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Closing the Gap Between Public Health Preparedness and Emergency Management in Nevada

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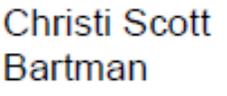
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CLOSING THE GAP BETWEEN PUBLIC HEALTH PREPAREDNESS AND EMERGENCY MANAGEMENT IN NEVADA



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CLOSING THE GAP BETWEEN PUBLIC HEALTH PREPAREDNESS AND
EMERGENCY MANAGEMENT IN NEVADA

A Master Thesis

Submitted to the Faculty

of

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by

David Wm. Fogerson

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of

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Charles Town, WV

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DEDICATION

I dedicate this thesis to the men and women of government who serve and protect each of us, every day, no matter the odds. Some people do not experience the dedication and compassion that government employees display every day.

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I wish to thank those that assisted me in my journey to complete my education with this thesis including the professors of American Public University. Outside of the University, I appreciate the feedback and reviewing of theory by Frank Frievalt, MA, John Gillenwater, MA and Brent Harper, MA. These individuals assisted me in shaping my career and my education to best serve the citizens of my community. Anjanette Bywater Fogerson, MSW, has been endearing to assist in these efforts and provide emotional and educational support to complete this work.

ABSTRACT OF THE THESIS

CLOSING THE GAP BETWEEN PUBLIC HEALTH PREPAREDNESS AND EMERGENCY
MANAGEMENT IN NEVADA

by

David William Fogerson

American Public University System, February 22, 2015

Charles Town, West Virginia

Professor Christi Bartman, Thesis Professor

Emergency management and public health preparedness are allied but separate career fields responsible to plan, prepare, respond and recover local and statewide communities from disaster. The problem is the federal government provides guidance for these two programs from three different agencies: CDC, ASPR and DHS. This creates a conflict with each field trying to maintain jurisdictional clarity while avoiding mission creep. This research looks at the ability of meta-leadership concepts: leading up, down and across to solve the problem.

Three case studies were reviewed: 2009/2010 H1N1 outbreak, 2012 flu clinic and 2014 Ebola planning. These case studies showed a meta-leadership effort that involved more organizations in the planning, placing emergency management and public health preparedness on equal footing. Future efforts to encourage the meta-leadership effort must occur. These efforts include co-locating annual conferences, providing education and changing future position requirements. Additional research is needed to show the value of meta-leadership in solving Nevada's problems.

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Closing the Gap between Public Health Preparedness and Emergency Management

The response to disasters is multi-tiered: local governments manage until overwhelmed, then state assets assist. When the state is overwhelmed, federal assets become available. Just as Hillary Clinton stated it takes a village to raise a child, it takes a whole community to respond to a disaster. Since September 11, 2001, the federal government has provided funding to state and local officials to improve disaster preparedness. These funds come through the Department of Homeland Security (DHS) and the Department of Health and Human Services (HHS) to their respective state counterparts. DHS provides funding to emergency management while HHS provides funding to public health preparedness.

Nevada provides emergency management services at the state, county and local government levels. Nevada Revised Statute 414 requires the Governor to appoint an emergency manager who also serves as the homeland security chief. The statute allows but does not require cities and counties to appoint emergency managers. Public health is provided at the state level in fourteen counties while local health agencies exist in three counties. One of the health authorities, Carson City, has been delegated authority to provide public health preparedness services for two additional counties. The State Board of Health is delegated as the supreme decision maker in Nevada.

Research Questions

Research conducted by Fogerson (2013) examined whether a gap exists between public health preparedness and emergency management within Nevada. Fogerson found that public health professionals and emergency managers, at the state and local level, felt a gap exists between the two career fields. While a gap may be common between career fields, this gap

creates a problem in protecting the health and welfare of the public following a disaster. Those surveyed gave many reasons, including communications, coordination and funding streams. An outcome document is necessary to identify methods by which to close the gap.

This research will identify methods by which local government emergency managers can close the gap between the two entities. The reason for selecting local government emergency managers is due to the political influence this position holds within the local community. Local emergency managers serve in appointed positions and answer to the elected county commission. This gives them access to local decision makers who can assist in influencing other leaders through an adaption of the principal-agent theory (Cuevas-Rodríguez, Gomez-Mejia, & Wiseman, 2012).

The principal-agent theory suggests that one responsible can hire someone to represent his or her interests in the subject. The principal is the one with the authority or responsibility while the agent is the one selected to carry out the activity. In political science, the public is the principal while the elected official is the agent. In this reversal, the principal is the elected official while the emergency manager is the agent. This adds the role of stewardship to the emergency manager: they are working on another's behalf to do what they desire.

The specific research questions posed by this thesis are:

1. Is it beneficial to close the gap between public health preparedness and emergency management?
2. What methods can local government emergency managers use to close the gap between public health preparedness and emergency management?

Funding for governmental projects is dwindling: in part due to the recession and in part due to a change in grant priorities from the federal government. Major disasters, including Hurricane Katrina, highlight the failures of our Nation's emergency management and public health preparedness systems. The Centers for Disease Control (CDC) (2006) prepared a lengthy after action review that identifies areas of concern for both emergency management and public health preparedness. These failures caused fatalities, even at medical facilities, during Katrina. Work by McCulley (2013) highlights this decrease in funding, coupled with a decrease in hospital beds and emergency rooms while demonstrating an increased number of disaster declarations and significant events are occurring. McCulley drives the point to show the need for increased collaboration.

To reduce future fatalities and enhance revenue efficiency, especially in reducing effort duplication, emergency management and public health preparedness must work together. The Stafford Act was the original emergency management era federal legislation. Changes made to the Stafford Act by the Post-Katrina Emergency Management Reform Act (PKEMRA) of 2006 address the concern by requiring the Secretaries of Homeland Security and Health and Human Services to establish an understanding of each other's responsibilities in a disaster (Congress, 2006). The bill also adds to the confusion by creating the Assistant Secretary for Preparedness and Response within the Health and Human Services Department. Prior work by Fogerson (2013) shows the gap between the two fields. This thesis will discuss how to close those gaps to improve communications, coordination and resource allocation.

Decrease in funding streams and an increase in the risk shows the usefulness of this research. More must be done with less: how can this be accomplished with different masters and different funding without one side losing? It will take new ways of thinking and the

reinforcement of relationships. The only way to deal with these issues is to increase collaboration between sections. Kahn (2011) supports this in his work as does work by the CDC and Bureau of Justice Administration (2008). In fact, the CDC and BJA (2008) already completed this effort between the courts, law enforcement and public health. Their work will provide some insight into areas to address.

Research looks at the enabling legislation for the DHS and HHS programs under review. Federal legislators may have purposefully created the gap. The various pieces of legislation shed light on this concept. The Homeland Security Act of 2002 enables the creation of DHS (Congress, 2002). PKEMRA of 2006 altered the work done in the Homeland Security Act in regards to the Federal Emergency Management Agency (FEMA). The Stafford Act outlines how disasters are declared, and it has been adjusted by the PKEMRA of 2006 (FEMA, 2007).

Various pieces of legislation exist for the public health preparedness side. This begins post-9/11 with the Bioterrorism Act of 2002. The Pandemic and All-Hazards Preparedness Act of 2006 expanded the responsibility from bioterrorism to an all-hazards approach (Kahn, 2011). These acts provide authority to both HHS's Assistant Secretary for Preparedness and Response (ASPR) and the CDC's Public Health Preparedness Program. Review of these acts will provide readers an opportunity to decide if the gap is purposeful and beneficial.

The reader has an idea of how the federal, state and local levels are established for emergency management and public health preparedness from the paper's introduction section. The confusion that is shown to exist is purposeful to allow the reader to see the intricacies of the two programs. The research will identify the various methods that may solve the problem. One of the possible methods worthy of research is that of meta-leadership.

Meta-leadership is a concept of leaders leading leaders (Harvard, 2013). The CDC, working with Harvard University, pioneered the concept that is now led by the Harvard School of Public Health and the CDC Foundation. Meta-leadership consists of five components that include leading up, leading connectivity and leading one's own silo. The meta-leadership concepts may improve communication, coordination and provide for lobbying efforts to standardize grant deliverables.

