Scott Kaiser

Colorado School Safety: An Examination of Web Availability of Emergency Management Information

As of July 1, 2009, Colorado's Department of Public Safety and School Safety Resource Center aligned their preparedness mission for school districts' disaster procedures to those provided by the Department of Homeland Security (DHS) and the Federal Emergency Management Agency's (FEMA) National Incident Management System (NIMS) publications (Colorado General Assembly 2008). One of the main goals of NIMS is to facilitate an interoperable dialogue with all stakeholders to establish a common understanding of emergency management (National School Safety Center 2015; Colorado School Safety Center 2015). Furthermore, many experts underscore that this engagement between school staff, first responders, parents, and other key community members must be unified to "support schools in the prevention of, preparedness for, response to, and recovery from a disaster" (Council on Student Health 2008: 895).

Colorado is an interesting case for understanding school emergency preparedness actions, given the spectrum of student enrollment and per pupil funding within Colorado's school districts, which ranges from 10 to around 90,000 individual students per district and $6,580 to $16,123 in per pupil spending, respectively (Colorado Department of Education 2014; Colorado Department of Education 2015).

During the 2014-15 school year, there were ~~are~~ more than 800,000 students enrolled in the 179 public school districts spread across eight regional education areas, including the Metro Area, North Central, Northeast, Northwest, Pikes Peak, Southeast,

Southwest, and West Central (Colorado Department of Education 2014; Sutter 2015). Figure 1 displays these educational regional affiliations across the state.

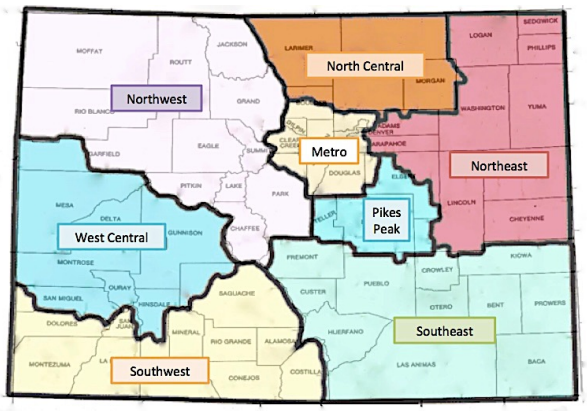

Figure 1: Colorado's eight educational regions

Although it has now been nearly a decade since the enactment of Colorado's legislative commitment to school safety, there has been no analysis of Colorado's public school districts' methods for communicating emergency management procedures. In order to begin to fill this void, this research will review and analyze online safety information published by Colorado school districts' to further understand (1) *how many of Colorado's public school districts include emergency management information as part of their websites*, (2) *how does this online emergency management information vary by region, setting, student enrollment, and socio-economic status of the students and school districts*, (3) *how many of Colorado's public school districts publish emergency management documents online*, (4) *how do these documents vary by region, setting, student enrollment, and socio-economic status of the students and school districts*, and (5) *how do Colorado public school districts frame emergency management information published online?*

Importance of Online Emergency Management Information

Studying online school safety materials is important. As Altheide and Schneider (2013: 5) argue, because of the growing utility of technology, "the relevance of

documents in our daily lives cannot be overstated" (p. 5). Importantly, this proliferation of Internet accessibility has allowed more individuals to to obtain more types of information (Bekkerman and Gilpin 2013: 10) through more channels than ever before. This astronomical growth in availability has led many community organizations, including school districts, to publish and maintain information online to form better "school-to-home" and "home-to-school" communication networks and thus cultivate a virtual space for community engagement (Piper 2012: 36-38).

Schools also play a central role in communities and students' lives during times of disaster, "whether [it be] a large-scale crisis occur[ing] during school hours, before or after school, or off the school campus, the school district plays an important role in the unfolding of events" (Council on School Health 2008: 895). This role of school districts necessitates the maintenance of fluid channels of communication to meet "extraordinary information needs [during a crisis] where people use whatever means available to find information under rapidly changing conditions" (Shklovski, Palen, and Sutton 2008: 128).

