issues have improved or if the gaps found in this research have been resolved. This could substantiate or disprove this research, which would be important to understand. If current practices and studies are not improving emergency management programs, new innovations will need to be devised.

- Assessment: This model offers a good baseline for future studies, pulling individual areas out for deeper analysis. As the program is implemented over a number of years, regular assessments in each area—resources, planning, and engagement—would be beneficial to evaluate what has worked and what has not.

C. THE CASE FOR CHANGE

Oregon will be a model to watch and, as the program unfolds, other states can take what worked from Oregon and implement it in their own jurisdictions, leaving behind whatever portions of the Oregon model were not effective. Building programs off proven tactics will lead to a more robust IHE system and contribute to the overall resiliency of the nation.

Universities or colleges with robust emergency management programs may look at the Oregon model and wonder, What's in it for me? Resource-heavy campuses may end up offering more assistance to those who are lacking with this model; however, countless intangible benefits, such as good will, positive public relations, and knowing that the state or region will be more resilient when IHEs come together, are noble objectives. Additionally, when disaster hits those resource-heavy institutions, they too will need the assistance of a good neighbor.

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