Marcus, Dorn and Henderson (2006) first introduced the concept of meta-leadership. The idea is that leaders of leaders would engage leaders in other disciplines. This would promote the other leaders to expand and work outside their original scope. These efforts can decrease the silo effect and promote working together. Meta-leadership has five aspects:

- Lead your own silo;
- Lead your boss;
- Lead other silos;
- Understand the situation;
- Understand one's self.

Another issue to examine using the meta-leadership lens is the fact that public health preparedness really is a new, emerging field. Public health has existed for a long time but preparedness activities related to emergencies got its start in bioterrorism following 9/11. Gibson, Theodore and Jellison (2012) even discuss the fact public health preparedness is not clearly defined. They identified a gap that a universally adopted logic model does not exist for practitioners that follows the emergency management guidance already in place. As public health

preparedness is an emerging field, emergency managers can act as stewards to assist the growth of the new profession as the emergency management profession has previously experienced.

An underlying theory through the thesis will be the interaction of layer cake federalism with marble cake federalism for emergency preparedness and response. Layer cake federalism, also dual federalism, is a theory that has limits between local, state and federal governments (Kraft & Furlong, 2013). Marble cake federalism, also cooperative federalism, is collaboration between the various levels of governments. This also has bearing on the principal/agent theory, as emergency managers must be knowledgeable of federalism and the principal/agent theory in order to lobby for any changes and discuss needs.

The preparedness piece of emergency management is cooperative federalism with grant funding from the federal government providing incentive to implement the preparedness guidance, but all agencies working together to achieve the preparedness goal. The emergency response is very layer cake, with local government being responsible prior to the state and prior to federal involvement (DHS, 2013). The blame game is easy to play due to the differences in these two mechanisms coupled with a lack of understanding.

The research questions will look at the benefit and drawback of these concepts, highlighting how local government emergency managers can work around them. Fischer (2001) highlights an issue to consider along this federalism concept. Fischer reviewed the command and control model for decision making as opposed to collaborative partnerships. He found that leadership is more important when dealing with those outside one's normal silos. Command and control does have its place but across silos, leadership is a better tool to apply.

An important point to remember in all of the research is to enable collaboration and coordination without trying to accumulate all of the toys into one's own sandbox. FEMA's Administrator, Craig Fugate, preaches the whole community approach (Congress, 2012). Kahn (2011) agrees with this approach from the public health preparedness viewpoint. The Whole Community Approach to Emergency Management is key to accomplishing the task of preparing for, responding to, recovering from and mitigating the effect of any emergency (FEMA, 2011). Trust for American's Health (2007) outline this need by reminding one that an all hazards response will take leadership, planning and coordination among all players.

This thesis is a qualitative perspective research, relying upon document review. It is important that the research be an active and evaluative method. This effort will provide data and suggestions for implementation to facilitate decision making to address the problem in Nevada.

As a local government emergency manager, the researcher feels the pain described in this paper: a decrease in funding with an increase in emergencies. This makes the need for active research more pressing: implementable solutions are necessary to solve the problem. Government employees are stewards of the local community. Efforts taken to increase the efficiency and effectiveness of the government will help improve the people's confidence in their government, especially in disaster response. Active research, with solutions, will aid the stewardship role of Nevada's local government emergency managers.

Literature Review

Nevada provides emergency management at the city, county and state levels. Nevada Revised Statute 414 requires the establishment of an emergency management director for the state, appointed by the Governor. This position serves concurrently as the Homeland Security Chief. The statute provides political subdivisions of the state, limited to cities and counties, to appoint an emergency manager who works for either the chief executive officer or the elected commission to carry out emergency management duties in concert with the state emergency management director.

Division of Emergency Management receives funding from both DHS and state general funds. The Governor indicates in his 2015 – 2017 biennial budget that \$8,069,080 is expected in federal grant funding for emergency management supported by \$474,790 of general funds. This includes \$3,733,000 of homeland security funding that is allocated through a sub-grantee program to increase security of the state (Sandoval, 2015).

DHS has a number of grants that fund the Division of Emergency Management. These grants include:

- State Homeland Security Program;
- Urban Area Security Initiative;
- Citizens Corp;
- Metropolitan Medical Response Team;
- Emergency Management Performance Grant;
- Buffer-zone Protection Program;
- Waste Isolation Pilot Plant and

- Emergency Preparedness Working Group.

These various grants fund the Division and are sub-granted to regional and local levels of government, including \$1,000,000 to the Clark County Urban Area Security Initiative. The Urban Area Security Initiative (UASI) is designed to decrease the terrorism threat to major communities or potential terrorist targets, such as Las Vegas.

The Division of Emergency Management shares the Emergency Management Performance Grant with all emergency managers in the state to fund the emergency manager position. This grant has \$3,957,284 of funds for this purpose. Each community receives the funds based upon population and completion of a risk assessment. The director of emergency management is able to provide additional funds to communities that identify their threats as one of the top three within the state: wildland fire, flood and earthquake (Nevada, n.d.).

It is interesting to see that support for the Metropolitan Medical Response Teams comes from DHS and not from the Centers for Disease Control (CDC) nor the Assistant Secretary for Preparedness and Response (ASPR). This is obviously a medical component and not an emergency management component: provision of medical services following a disaster. The City of Las Vegas provides the medical response team through its local emergency planning committee in coordination with the city's fire/emergency medical services department (Las Vegas, 2013).

Nevada further confuses the line assigning the responsibility for volunteer medical worker registration and authorization to the Division of Emergency Management and not the Department of Public and Behavioral Health under Nevada Revised Statute 415A. The Division is responsible to maintain a database of medical volunteers and provide exemptions during times

of declared emergencies to existing facility rules. The separation of emergency management from public health preparedness is confused by these activities.

The Waste Isolation Pilot Plant provides funding to the State and one county, Nye, to support low-level radioactive waste disposal in Beatty. The state aspect of funding provides training and equipment to local governments along the travel routes. Nye County receives funding to support their fire, emergency medical services and emergency management programs to cope with the perceived risk.

Citizen Corp funding provides for community emergency response team (CERT) development and support. This program teaches the public basic first aid and disaster skills to help their neighbors in the first 72-hours following a disaster to ease the burden on responders. It also provides funding for the medical reserve corps, managed by the Department of Public and Behavioral Health through local health authorities even though funding comes to the Division of Emergency Management. Three medical reserve corps exist in Nevada: Washoe County, Clark County and Western Nevada. The local health authority manages the assigned regional medical reserve corps (MRC, 2015).

The State Homeland Security Program funds are sub-granted to state or local agencies that have a program with statewide impact. The Governor chairs the Homeland Security Council and makes determination on the funds. Past example of fund usage includes purchase of mass casualty trailers for each county, purchase of shelter trailers for each county, development of a statewide evacuation plan and improving inter-operable communications. The use of these funds transcends emergency management and public health preparedness.

Nevada Revised Statute 439 outlines public health in Nevada. It establishes the Division of Public and Behavioral Health at the State level. It provides methods for counties over 700,000 in population a means to establish a Health District that differs from counties with fewer than 700,000 in population. It provides rules for how incorporated cities create a board of health and how counties create a board of health without having a health district. Each county is mandated to have a Board of Health consisting of the Board of Commissioners, the Sheriff and the County Health Officer, who does not need to be a physician.

The state operates the Division of Public and Behavioral Health to provide public health in all counties not served by a health district. Three local health authorities exist: Carson City, Clark County and Washoe County. The difference is that between public health and public health preparedness. Public health incorporates all activities with disease prevention and mitigation. Public health preparedness focuses on preparing the population for a disaster. This includes vaccination and epidemiology monitoring. The remaining counties use the state for all public health preparedness activities with the exception of Douglas and Lyon where the state delegated those responsibilities to Carson City. Douglas and Lyon still rely upon the State for the other public health responsibilities: quite a web is created in authority, jurisdictional clarity and responsibility.

The State receives grant and cooperative agreement funding to operate the public health components from the federal government: specifically the Centers for Disease Control and the Assistant Secretary for Preparedness (ASPR) of the Health and Human Services Department. These two agencies partner together to provide a joint grant application to the fifty states, four major localities and eight territories. In Fiscal Year 2014, \$840,250,000 was available (ASPR,

2012). This includes funds from ASPR for healthcare (hospital) preparedness and funds from the CDC for public health emergency preparedness (PHEP) (CDC, 2012a).