When school districts are involved in emergency situations, their websites and online presence may become an advanced communicative tool. These websites can thus help to "facilitate communication, the exchange of information and ideas, and the sharing and creation of knowledge" (Taddeo and Barnes 2016: 433). In addition to the capacity of a school's website and other online resources, other more traditional forms of communication (i.e., phone numbers and radio broadcasts) also remain important. Many observers support this idea of "communicative multiplicity," finding "compelling

evidence for the importance of using multiple forms and sources of information to communicate with publics during disasters" (Liu, Fraustino, and Jin 2015: 17).

The growth of social media usage presents another suite of tools for schools and school districts communicating information about school preparedness, response, and recovery. Within the United States, there has been a 63% growth in individuals' use of social media sites from 2005 to 2013 (Houston et al. 2014: 1). Furthermore, the usefulness of social media in communicating during emergencies and disasters stems from its inherent structure allowing "individual users to subscribe to flows of information" (Murthy and Longwell 2013: 837). This flexibility of social media to form "communities of practice" across disaster risk reduction, emergency management, and community development, have been noted by many as being an integral tool in the 21st century (Duffy 2012: 42). Despite this capacity for online communication to mitigate information deficits, all school districts may not possess the resources to provide extensive district information or update online published information (Miller, Adist, and Miller 2005: 39).

Definitional Clarification

For the purposes of this research, disaster is defined as:

> "a sudden, calamitous event that seriously disrupts the functioning of a community or society and causes human, material, and economic or environmental losses that exceed the community's or society's ability to cope using its own resources. Though often caused by nature, disasters can have human origin" (International Federation of Red Cross and Red Crescent Societies 2016).

In the disaster literature, emergencies are often treated separately from disasters. As Quarantelli explains, this is due to the greater constriction of autonomy and convergence of more unfamiliar entities within a disaster than what occurs within an emergency situation (2000:1). Although disasters and emergencies are typically treated

separately in the disaster research literature, these words are typically used interchangeably within school emergency management publications. As such, in this research, the terms will be used interchangeably as well, although when distinctions are important in the analysis they will be made. Furthermore, emergency management will be used as an umbrella term encompassing school safety and security, which concerns emergency management within school districts as specific institutions.

Positionality

There have been increasing calls among scholars for researchers to address their positionality within their research projects (see Ravitch and Carl 2016). Although my analysis of Colorado public school district websites and online documents is considered "nonreactive research," it is still important to detail my own positionality and perspectives as they may have affected my approach to this study.

My interest in analyzing school district websites and their emergency management information was driven by my prior work experience in the Poudre School District (PSD) in Fort Collins, Colorado, and given my research experience through the Center for Disaster and Risk Analysis (CDRA) at Colorado State University (CSU). Additionally, I was the Energy Intern at PSD from January 2014 to May 2016. During my time there, I was in charge of Energy Star building certifications as well as creating and maintaining data spreadsheets detailing the districts' energy usage and greenhouse gas emissions. These spreadsheets were published on PSD's website to help facilitate community engagement and PSD's ongoing commitment to sustainability. It was this transparency that showed me how powerful a school districts' websites could be in conveying information to the wider community.

As a graduate research assistant at CDRA, I have worked on various projects, although the one most relevant to this research is a Federal Emergency Management Agency (FEMA)-funded project to develop the school safety guidebook *Stronger, Safer, Smarter: A Guide to Improving School Natural Hazard Safety*. As part of that project I helped compile a comprehensive literature review and participated in the design and implementation of a series of focus groups with school leaders and emergency managers.

It is clear that my work at PSD and CDRA – as well as my training as a sociologist – drove my interest in completing this research and also undoubtedly shaped what I did (and did not) see as I analyzed the websites. I think, in the end, that my prior experiences ultimately improved my ability to identify idiosyncrasies of school district websites and important manifest and latent trends within information that was shared on school districts' websites.

Methods

For this research I collected and analyzed aggregate school district data. I began by using Colorado Department of Education's *School View Data Center*[1], because it displays each of Colorado's 179 public school districts' active websites and enrollment sizes for the 2014-15 school year (the most recently available). The reason I decided to proceed with school districts as my unit of analysis was due to districts acting as overarching bodies of governance for individual schools. Furthermore, a school by school search, through the 1,852 public school websites (Colorado Department of Education 2015), would have proved unwieldy due to the sheer number of schools as

[1] The *School View Data Center* is located at: https://www.cde.state.co.us/schoolview

well high level of redundancies in emergency management information from schools that belonged to the same district.

Because I was interested in analyzing the school district websites geographically as well, I manually reorganized the student enrollment data and active website links for each school and district within multiple Excel spreadsheets to match the eight educational regional districts as defined by Colorado's Department of Education. As stated ~~in~~ above, these educational regional areas include the Metro Area, North Central, Northeast, Northwest, Pikes Peak, Southeast, Southwest, and West Central Regions. In addition to the *School View Data Center*, I also used the *District Dashboard*[2]. This online database is also maintained by the Colorado Department of Education, but includes more detailed information on school districts throughout the state. Moreover, all of the data from the *District Dashboard* database contained information from the 2014-15 school year, which allowed me to develop a more holistic perspective of each school district, including the locational settings for each school district.

In total there are five distinct locational settings officially classified by the state of Colorado including Denver Metro, Urban-Suburban, Outlying City, Outlying Town, and Rural. A school district's setting as defined by the Colorado Department of Education is different than a school district's educational regional affiliation. This is due to settings being classified based on economic activity and population density. Table 1 displays each of the setting classifications in order of decreasing population density.

[2]The *District Dashboard* is located at: http://www.schoolview.org/dish/dashboard.asp

Table 1: Setting classifications as defined by Colorado Department of Education

Setting Classification	Definition
Denver Metro	Districts located within the Denver-Boulder standard metropolitan statistical area which compete economically for the same staff pool and reflect the regional economy of the area.
Urban-Suburban	Districts which comprise the state's major population centers outside of the Denver metropolitan area and their immediate surrounding suburbs.
Outlying City	Districts in which most pupils live in population centers of 7,000 persons but less than 30,000 persons.
Outlying Town	Districts in which most pupils live in population centers in excess of 1,000 persons but less than 7,000 persons.
Rural	Districts with no population centers in excess of one thousand persons and characterized by sparse widespread populations.

My initial searches of the *School View Data Center* and *District Dashboard* sites allowed me to collect and analyze per pupil spending, racial and ethnic demographic information, percentage of students receiving free or reduced lunches, and locational setting for each school district (see Table 2 below). Moreover, by not relying solely on search engines to discover relevant websites I was able to avoid sampling biases within my research (Bryman 2008: 629).

Table 2: Aggregate school district information that was collected

2014-15 Aggregate Public School District Information Collected via School View Data Center & District Dashboard Databases	
Settings	Denver Metro, Urban-Suburban, Outlying City, Outlying Town, Rural
Student Enrollment Sizes	
Total Per Pupil Spending	
Demographic Information	% White, Black, Hispanic, American Indian/Alaskan Native, Asian, Hawaiian/Pacific Islander
Rates of Free or Reduced Lunch	
District Website URLs	

After collecting aggregate school district information, I utilized a qualitative content analysis protocol for evaluating emergency information on school district websites through seven major thematic fields, with 25 subcategories under those fields. By employing a qualitative content analysis, I was able to collect meaningful and robust

data involving my research questions using both latent and manifest coding (Neuman 2011: 364-365). Furthermore, qualitative content analysis is not just based around counting and coding different facets of information, but it also offers flexibility and a dedication to understanding the meanings of documents in order to associate these documents with conceptual and theoretical understandings (Bryman 2008: 288-289; Altheide and Shneider 2013: 70).

Furthermore, online school district documents found on webpages were also analyzed for this research. Theses documents were either in the form of PDF or Word Documents. One reason I deemed it important to conduct this more targeted review of the documents was to maximize two important aspects of a robust qualitative content analysis. This included attention to how the documents are defined and how the documents contextualize the meaning making process for intended audience members (Altheide and Schneider 2013: 17; Ravitch and Carl 2016: 171). Moreover, providing an additional a document analysis increases the opportunity of uncovering specific descriptive features in a documents' content that may otherwise go unnoticed (Neuman 2011: 49; Shreier 2012: 43).