The Governor's 2015 – 2017 budget includes annual funding of \$9,998,964 for public health preparedness (Sandoval, 2015). This amount is 100% federally grant funded with no state general funds supporting the programs. The state passes \$4,954,857 along to local health authorities from the programs. This includes \$585,523 to Carson City for Carson, Douglas and Lyon counties. Clark County receives \$3,137,019 in funding while Washoe County receives \$938,807. In addition, the inter-tribal emergency response group receives \$143,508 while the Nevada Hospital Association, a private lobbying group, receives \$150,000.

The International Association of Emergency Managers (2007) produced a supplement to the FEMA class on Emergency Management. This supplement discusses some of the key components of the career field, including ethics, principles, mission and vision. It is important that a private sector group of emergency managers outside of the government provide this advice as it is now a peer-inspired report as opposed to a government pushed effort. Among the components, it reminds the reader that emergency management must be collaborative, coordinated, flexible, comprehensive and integrated. These are key attributes seen raised in other documents throughout the literature review section.

President Barack Obama issued Presidential Policy Directive number 8 (PPD-8) on March 30, 2011 on the issue of national preparedness. This policy direction addresses all federal executive agencies except for the Department of Defense, the Federal Bureau of Investigation and the Attorney General. It stipulates that FEMA is the lead agency to develop a national preparedness goal for all levels of government, private companies, non-profit organizations and

private citizens. While President Obama uses the term “all of nation” in the document, FEMA commonly refers to it as the whole community approach. DHS is designated as the lead agency for a campaign to build and sustain our preparedness. The FEMA Administrator is designated as the lead advisor to the President and others for emergency management.

PPD-8 includes a definition of potential threats to the nation. These threats include a pandemic, justifiably a public health centric event. It also includes other disasters, such as terrorism or natural disasters, which will involve a good deal of public health involvement to deal with the injured and reduce disease outbreaks that may occur following the disaster. The federal government divides the various aspects of emergency response into ESF's: Emergency Support Functions. Health, fire, emergency management, law enforcement are all examples of the assigned ESF's.

In fact, when one looks at a disaster, it will take the entire community to keep the survivors safe while rebuilding following the disaster. It is not just responding to the disaster but ensuring that government continues to operate for those unaffected. Many agencies will have a critical seat at the table, justifying the whole community approach to emergency management. It is for this reason that President Obama also requires interagency operational plans to show how they will work together for disaster response.

In response to PPD-8, FEMA came out with literature on the whole community approach in December of 2011. The approach is largely holistic and philosophical. The basis of this approach is that everyone works collaboratively to understand and assess what the local community needs. Once the needs are identified, they work to organize and strengthen their assets, capacities and interests. Using all of the community to accomplish this helps with buy-in

and ensures no one is left out of the process. Inclusion rather than exclusion or isolationism is the rule.

This fits with Drabek's (2007a) work on the societal view of emergency management. Drabek postulates that disasters are non-routine, low priority social problems. These events are predictable from a historical context with both positive and negative consequences. Emergency management's use of the whole community approach allows for horizontal and vertical coordination within the community. Many of the groups that assist residents pre-disaster are those that will assist post-disaster.

While not a part of this research, it is very important to remember that those challenged pre-disaster will have large needs post-disaster. If a family needed support to provide for food before the disaster, one can assume they will lack a survival kit for a disaster. If a family relied upon public transportation to get to work, they will require public assistance in evacuation. This is a lesson reinforced from Hurricane Katrina.

The Department of Homeland Security (2011) issued the National Preparedness Goal document in accordance with PPD-8. This document outlines the 31 core capabilities for emergency management. It defines five mission areas: prevention (aimed at homeland security), protection, mitigation, response and recovery. Public health and medical services is one of the core capabilities of the response phase of the incident.

The five mission areas share three core capabilities: planning, public information and warning and operation coordination. An interesting side bit is this document discusses the economic issue that a public health issue like a pandemic could cause the country. This document shows the interconnectivity of all aspects of emergency management. It is not just

public health, but food security, infrastructure, donation management and the like. A coordinated effort is needed to place everything together. Following a disaster, one is creating a temporary government structure to reboot the local area, providing relief to the survivors and repairing damage to get back to normal. This takes some command and control to organize without duplication of efforts but more leadership across sections to accomplish under a unified goal.

In an effort to coordinate the response to disasters, FEMA developed the National Response Framework (NRF) as required by PPD-8. The National Response Framework (2013) establishes the doctrine for response. The response must be by an engaged partnership that is scalable, flexible and adaptable. An important component is the risk basis used by the NRF. It reminds one that no threat exists in isolation. This is similar to the National Preparedness Goal statement that a pandemic will cause economic issues. Nothing exists within a vacuum. Every threat will have multiple effects that various agencies manage. Drabeck (2007a) addresses the same issue in reminding emergency managers to take a strategic view of the profession.

The NRF seeks a “harmonized and mutually supportive” response by all federal agencies (FEMA, 2013, p. 16). FEMA terms this effort the unity of effort. The idea is to provide cooperative coordination so every entity retains their legal authority but works together to take care of the disaster. This will be a subject of the discussion section utilizing the components of meta-leadership because it can be a daunting task: just how do you get everyone to work together towards a common goal with competing interests and authorities? The NRF goes as far as reminding that “no one party or single layer of government” is responsible for everything (FEMA, 2013, p. 24). This confuses the marble cake preparedness activities with the layer cake of response. State and federal assets are valuable but only available as lower levels of government find themselves overwhelmed and ask for help.

It is one thing for the federal government to lay out plans for how to manage a disaster. The bigger item is to get everyone to follow the instruction manuals. The federal government has a very good method to do this: grant funding. The federal government provides grants to state and local government levels to carry out the various missions, provided they follow the instruction manuals. The problem is the federal government is a drug dealer: it provides free money for a period to develop the capability and then slowly cuts the funding. This is akin to a drug dealer giving free samples until someone is hooked and then charging for the drugs.

The Department of Homeland Security produces an annual National Preparedness Report from data reported to them from each state. This report folds up metrics submitted by each state. It is an effective process to see how funds are spent to buy down the existing risks while seeing what areas still need funding. This report looks at the whole community approach and addresses items that are medical in nature and emergency management in nature. The Trust for American's Health produces a similar report, but they focus theirs on the public health preparedness aspect.

The 2013 edition provides good insight to the issue of public health preparedness (DHS, 2013b). The CDC manages the Public Health Emergency Preparedness (PHEP) program while ASPR manages the Hospital Preparedness Program (HPP). In 2012, health departments could submit a single application for grant funds from both programs. This indicates recognition of effort duplication by the federal government between the two programs. Challenges reported from HHS include a lack of collaboration with emergency management based upon a review of Hurricane Sandy.

In March 2014, the states reported public health and medical services as the second best of all core capabilities. State and local health departments report a loss of 22% of their workforce

in the document due to changing funding streams (DHS, 2013b). It is interesting to note that the states listed this core capability as the most federal involvement of any capability, predominantly due to the cooperative funding agreements and the grant funding to support state and local health departments.

FEMA's 2014 – 2018 strategic plan is where we will end this discussion of emergency management within the literature review section. The strategic plan outlines how FEMA will assist to lead the Nation through a disaster stating it is but one member of the team. Success will come from collaboration and coordination of all parties. The whole community approach is the best way to make informed risk decisions. Several key outcomes relate to this coordination and collaboration effort of emergency managers before, during and after a disaster. The strategic plan acknowledges the difficulties in maintaining the doctrine across the various agencies at the federal level. To local governments, it reminds to plan with, instead of for, local communities.

Moving to public health preparedness, one must think if the transition to homeland security provides an avenue for the development of the career field with federal funding. Drabek (2007) alludes to this issue in the number of pediatricians that are seeking homeland security grant funding for pediatric issues. Richmond, Sobelson & Cioffi (2014) express the transition using a time graph. The Institute of Medicine, in a 1988 report on the future of public health, discusses public health preparedness activities that were used post 9/11 to change the landscape. These factors indicate that a vision for future change appears for some time.