Results

My analysis revealed that as of January 2016, 55 out of 175[3] (31%) school districts have online emergency management information. These districts enroll 87% of all public school students in Colorado. The average enrollment size for school districts with online emergency management information on their website is 13,652. School districts that did not publish any online emergency management information on their

[3] In total there are 179 listed school districts in Colorado. However, four school districts were excluded because they did not have an active website.

website constitute around 69% (120 out of 175) of school districts within the state, but only encompass 13% of student enrollment for Colorado. The average size for school districts without online emergency management information is 957 students. Below Figure 2 displays the ratio of school districts that did post online emergency management information over the total number of districts found within each educational region.

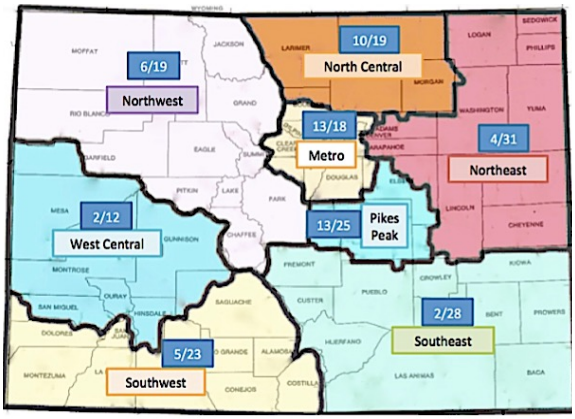

Figure 2: Number of districts that publish emergency management info online out of total number of districts in each educational region

Thus, this analysis revealed a “rural-urban” divide in terms of which districts across the state publish online emergency management information. Indeed, nearly 60% of schools that publish online emergency management information are located within the most populous settings as defined by the Colorado Department of Education, including the Denver Metro, urban-suburban, and outlying city settings. Furthermore, the Metro Educational Region, North Central Educational Region, and Pikes Peak Educational Region, which all have total student enrollments of over 100,000, are also the only educational regions where 50% or more of their districts publish emergency information online. In contrast, approximately 90% of school districts that do not publish any online emergency management information are located in the less populous areas

of the state, including outlying town and rural settings. Moreover, only 13% of the districts in these outlying town and rural settings listed contact information for emergency specialists on their websites.

In terms of the hazards addressed, just over two-thirds (67%) of the districts with online emergency management information used an all hazards approach on their websites, while 13% were nonspecific and referred to school safety in general. About 7% focused on active shooter situations, 7% spoke to technological/accidental disasters, and 6% were password protected and hence could not be analyzed.

Nearly three-quarters or 42 of the 55 school districts that published online emergency management information listed at least one outside resource. The most often utilized outside resources included the Safe 2 Tell organization and the I Love U Guys Foundation.

This research revealed that school districts that publish online emergency management information are also more diverse than the average Colorado school district. For instance, schools with online emergency management information enroll fewer non-Hispanic White students and more Hispanic students than the average. In contrast, school districts without online emergency management information are more White, on average.

Interestingly, school districts without online emergency management information, actually spend more per pupil ($9,783), than school districts with online emergency management information ($7,632), and Colorado school districts on average ($9,027). There was less difference in rates of free/reduced lunch, with districts without online emergency management information averaging 51% of students being eligible for these

programs, while school districts with online emergency management information averaged 46% eligibility. The statewide average for all Colorado school districts is 49%.

Furthermore, my analysis revealed that 35 school districts (20%) published at least one emergency management document on their website. These school districts had an average enrollment size of 17,000 and constituted around 70% of total student enrollment within the state. These school districts that published online documents, like those that had online emergency management information, were more likely to be located in the more populated educational regions including the Metro Denver Region, North Central Region, and the Pikes Peak Region.

Roughly 80% (140 out of 175) of school districts had no online emergency management documents available for download on their website. The average enrollment size for these schools was 1,871. School districts with no online emergency management documents enroll about one quarter of all students in Colorado.

In the end, I downloaded 48 documents from the 35 sites that published emergency management documents online. I then read and analyzed those documents, and found that there were 26 distinct phrases employed to signal emergency management information. These phrases primarily revolved around “Safety and Security,” “Safety,” “School Safety,” and “Student Safety.” Of the 48 documents that were analyzed, 34 (71%) referred to their district emergency management procedures reflecting an all hazards approach, while 14 (29%) did not specify the type of hazards their district was prepared for.