The 2002 Public Health Security and Bioterrorism Preparedness and Response Act established a CDC office on bioterrorism that the all-hazards Public Health Emergency Preparedness cooperative program eventually replaced as well as ASPR. ASPR started as bio-

terrorism and then morphed into all hazards following Hurricane Katrina. Thus, public health preparedness started as a homeland security concern against biological agents and has morphed over time to become all-hazard preparedness through the 2006 and 2013 pandemic and all hazards preparedness acts. This is not unlike emergency management's evolution from civil defense to emergency management to emergency management and homeland security.

Jacobsen & others (2012) examined the issue of legislative mandates. They found that ambiguity in the various Congressional acts leads to duplication of effort and confusion on who is responsible for which activity. This leads to turf battles between emergency management and public health, especially in light of dwindling preparedness funding opportunities. Respondents to their survey discuss duplication of effort, lack of integration and fragmentation of initiatives. Public health professionals must follow grant guidance from HHS and CDC while emergency managers must follow DHS guidance, using the term "funding silos" to show the disparity. This ties to the meta-leadership concept to provide influence to other silos.

Interesting to Jacobsen, et al., is that many health departments indicate they lack experience in emergency management. This should be expected but do local and state emergency managers not already exist to collaborate and partner? The authors report health departments indicating good relationships with their emergency managers produce a better response. To tag along with FEMA's whole community approach, one complaint from the health departments was making decisions about people without their input. Jacobsen, et al. place the blame with the funding silos and then a lack of education of personnel on their legal standings to carry out mission functions, some of which is due to the lack of written legal guidance.

An issue identified by Drabek (2007b) is that homeland security attempts to use the top-down, command and control model for their programs while emergency managers utilize the bottom-up approach, “not command, coordination, not control” (pg. 9). This was prior to FEMA’s realignment from the Post Katrina Act and issuance of the Whole Community Approach. The concept fits if one recalls homeland security came from the military approach of civil defense following the September 11th attacks on our Nation. Drabek prefers the bottom-up approach because pre-event relationship building is important. Ever being the academic, Drabek reminds that academia must be tied to practice.

Drabek’s comments show the marble cake as opposed to layer cake federal issue. The top-down, command control model is an example of the layer cake response activities. Meta-leadership relies upon trust and respect that is more of the marble cake form of federalism that is shown in prepared activities. The pre-event relationships that Drabek finds important will assist in post-event response and recovery operations through the use of meta-leadership. This occurs if trust and respect is built pre-event.

Emergency management is an evolving field – starting first with civil defense, then emergency management and now homeland security/emergency management. All of this occurred during the public’s call for smaller government and less spending (Britton, 1999). An emergency manager’s job is to coordinate community activities but a lack of understanding exists.

These words were written in 1999, before the injection of public health preparedness in 2002, but still ring true today. Britton suggests working at the multi-disciplinary and multi-national levels: something akin to the beginning suggestions for meta-leadership. This includes

community-based discussions where locals determine the level of appropriate risk for their community.

Public Law 113-5, also known as the Pandemic and All-Hazards Preparedness Reauthorization Act of 2013, places the role of public health all-hazards preparedness with ASPR. The law requires an identification of gaps: see what the current needs are that are unaddressed. It further directs to identify duplicated efforts and reduce those identified to improve efficiency.

In further sections of the law, it loses the public health all-hazards preparedness language and specifies that ASPR is responsible for emergency preparedness. It authorizes cooperative agreements to fund local and state health departments with ASPR's all-hazard mission. This introduces some of the confusion. It shows through public messaging with FEMA using "Flat Stanley" and ASPR using "Ready Wrigley" to provide similar preparedness messages. It also leads to the National Health Security Strategy (NHSS).

In 2009, the HHS produces the NHSS to prepare for and respond to health incidents. HHS takes a very liberal definition of health incidents to include tornadoes, earthquakes, hazardous materials spills and pandemics among others. It divides healthcare and emergency services: healthcare includes hospitals, physicians, public health and behavioral health while emergency services include law, fire, emergency medical services (EMS) and emergency management.

This appears to be the line in the sand to determine where HHS is responsible as opposed to DHS. The document seems to be confused with homeland security as opposed to emergency

management, looking at them as separate as HHS acknowledges the relationship between health security, national security and homeland security issues.

One key issue is common terminology. DHS recently introduced the term “prevention” in the National Preparedness Goal in relation to terrorism prevention. Public health has been using the term prevention for a much longer time and uses the term in NHSS through the public health meaning of disease prevention as opposed to the DHS meaning of terrorism prevention. This is poor on DHS’s part to introduce a term that is already widely accepted within a career field but impose upon it a different definition.

The two goals of NHSS are to build community resilience and to strengthen and sustain health and emergency response systems. These overarching goals seem to conflict with those FEMA expresses in national preparedness documents. They conflict not in a different set of priorities but in who is responsible to accomplish them. Once again, a terminology issue because words have different meanings to different people.

The NHSS points out the discrepancy between the Post Katrina Emergency Management Reform Act of 2006 with the Pandemic and All Hazards Preparedness Act of 2006. NHSS outlines they are similar in many ways, including the need to identify gaps within preparedness and response activities. Each agency, FEMA and HHS, has similar mandates from Congress.

NHSS suggests that coordination between the two agencies is essential to carry out their missions to improve emergency management and response systems. FEMA already performs many of the capabilities outlined for National Health Security including public education, public engagement, public information and warning, interoperable communications, volunteer recruitment and on-site incident management.

Not to be left out, the CDC issued a National Strategic Plan for Public Health Preparedness and Response in 2011. The schedule is updated biennially, but no further editions of the plans are available. The CDC indicates they lead the agency's preparedness and response activities "with local, state, tribal, national, territorial and international health partners" (p. 3). CDC indicates the potential to lose future funding that would eliminate the last ten years of preparedness activities for public health.

This strategic plan does outline the need for public health preparedness to work with emergency management. It goes as far as pushing the whole community approach by healthcare coalitions to improve relationships and coordination. This will reduce duplicative expenditures and strengthen effectiveness and timeliness of communications. It promotes the use of meta-leadership for these issues.

ASPR produced their strategic plan in 2014 that echoes much of what is outlined in the NHSS and the CDC plans including personal preparedness, coordination, public messaging and the development of plans for at-risk individuals. Great parts of this plan include the focus on international partners. Today's world requires more international cooperation to limit the spread of emerging infectious diseases. It also discusses the need for the CDC and ASPR to align their grant requirements to leverage the decreasing federal grants with input from the National Association of County and City Health Officials.

During September of 2011, Ali Khan, writing in the *Lancet*, discusses the national health security issue. This is interesting as Khan is the Assistant Surgeon General and Director of CDC's public health preparedness programs, including their 2011 strategic plan. Khan outlines that leveraging the full range of investments from DHS to CDC to HHS is important to maintain

funding for programs. Discussion occurs on improving the coordination of public health, healthcare, EMS and the private sector leaving out emergency management.

Pines, Pilkington and Seabury (2014) discuss the emerging healthcare trend of value-based models in regards to emergency preparedness. This work outlines recommendations for the future, including use of community coalitions (whole community approach), better coordination for federal grant funding and encouraging communities to find ways to fund preparedness activities themselves. The concept of regional partnerships is introduced to improve economies of scale. This concept is beneficial to Nevada where rural health departments are the most threatened by a decrease in their federal funding. Their literature review saw that poor outcomes were more the result of a lack of collaboration than a lack of physical resources.

The National Health Security Preparedness Index, developed as an outcome from the NHSS project, ranks states against one another. The 2013 report for Nevada shows an overall index of 5.9. The national range is 5.9 to 8.1 with an average of 7.2. Notwithstanding statistics being what they are, this would indicate that Nevada is at the bottom of the states in regards to health security.

Some of the metrics include some traditional emergency management, such as an emergency operations plan within schools and if the Nevada Division of Emergency Management is nationally accredited, (they are but the report states they are not). It is an outstanding program because it is metric driven and shows what areas Nevada can improve. The issue is a competing guide from the National Preparedness Report produced by DHS.

Interesting literature by French (2011) shows the application side problems of these issues. French reviewed pandemic health response plans, those that he could obtain, to assess

local government pandemic planning. Las Vegas, Nevada was one of the reviewed communities. The plan was found to be less inclusive because the health district assumed greater responsibility for overall plan development. This is contrary to the aspects of whole community approach, partnerships, collaboration and meta-leadership concepts. French demonstrates the marble cake federalism that occurs in the planning efforts but the layer cake federalism that occurs during response. Responsive government is about process, politics and partnerships: French's work supports the use of coalitions within the whole community approach.