From the 48 documents, there was a range of actionable advice given. For instance, 53% of documents offered actionable advice for parents in terms of preparing

for or responding to an emergency situation; 42% of the documents included actionable advice for teachers/staff; and 5% offered actionable guidance for students affected by an emergency or disaster.

In terms of the framing and format of the document, I found that 28 number of documents included some sort of photograph or image. 17 of the documents offered 17 images. 13 of the documents that included an image or symbol used the I Love U Guys Foundation's Standard Response Protocol images. I also analyzed 24 photos that were included in 11 documents. Of these photos, 21 (87%) represented positive or reassuring themes including first responders, smiling students and parents, students engaging with their peers, teachers, and parents, and students practicing emergency drills.

Limitations

As with any study, there were various limitations to this research. One such limitation was inherent in the approach. Specifically, I only analyzed secondary data that was available online. School districts obviously may rely on other communication channels to convey emergency management information to multiple audiences. Only analyzing information via the districts' online presence may not accurately reflect its communication through many other channels including emails, letters, text messages, automated phone calls, social media postings, handouts/flyers, and local radio and television channel broadcasts, for instance. Because I only drew on secondary data, I ~~obviously~~ was not able to use other methods to understand how teachers, parents, or students, for instance, are actually accessing emergency management information. I also do not know how often the sites I analyzed are visited (or by whom), and how often the documents were downloaded.

A second limitation to this study was that I did not capture how social media profiles and accounts of school districts are managed or used. Instead, I only identified whether a school offered access to social media. Given the rise in social media usage across groups and organizations, this is an important limitation. It also meant that I was unable document how often social media is actually used to share preparedness information or real-time emergency management information.

A third limitation to this study stemmed from the fact that I was the only person who coded the online emergency management information and documents that I collected. Although I followed rigorous protocol and procedures of qualitative content analysis (see Ravitch and Carl 2016; Altheide and Schneider 2013; Neuman 2011; Bryman 2008), I was the only researcher to analyze the data for this project. This means that I was not able to test inter-coder reliability, which only could have happened had additional researchers worked on this project.

Although there are certainly limitations to this work, I do believe that this represents a positive first step in beginning to assess and understand the availability of emergency management information through one particular channel. As with much research, this study also perhaps raises as many questions as answers. In the next section, I address some of the new questions and potential areas for exploration that this study may encourage in the future.

Future Research Directions

The low rate of total school districts within Colorado that utilize online mediums for the communication of emergency information suggests several areas for future research. To begin, a statewide survey of school district leaders regarding emergency communication practices would allow for more statistically representative insight into

each district's reasoning for choosing or not choosing to publish emergency information online. Surveys are an invaluable and relatively low cost tool for social research due to their ability to give representative portraits of attitudes, behaviors, and beliefs of large populations that may be spread over a large geographic area (Babbie 2013: 253; Neuman 2011: 308-309; Bryman 2008: 217-218).

The suggested survey could be web based in order to reach both rural and urban districts in a timely manner and be focused on the emergency specialists and superintendents of Colorado school districts. Questions could inquire into ways in which a school district may choose to communicate emergency management information (which would help remedy a limitation within this study), if they have an emergency manager or specialist and when this position was created, if these districts had recently experienced any recent emergency situations or hazards, and what processes helped to inform their district's emergency procedures and communication of such procedures, for example. Future survey research would help contribute to an understanding beyond online information by addressing additional social and contextual factors influencing emergency management tools utilized by school districts.

Furthermore, an in-depth media analysis of how social media accounts are used by public school districts would provide a great companion to this current research by helping to characterize what, if any, emergency information is shared in general and during emergencies via social media sources. To do so, a researcher would have to download and analyze Twitter feed and Facebook posts to explore whether or not any of the information shared was related to emergency management. This approach has been used successfully by other social scientists in other disaster settings including

wildfires in Southern California and the Virginia Tech School Shooting (see Hughes et al. 2008: 2; Shklovski, Palen, and Sutton 2008: 2). An analysis of this kind would be helpful given the widespread and growing use of social media by students, parents, and school districts and would contribute to the growing body of literature surrounding the benefits of social media use/microblogging during disasters (see Vieweg et al. 2010).