At the Nevada Emergency Management Coordinating Council (EMCC) public meeting on November 24, 2014, staff provided a report out that highlights an additional concern: lack of involvement from Nevada's Emergency Managers. The EMCC is a group of local emergency managers that provide feedback to the Nevada Division of Emergency Management in regards to needs, wants and desires. Staff provided a presentation on the 2014 Emergency Manager Conference. While a large number of emergency managers attended the conference, only four completed a survey to discuss the conference. The State's Emergency Management Director, Chris B. Smith, discussed a lack of involvement from local emergency managers to providing feedback on needs for the state to address.

As previously discussed, meta-leadership is a concept pushed by the CDC through its foundation and Harvard University. Marcus, Dorn and Henderson (2006) introduce the concept as a leader of leaders, working outside of one's silo. This is needed because of the rapidly changing environment and people's expectation of government. Distinct cultures, the budget process and career ladders create silos. This causes insulation, self-protection and allegiance to ones' own agency. Leadership, in common definitions, is to use within one's agency. Meta-leadership is to influence leadership over other agencies, outside of the silo.

Meta-leadership is difficult; no job description exists for it. Meta-leaders develop a connectedness between agencies. Leaders gain their power through positions but meta-leaders have to develop power in other silos where they have no power. They do this using courage, curiosity, immigration, organizational sensibility, persuasion, conflict management, crisis management, emotional intelligence and persistence. They are good listeners and can relay information to others in a voice they can understand. Meta-leaders are important because the future emergency management/homeland security issues will require building systems. Government creditability is judged on incident response, an item really addressed during preparedness.

The concept of meta-leadership is not as new as the term. Heifetz and Linsky (2002) discuss two leadership concepts: technical problems and adaptive issues. Technical problems have a solution that many readily accept and implement. Adaptive issues are those that take people time to come to grips with before accepting. Heifetz and Linsky describe adaptive issues as those of the heart that involve values and beliefs. While this may not be the case in this discussion, the concept is that adaptive issues are more difficult to solve because people must come around to accepting them is true.

Even Fireleadership.gov, a website from the federal wildland firefighters to promote leadership in context of losing seasoned employees does not discuss meta-leadership, instead opting for a hierarchical flow of follower, new leader, leader of people, leader of leaders and leader of organizations (NWCG, n.d.). Nowhere in the meta-leadership is the discussion regarding the position one must hold in order to implement meta-leadership concepts. This holds true for Heifetz and Linsky concepts.

Theoretical Framework

The literature addresses many aspects of emergency management and public health preparedness working together. Various pieces address the need to work together while other pieces extoll the responsibility to work together in light of decreasing staff and budgets. Many barriers, listed in Table 1, stand in the way of collaboration within Nevada. The major piece missing from the literature is why the two sides do not work together and how to make them work together. The literature shows the need to work together as well as the gap between the two sides but does not address the mechanics to close the gap.

- | |
|--|
| <ul style="list-style-type: none"> • Different “masters” at different levels of government: local, regional, state and federal • Lack of engagement from local government emergency managers • Marble cake preparedness funding as opposed to layer cake response activities • Relationships between emergency managers and public health professionals • Politics: Dillon Rule as opposed to Home Rule as opposed to libertarian principles • Coordination of grant deliverables from the federal government • Lack of understanding of scope, mission and purpose |
|--|

Table 1: Barriers

The two issues underlying this are federalism and leadership. One is the top-down approach and the other can be a bottom-up approach. Research and recommendations must focus on solutions for both of these approaches. Federalism is probably a long-term change while leadership is more near-term.

The federalism issue at play is the difference between marble cake and layer cake as previously discussed. It is beyond the scope of this paper to address this theory but further research should occur in this arena. The importance of this research is visible through not only the survivor accounts from disasters but also the 24-hour tabloid news journalism looking for someone to blame for failure. Discussing this idea in the forefront will lead to future emergency managers understanding the high-stakes poker game in which they are involved.

Previous research identifies a communications and coordination gap between Nevada's emergency management and public health preparedness officials. The most common sources identified as potential causes include no or ineffective communications, different funding sources and employee turnover. This gap causes ineffective emergency response and duplication of preparedness efforts.

A reduction of grant funding is causing pain to continue essential programs. Closing the gap will enable a more efficient system to use the remaining grant funding streams. Nevada's local government emergency managers can close this gap using meta-leadership.

Criticism following the September 11th attacks focuses on the inability of the intelligence sector and law enforcement to collaboratively work together. Many also blame the large number of firefighter fatalities that day on the lack of inter-action between the Fire Department of New York and New York Police Department, even though inter-operable communications takes the brunt of the blame. Hurricane Katrina shows the inability of local, state and federal levels to work together towards common goals. In normal leadership, the throughput is important: followers believing in the leader. In meta-leadership, the output of results is what is important.

Meta-leadership is a form of social movement leadership. Meta-leaders lead across agencies where they lack formal power. It is a strategic view of who is involved and what motivates them for participation. All meta-leaders are leaders but not all leaders are meta-leaders because of these thoughts. One must be able to lead their own silo, lead their boss and lead other silos without authority but using their influence. Cooperation and coordination is the goal, not command and control. This paper will evaluate the ability to apply these concepts to close the gap.

Nevada’s local government emergency managers have shown in the literature review section a decreased involvement or engagement. Local, regional and state governments in Nevada employ public health preparedness professionals complicating their involvement. In order to close the gap between these two allied career fields, work exists. Both sides must be part of the solution. Given both the emergency manager and public health preparedness professional, using the concepts of meta-leadership, a cohesive, collaborative partnership can be created that will lead to the outputs shown in Table 2.

The meta-leadership concept does not exhibit much in academic research. The literature review section outlines the majority of the concept that is built upon being a leader of other silo’s leaders. It is much like a contracted facilitator that is brought in to fix a problem however, the meta-leader is always present and working within their particular career field. Meta-leadership incorporates five principles: the person, the situation, lead the silo, lead up and lead connectivity. The application of these principles deserves examination.

Inputs	Throughputs	Outputs
<ul style="list-style-type: none"> • Open minded emergency managers • Open minded public health preparedness professionals 	<ul style="list-style-type: none"> • Concepts of meta-leadership: <ul style="list-style-type: none"> • The Person • The Situation • Lead the Silo (down) • Lead Up (boss) • Lead Connectivity (across) • Values <ul style="list-style-type: none"> • Trust, • Respect • Strategic view • Abundant curiosity • Commitment • Leadership over command and control 	<ul style="list-style-type: none"> • Cohesive, collaborative partnerships • Decrease in the duplication of efforts • Increase in whole community preparedness • Decrease in confusion • Grant funding leverage • Role clarification

Table 2: Theoretical Framework Logic Model

Future sections will compare the ability of the various meta-leadership concepts with the barriers presented in Table 1 to see if the concepts have the potential to overcome the barriers. It is as if we have been muddling through the problems, adding additional silo's to the mix of emergency preparedness and response. It is time for a wholesale change to fix the underlying problem. Documents, such as PPD-8 mandate this, but it will not work without human action. A struggle for control can exist when agencies with similar mission and scope exist. Thus, the hypothesis to test is that local emergency managers, using meta-leadership, can close the gap between emergency management and public health preparedness.

Research Design and Methodology

The use of the case study research method will allow the testing of the throughput identified in Table 2. This is a qualitative method appropriate when a lack of data to compare exists. The case study method will look at real life situations to prove or disprove the ability of meta-leadership concepts to close the gap. This is a need as meta-leadership is academically immature in the literature, the brainchild of the researchers who identified it and not evaluated by others yet.

The case study method expands theory by applying concepts to real world events. It expands our understanding of the process. This is especially important for the social sciences where much antidotal data exists without many theories to support the framework. Some of this is inherent within the social science field as opposed to the technical science field but the case study approach will further develop the theories: they are the building blocks to understand management.

The case study approach to research yields limitations, as do all styles. The largest ethical limitation is the author is involved in the researched field. This may produce unintentional researcher bias. To compensate for this potential bias, the instructor reviews the thesis, as one would expect in a peer review journal. The author remaining cognizant of this bias will also assist to diminish its prevalence. The researcher's understanding and assessment of the data naturally biases the case study method. The fact the author is within the field may overcome this systemic bias.