Case-studies of schools districts that do or do not have a history of online communication of emergency management information could also be a focus of future studies. This type of research could provide more depth of insight into the urban-rural divide that was revealed in the present study. Using a case study to investigate this division would further allow for descriptive and explanatory insight (Babbie 2013: 309), due to a case study's ability to "calibrate or adjust the measures of abstract concepts to actual lived experiences" (Neuman 2011: 42).

There is also a need for comparative research in other states beyond Colorado. This would expand the present analysis to "Different social settings [which would] provide a wide range of events or behaviors" (Neuman 2011: 487) to investigate. This research offers a template for analyzing online information as well as emergency management documents found on school websites and could be replicated in other states across the United States. Doing so would allow for a state-level comparison of the results of this study, and would help reveal whether there are geographic, political, or other contextual factors that may be shaping the publication of online emergency management communications.

All of these future research directions would be helpful to emergency managers due to their practical and applied nature. These studies would also provide important

contributions to the literature on children and educational vulnerability, which advocates for the development of resiliency amongst children and communities (Peek 2008: 14) as well as for increased emergency management education of the wider community in which a school may be situated (Wachtendorf et al. 2008: 457-458).

The Internet and Emergency Management

Due to the low proportion (31%) of school districts publishing online emergency management information on their websites, many districts may utilize more traditional channels of communication, which allow for only the passive reception of information. By integrating website and social media in emergency management communication, school districts could provide a consistent source of up to date emergency management information, which has been shown to increase community-level emergency preparedness (Wood et al. 2012: 612). Furthermore, the more accessible information is, the more trust that can be built with affected stakeholders. Indeed, Sheppard, Janoske, and Liu (2012: 21) argue that effective communication can increase trust and mitigate secondary ramifications during the recovery stages of an emergency event. Thus, if parents and caregivers trust their child's school district with their emergency response, "[…] they are more likely to take a warning seriously and act accordingly" (Gachinger 2013: 1063).

Additionally, this continual exchange of information between residents and emergency managers may expand and improve the coordination of emergency responses within a given community (Jaeger et al. 2007: 593). This opportunity to engage in the formulation of emergency response protocols has also been found to be "[…] the most effective means to create awareness of potential disasters, to enhance

the trust in public authorities, and to encourage citizens to take more personal responsibility for protection and disaster preparedness" (Gachinger 2013: 1063).

Although updating information through online mediums may be costly, social media provides a free platform for the dissemination of school districts' emergency management procedures. For instance, online information and information available via social media can provide fast and versatile flows of information, which allow for the opportunity to provide richer coverage in circumstances where there is a lack of information (St. Denis et al. 2013: 745; Alexander 2013: 722).

Diversifying the communication of emergency management information is important because school districts often discourage using phone lines during an emergency event. Thus, communication via the Internet and/or through social media could ease traffic over more traditional information channels during a crisis. This also could: "[…] provide a more reliable means of communication, because traffic is designed to route itself intelligently around busy spots. Whereas landline phones must pass through a particular network and mobile phones have to communicate with a limited number of radio masts, Internet routers are more flexible" (Kapuco 2006: 220).

Adoption of social media by school districts in Colorado has already begun to take place, with more districts having Facebook accounts (46%) than school districts that publish emergency management information on their website (31%). This research also revealed that school districts already have over 167,000 Facebook followers and more than 67,000 Twitter followers. All research in this area indicates that these numbers will undoubtedly continue to grow. With that in mind, however, it is important to remember as well that the rate of active social media adoption varies between districts

that do publish online emergency management information and those that do not (see Figure 3).

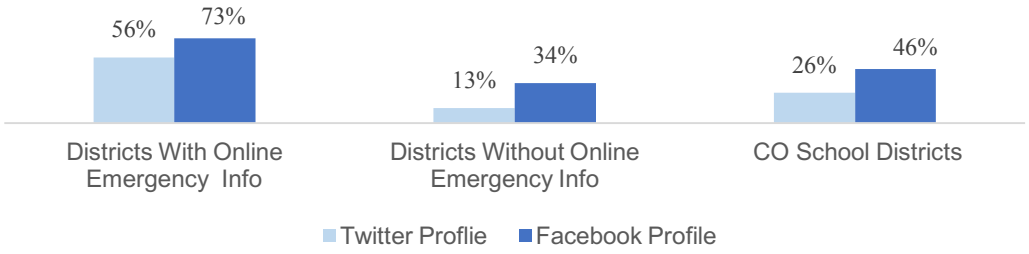

Figure 3: Social media adoption graph

Additionally, recent Colorado Senate Bills passed in June 2015 may disincentive school districts from incorporating more channels, including social media, to communicate emergency management information. Colorado Senate Bill Senate Bill 15-213 and Senate Bill 15-214 put additional pressure on school districts to provide adequate protection against emergency situations on school grounds. These bills dissolve governmental immunity for school districts and establish precedents for safety in schools in absence of "reasonable care" (Colorado General Assembly 2015). Some argue that this has created a panic amongst school districts due to these laws "encourage[ing] lawsuits by charging schools with a greater duty to protect public safety than currently applies to law enforcement" (Mickus 2015: 1). In part, these threats of litigation to school districts may reinforce a tendency towards emergency management confidentiality in order to decrease public scrutiny.

Thus, beyond the adoption of online resources, a potential update in the practices surrounding the disclosure of emergency management information online may need to occur to ensure Colorado school districts adherence to current emergency management best practices.

Concluding Suggestions Founded in Best Practices

Although there may not be one correct way for districts to publish online emergency management information, there may be better ways to communicate than currently employed by school districts. To begin, the integration of providing more online emergency management information should occur. As this research revealed, only 31% of school districts publish any information pertaining to online emergency management. Of the school districts that did not publish online emergency management information, 63% of these districts are located within rural settings in Colorado. Thus the parents, students, and school staff within these mostly rural districts are limited in their ability to advance a culture of preparedness that is heavily encouraged by most Federal agencies, including, perhaps most notably, the Federal Emergency Management Agency and the Department of Homeland Security.

By diversifying rural districts communication of emergency management information, a variety of best practices in applied emergency and crisis management can be applied. These include a district's ability to listen and understand their community, foster a partnership with the public, and allow for the public to participate in all stages of the emergency management process (Seeger 2006: 237-240). Furthermore, many have observed that this process of increased accessibility of emergency management information helps to empower the public during emergency events and allows the public to transition to recovery more rapidly (Virtual Social Media Working Group and DHS First Responders Group 2012).

This research also highlights a need for not only the publication of more information online, but also for that information to be more actionable in nature. Specifically, this research showed that as of January 2016, only 20 (42%) of all online

documents offered actionable guidance to parents, 16 (27%) to teachers, and 10 (20%) for students. And, recall that the number of online documents was severely limited in scope of coverage in the first place. By focusing on more actionable guidance, school districts can allow “stakeholders in a crisis situation to gain a sense of control through meaningful actions that promote a sense of self-efficacy” (Veil, Buehner, and Palenchar 2011: 120).

Another recommendation from this research revolves around how smaller and more rural school districts within Colorado may need additional human and financial resources in order to advance their adoption of online communication of emergency management information.

Colorado’s Department of Public Safety and School Safety Resource Center aligned their preparedness mission for school districts’ disaster procedures with Federal recommendations on the premise that it would help bring uniformity within school emergency responses and also help rural districts to become better prepared (House Committee on Education 2008). However, this research reveals that there is a wide and remaining divide between urban and rural online communication of emergency management information. Thus, I suggest that state legislators, as well as organizations like the Colorado School Safety Resource Center, help to create and support standards for online communication of emergency management information in all districts across the state. Others have suggested that “State and community agencies and organizations are the primary players in implementing related interventions” including the establishment of “standards and expectations in the effectiveness of risk

communication" (Andrulis, Siddiqui and Gantner 2007: 1277). This work affirms the importance of exactly these sorts of interventions.

In order to move forward with this process, leaders and practitioners could offer instructions and even templates explaining how to display up-to-date information, informing the user of what types of actionable information should be included, and assisting with how to best utilize online resources. These templates could then be implemented through bond measures or other programs. Challenges to the actualization of this recommendation are real, especially in light of recent polls showing that Colorado spends roughly $2,700 less per student than the national average (Brundin 2015: 1). Yet, even as budgetary barriers exist, the rising toll of disasters in Colorado and beyond underscores the urgency of moving forward with advancing emergency preparedness to all schools in the state.

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