Additional problems arise from the use of written sources that are not directed at answering meta-leadership application. The researcher may have to draw conclusions based upon details provided in the reports. The best limitation is the fact that a limited number of disasters occur in Nevada: this reduces the sample size. A request for after action reports for events that involve public health and emergency management was made to official government sources in accordance with Nevada transparent government standards.

The State, Carson City Health and Human Services, Clark County Emergency Management, Douglas County Emergency Management, Washoe County Health District and Washoe County Emergency Management provided twenty-four reports from incidents and exercises that have occurred over the last six years to the author. A preliminary review of the reports occurred to reduce the sample size down to a manageable one.

The case studies selected for inclusion in this thesis are:

- 2009/2010 H1N1 flu preparedness actions in Nevada;
- 2012 flu preparedness actions in Douglas County, Nevada and the;
- 2014 Ebola preparedness actions in Nevada.

Selection of these case studies was made using a review of the possible cases in order to provide qualitative analysis to draw conclusions. The criteria used to make final case study selection are:

- The completion and distribution of after action reviews;
- Public meeting notes;
- Researcher involvement, and
- Grandest public health preparedness and emergency management cohort emergencies.

A limited number of case studies exist as Nevada lacks, luckily, regular disasters other than wildland fires that the public does not view as disasters expecting shelters and other public health responses. A similar review from other states may produce more disasters with an emergency management and public health role. This makes for a small sampling size that may affect results.

The first step is to identify positive and negative issues in regards to inter-agency cooperation in each of the case studies. Comparison of these issues against the framework of meta-leadership to determine if meta-leadership did help, would have helped or would have hindered operations is step two. If a positive correlation to meta-leadership concepts is found, future steps to embed meta-leadership concepts for public health and emergency management professors will be suggested in the recommendation section.

The researcher will use an observation checklist in matrix format to identify the key components of meta-leadership in each of the case studies. The observation checklist will aid the researcher in maintaining an evaluation of the same core metrics. The paper will provide a brief synopsis of each case study to explain the basis of the observation for research reproductive purposes. The observation checklist is Table 3. The appendix provides final observations in the checklist format.

Observation	2009/2010 H1N1	2012 Douglas County Flu	2014 Nevada Ebola
Were public health preparedness and emergency management seen as equal partners in planning?			
Did a key stakeholder utilize meta-leadership concepts of leading up, down and across to reach other silos?			
Were planning efforts collaboratively formed between silos?			
Were disparate organizations involved in the decision making process?			

Table 3: Observation Matrix Checklist

The observation checklist concept was formed following a review of other research papers on similar issues. The observations were taken from gaps identified in the literature review and introduction sections that meta-leadership can affect. The meta-leadership solution is a bottom-up one.

Findings, Results and Discussion

Meta-leadership boils down to a leader having the people within their silo follow them, leading up to their boss and leading across to other, disparate silos, with everyone following. This builds connectivity between all of the resources to accomplish objectives. It takes a strategic view, full of collaboration sprinkled with trust and influence. It is interesting that meta-leadership is less about formal leadership positions and more about trust and influence. Review of three case studies compares these facts using the observation checklist.

Meta-leadership is just leadership applied to other fields. It is the relationship building of trust and respect to bring disparate groups together, not caring who gets the credit.

Case study # 1: 2009/2010 H1N1 flu response: Nevada and Carson City.

Diagnosis for the first case of the H1N1 (swine flu) virus occurs on April 15, 2009 within the United States. The United States government declares a public health emergency on April 21, 2009 for the outbreak (HHS, n.d.). At the time, no vaccine existed for H1N1. The disease was spreading rapidly and finally accounted for infection of 43 to 89 million people, causing mortality in 8,870 to 18,300 Americans (HHS,n.d.). The wide numbers gives one an indication of the difficulty for public health professionals.

On October 1, 2009, the Nevada State Health Division entered into incident command mode with Dr. Tracey Green, the State Health Officer, serving as incident commander (NSHD, n.d.). The Health Division entered into command for 11 operational periods incorporating 102 days to manage the outbreak and preparedness actions. This includes the receipt of \$13,765,554 in federal funding and 795,867 doses of vaccination with administration of 434,195 doses.

The incident command structure comprised itself of State Health Division employees from the public health preparedness, immunization, and emergency medical service programs. The team made four goals with 13 objectives using the specific, measureable, achievable, realistic and time specific format from the plan. These goals are:

1. To decrease the transmission of H1N1 virus within Nevada (3 objectives);
2. To bolster medical surge capacity within Nevada (4 objectives);
3. To maintain epidemiological surveillance of the H1N1 virus within Nevada (2 objectives); and
4. To facilitate a comprehensive public information and communication plan specific to the H1N1 response within Nevada (4 objectives).

The accomplishment dates of the objectives for each of these goals are absent from the final after action review/improvement plan document as they indicate the federal partners timelines are still being drafted (NSHD, pp. ii – iii, n.d.).

The State did an outstanding job obtaining federal funding to sustain the program as well as the vaccines. Weekly conference calls were held along with weekly email blasts to stakeholders to share information from the Nevada State Health Division (NSHD) incident command team (NSHD, n.d.). Local governments used these one-way communication sources to view the state response. The after action review/improvement plan (AAR/IP) does not indicate who these stakeholders are nor any Nevada Division of Emergency Management or local government employees represented in the command structure nor is this listed within the improvement plan for future incidents.

The AAR/IP addresses how the incident commander led the NSHD. Established goals and objectives appear correct for the situation. Accumulating the vast amount of funding is a great accomplishment. The AAR/IP does not address any leading up concepts: there is no mention of discussion, involvement or briefing of the Board of Health, Governor or other elected officials. While this is absent in the AAR/IP, one would have to imagine that the Governor was aware and approving of the strategy taken.

This holds true to leading across: local government is involved in information spreading conference calls and email blasts, but lacks involvement in the decision making process. The improvement plan lists the lessons learned from each event. This improvement plan identifies the need to engage local law enforcement for security at distribution sites in future incidents. It does not mention any further lessons learned to involve others, such as local government elected officials, hospitals, fire/emergency medical services nor emergency management in the process.

No discussion on involvement of other agencies in the planning phase occurs but the goals represent an answer. Each goal references activities by the NSHD solely: no other entities receive mentioning in the goals. The objectives include mentioning participation by the three local health authorities and the Nevada Hospital Association, but as reviewers of documents created by NSHD not as co-developers.

The public outreach goal and objectives only mention using the public health preparedness public information officer to accomplish even with identifying the need for a single, unified message to emerge. This seems to indicate a lack of other agency involvement in the planning process. This seems in opposition to the joint information center (JIC) process used by emergency management to get the same message out from all available sources.

When using Table 3's observation points, it seems that the 2009/2010 H1N1 response did not subscribe to meta-leadership concepts. The NSHD leads its own silo effectively, actually very well given the number of groups within the Division that are involved, but no documentation of leading up or across exists. Public health preparedness did not engage Nevada Division of Emergency Management as a partner. The planning efforts seem to address public health alone with no other agencies involved in the decision making process. The AAR/IP does not indicate any leading up to the Board of Health, Governor and/or legislators.

It is interesting in a review of the federal response to the same crisis to address the meta-leadership aspect in particular; the CDC speaks to its leading up, down and across ability in the crisis (NPLI, 2010). The CDC led up to political appointment leaders at a time when many were acting in their positions because of the presidential transition. The full-time employees were acting in positions that are normally political appointments. This can lead to more of a meta-leadership view because of the relationships that exist.

They led down within the CDC to agency employees. The view of leading other silos is to reach to state health officers and epidemiologists. No mention is made of involving ASPR, DHS, state emergency management or non-governmental partners in the event (NPLI, 2010). This seems to speak to the infantile advancement of meta-leadership: these are all great aspects but leading across was limited to public health silos.

Carson City Health and Human Services (2009) also participated in the H1N1 response as a local health authority under Nevada State Health Division authority. This local health authority (LHA) conducted two "point of distribution" (POD) sites to provide immunizations against H1N1 with NSHD provided vaccine in Carson City. Carson City was able to immunize

4,844 people in four hours against the flu. Carson Health, Carson Sheriff and public health volunteers comprised the planning team. The AAR/IP shows a lack of emergency management, other governmental units and non-governmental organization participation in planning.

As one would expect from any exercise, the after action report indicates a number of improvements for the next time. One of the improvements includes the use of more multi-agency coordination. The fact this was identified shows an identification of the need for additional support, which leads to meta-leadership concepts. It does indicate the POD would work under the public health branch of the operations section of the emergency operations center (EOC). The EOC is an effort of Carson City Emergency Management. The purpose of the EOC is to coordinate the City during an emergency.

The immunization of 4,844 people in four hours is outstanding work demonstrating the ability to lead their silo, but no mention of leading other silos exists in the literature. Using Table 3's observation points, Carson City led their own silo well; somewhat involved others in the planning process but did not form a partnership with emergency management nor allow others to make decisions.

Case study # 2: 2012 Douglas County flu clinic.

Douglas County Emergency Management and Carson City Health and Human Services (CCHHS) collaborated to produce a community flu clinic to test emergency preparedness activities on October 6, 2012 at Douglas High School (Douglas, 2013). Douglas County Emergency Management and CCHHS jointly planned the event to test public health response, communications, coordination and private medical services. This was the first event the two agencies jointly collaborated.

Douglas County held two prior flu clinics, 2010 and 2011, both managed by CCHHS without an emergency management partnership. Following the 2009 H1N1 event, discussions between state and local government along with a critical access hospital, lead the state to delegate public health preparedness to CCHHS for two counties. The State Health Officer, Dr. Tracey Green, delegated her authority found in Nevada Revised Statutes 439.130 and 441A.050 to CCHHS for Douglas County and Lyon County on October 6, 2009 (Green, 2009). This incorporates all of the public health preparedness activities including surveillance.

Following the 2010 flu clinic, Douglas County Emergency Management took the lead with CCHHS serving in an advisory role for the exercise. Discussions on the staffing at CCHHS lead to this experiment. When an actual event occurs, CCHHS would be unable to staff multiple point of dispensing sites. Incorporating Douglas County Emergency Management allows for more involvement in the exercise to see if the county could perform the skill set with minimal assistance. The exercise focused on DHS national target capabilities with grant deliverables from CDC and ASPR programs (Douglas, 2013).

A diverse planning team held six meetings to plan the event. The planning team comprised members of emergency management, public health preparedness, two local hospitals, the school district, law enforcement, 9-1-1 dispatch and the fire service. The event delivered 1,697 immunizations in four-hours using eighty-six volunteers from nineteen disparate agencies, representing a cross section of the community except for voluntary non-government organizations.

Lessons learned from the incident show the use of disparate agencies. Communication styles vary between the groups and led to radio use issues to be addressed in future trainings. The

AAR indicates that individuals wore their home agency's reflective traffic vest in place of an incident command system vest. This led to confusion of who was who in the structure. The recommendation is that future clinics mandate use of the incident command vests over agency vests.

The 2012 flu clinic follows Table 3's observation points well. The AAR lists both emergency management and public health preparedness as co-sponsors of the event. A very diverse team led the planning efforts, indicating an ability to lead up, down and across silos. This planning team made the decision, showing the decision-making process included disparate organizations.

Case Study # 3: 2014 Ebola preparedness activities in Nevada.

As this is an emerging issue, it is selected for review within this paper even without the production of an after action report from those involved. Sufficient information exists from press releases, websites, public meeting minutes and operational plans to base decisions on use of meta-leadership techniques.

In September 2014, concerns over Ebola in the United States led to a community planning effort within Douglas County and Nevada. Douglas County has a "meta-leadership" group of healthcare known as the Douglas Healthcare Coalition. The coalition is comprised of all healthcare entities from 9-1-1 dispatch to the coroner's office and all aspects in between (Record Courier, 2014). ASPR requirements gave rise to healthcare coalitions (ASPR, 2007). This is an effort to expand preparedness from hospitals to the healthcare system, even to the point that the coalition becomes a response organization. The Douglas coalition is a preparedness only coalition (HCC, 2013).

The Douglas County Healthcare Coalition, at its regularly scheduled October 7 meeting discussed preparations each facility and agency was undertaking in anticipation of a potential exposed patient arriving at a facility or calling 9-1-1. Each facility was following CDC guidelines but working independently of each other in efforts (HCC, 2014). Discussion at the meeting lead to inter-operable operations plans between fire/emergency medical services, law enforcement, public health, coroner and receiving facilities. It also led to a sharing of the planning efforts between all stakeholders. This indicates effective leading within silos, but ineffective leading across silos until the meeting.

On October 15, 2014, the Douglas County Healthcare Coalition released a press release discussing joint planning efforts as well as included fact sheets for first responders and the public on Ebola (Record Courier, 2014). This was the first wave of activity that culminated with an emergency management and public health preparedness coordinated effort to develop a plan. Douglas County Emergency Management and CCHHS's public health preparedness program jointly developed a document for response to an Ebola patient (Douglas, 2014). This operational plan covers:

- 9-1-1 Dispatch;
- Two fire/emergency medical service agencies;
- Two hospitals;
- Sheriff/Coroner's Office;
- Legal counsel;
- County health officer;
- Emergency management;
- Public health preparedness, and

- Board of County Commissioners.

The plan outlines expectations of dispatch, fire, public health, emergency management, law and the policy group for Ebola patients. It defines preparedness levels from no Ebola reports in the United States to Ebola cases in Douglas County. It outlines expectations for the policy group, comprised of the Board of County Commissioners coupled with the County Health Officer, to better understand their role in the event. The plan discusses the interaction of the various medical facilities, public health, emergency management, fire, law and dispatch to address concerns (Douglas, 2014).

CCHHS, Douglas County Emergency Management, Carson City Emergency Management, Carson Tahoe Hospital, Carson Sheriff, Carson Fire and East Fork Fire are planning a joint exercise to test the plan in February. The stakeholders have developed a full-scale exercise plan that includes a patient calling 9-1-1 from a private residence to test the 9-1-1 public safety system. The exercise will include a tabletop exercise to discuss how public health epidemiologists will assist the hospital with the diagnosis of Ebola (CCEM, 2015).

On October 17, 2014, The NSHD, now known as the Department of Public and Behavioral Health (DPBH) created a statewide taskforce to manage the Ebola response. The initial press release indicates primary involvement of DPBH but mentions involvement of emergency management (DPBH, 2014). The taskforce is comprised of public health, emergency management, law enforcement, fire service, airports, hospitals and the nurses' union (DPBH, 2014a). The State Health Officer is chair while the Division of Emergency Management Chief is the co-chair.

A website on DPBH's site contains all of the known information on Ebola. It also shows the planning efforts underway (DPBH, 2014b). The Division of Emergency Management website shows the DPBH press release but no further details (NDEM, 2014). This shows some coordination to get out the message. It does not show a fully integrated system between the two entities with reciprocal links on Ebola between the sites. If someone went to the Division of Emergency Management site for Ebola preparedness, it would be found lacking.

When one compares the Ebola response with the H1N1 response by the NSHD/DPBH, it appears a significant change in partnership occurred. The Ebola response shows a more meta-leadership orientation when comparing it with the H1N1 response. The Ebola response, using Table 3's observations makes public health and emergency management equal partners. Silos have been breached up, down and across by both the Douglas County, CCHHS and DPBH response. Planning efforts in both organizations involved disparate organizations in the decision making process.

Emerging themes.

Table 1 indicates barriers to the common cause of emergency preparedness. These barriers are shown through the paper's literature review section and a number of them arise in the research section in individual case studies. The concept of meta-leadership, from the bottom-up, seems to be able to address some of the concerns of sharing funds, seeking cooperative opportunities to present information and the building of relationships between emergency management and public health preparedness.

The case studies show a change is underway in terms of closing the gap between public health preparedness and emergency management. Leadership, as defined by Marcus, et al (2014)

means people follow you. Leadership, especially meta-leadership, relies upon relationships. Meta-leadership requires relationships, connectivity of action and unity of mission as requirements to make it work (Marcus, et al, 2014). Public health preparedness is a relatively new career field that has muddled through its existence to work with emergency management. The issue of relationships is paramount to meta-leadership solving issues between emergency management and public health preparedness professionals.

Before building relationships, individuals work in their silos as shown by case study # 1. This case study shows effective vaccination of the public, but with a relatively homogenous group of public health professionals. If multiple sites at the same time were necessary, how can CCHHS increase staff? How can other groups that may have resources become involved in the process? These relationships are formed through partnerships in exercises as shown in case study # 2 that form the work for actual incidents as shown in case study # 3. The contact information for case study # 2's after action report is a member of the Ebola task force mentioned in case study # 3. This shows the value of the relationships.

Case study # 1 shows leadership to one's own organization. This will work for small-scale events. The H1N1 outbreak, even given the nature, was still a small-scale event. How would the agencies involved be able to up-size the delivery of a vaccine if the event was larger such as for an anthrax attack or following an earthquake? Coordination and collaboration is borne at the smaller events so trust and respect is built for the large incident.

Case study 2 shows a hazard of meta-leadership: those at the top may understand it and work through it but those at the worker bee level still need help. The large involvement of disparate organizations creates problems as it addresses other problems. Every organization

looks different and communicates differently than another. Case study 2 shows a lesson learned in communication and identification of roles. Assimilation is not the goal but finding commonality is the goal. As meta-leadership matures and continues to solve problems at higher levels will have to address these issues too.

Case study 3 shows a shift from case study 1 due to meta-leadership concepts of leading up, down and across. The five-years in difference, even sans an after action report, shows a willingness of public health preparedness professionals to involve other silos in the process. One problem that will always exist is others' desire to participate.

This issue is displayed at the November 24, 2014 public meeting of the Emergency Management Coordinating Council. A staff report on the October 2014 emergency managers conference indicates that public health preparedness was represented at the conference but very few rural emergency managers responded to a survey on the conference (NDEM, 2014a).

Public health preparedness held a rural healthcare preparedness summit in 2013. The official attendees list from the summit includes two emergency managers out of 15 rural counties attended (Strategic Process, n.d.). The 2014 summit saw the same numbers (DPBH, 2014c). These two facts indicate a desire from public health preparedness to build relationships while showing a disconnect of rural Nevada emergency managers to the issue.

The issue of different masters at the different layers is obvious from the grant guidance but is one that meta-leadership seems to be bridging. This occurs because individuals realize the value of partnership. The involvement of emergency management at public health summits and public health preparedness at emergency manager's conferences indicates a desire to reach across the silo. More of these efforts will build relationships pre-event that will assist during an

event. These efforts must be taken to higher levels in an effort to adjust grant guidance so partnerships become pushed at that level.

The pre-event relationship issue shows its promise in the Marcus, et al. (2014) work on the Boston Marathon bombing. Meta-leadership works because the players knew each other prior to the incident and built a level of trust. This trust includes staying in your own lane, collaboration and maintaining jurisdictional clarity. Marcus, et al. (2014) suggests the idea of inter-agency leveraging during an event because of the pre-event relationships that build trust and respect.

Case study # 3 shows the results of building these relationships before an emergency. The Douglas County Ebola efforts are borne out of an existing coalition, even though each agency was working independently prior to the meeting. When addressed at the meeting, the meta-leadership tie seems to have been made and a collective voice spoke following. The same is true to the DPBH effort on Ebola as opposed to the NSHD H1N1 effort. The diverse Governor's committee represents an evolving meta-leadership approach.

The multi-jurisdictional full-scale exercise in case study # 3 shows a dramatic increase in relationships. The exercise has different organizations and jurisdictions involved with testing the system for a public health emergency. The planning group identifies the key stakeholders come from a range of organizations. As many of the agencies were involved in case studies 1 and 2, this shows a maturing of the relationships that meta-leadership preaches. This is true even if those involved do not think of it as meta-leadership.

Challenges.

Education and training on meta-leadership to emergency managers is a challenge. Public health preparedness developed the concept. They appear to be familiar with the ideas. The challenge is to get this same level of understanding in emergency management so the groups speak from a collective vocabulary. Stewardship from the principal-agent theory should apply to both public health professionals and emergency managers to reach across and build this capability.

The Marcus, et al. (2014) study highlights one challenge: maintaining jurisdictional clarity. Public health preparedness is an emerging field and emergency management is a field that has changed from civil defense to emergency management to homeland security to emergency management and homeland security. Establishing clear lines of jurisdiction and authority between these career fields is essential to promote more collaborative partnerships. As public health preparedness continues to evolve as a field, efforts must be undertaken to bridge the gaps between it and emergency management.

Engagement of rural emergency managers is a challenge identified through attendance at the conferences. One of the problems is workload: of the fifteen rural county emergency managers, eleven are co-responsibilities while four are part-time employees (NDEM, n.d.). Co-responsibilities include law enforcement, fire service and public works, depending upon the county. This does not provide the emergency managers the time to devote to relationship building as does the standalone emergency managers in the two urban counties.

This issue also challenges the education of emergency managers on the role of public health preparedness managers and vice versa. The fact that public health preparedness lies at the

state level and emergency management lies at the local government level compounds this educational and jurisdictional effort. Gathering practitioners together for discussions will assist with relationship building, collaborating on efforts while maintaining jurisdictional clarity. Along this line is the requirement for DPBH employees to have a master of public health degree while emergency managers have no required certification or education.

Coordination of the federal and state grant responsibilities and deliverables is a challenge to the current system, with public health preparedness and emergency management having different masters at the federal level. The literature review section highlights various grant-funding opportunities that fund the programs. Aligning the responsibilities and expectations of the grant deliverables will provide for better partnerships. ASPR and CDC completed this effort, but DHS did not participate in the effort. If the grants were aligned to provide for jurisdictional boundaries, it might promote relationship building.

Recommendations.

Efforts must be made to stop muddling through the issues and address them with wholesale change. Emergency management, civil defense, homeland security, public health preparedness all co-exist with one another but have slowly evolved. It is time to address this muddling issue and provide wholesale change that will solve the underlying competing interest issue.

The first effort must address the current work force to produce change. These efforts must focus on relationship building. When one reads relationship building, they must think of trust building: understanding and accepting the other's point of view, responsibilities, authority and jurisdiction. To start this effort, the rural health preparedness summit and the emergency

manager's conference should be co-located. When these two events are together, economies of scale will produce a cost savings for the grants that fund the programs. This will start the relationship building while explaining how each can collaborate with the other. Meta-leadership must be a conference topic. Networking opportunities during the conference will also cement the meta-leadership concepts.

To further this effort, public health preparedness managers must become involved in local emergency planning committees. Emergency managers can reciprocate by involving themselves in public health preparedness's healthcare coalitions. These two groups are the stakeholders of the collective fields within the local communities. This effort will show the citizens how the government is working together to solve problems and highlight additional areas for collaboration.

To further that effort, state decision makers can adjust grant guidance to require participation. Those communities that have unified emergency management and public health preparedness components receive additional funds to better their preparedness actions. Communities that do not participate in joint efforts lose some grant funding until cooperation and collaboration efforts occur. This is similar to the emergency management performance grant where the Division of Emergency Management awards additional funds to the communities that have created risk mitigation plans.

Developing a strategic partnership committee with representation of key public health preparedness and emergency managers will promote dialogue and further answers. This strategic partnership can bridge the gap between the Division of Emergency Management's Emergency Managers Coordinating Council and a similar council for DPBH. The partnership can develop a

document that highlights areas where the two groups can collaborate. This partnership can also brainstorm additional ideas on relationship building and meta-leadership.

The partnership can also co-mingle the grant guidance at the state level. This would be some work, but a Nevada document that outlines the various grants guidance information will assist everyone in knowing what is out there. The partnership can then discuss where the task best lies in the Nevada's organizational structure. This will reduce redundancy in public education activities while providing additional funding when the two groups collaborate.

Current leaders must set the stage for future leaders. The partnership should work with the University of Nevada at Reno's School of Public Health to develop opportunities for master of public health students to work with emergency managers. This can be as simple as short class presentations to involvement in exercise planning to lay the foundation of "us" early in the profession. A short table-top exercise can demonstrate the need for integration.

The partnership should work with the Division of Emergency Management to establish minimum qualifications for a local government emergency manager if the community receives state and federal funding for the program. These minimum requirements will raise the profession. Dialogue between public health professionals and emergency managers would exist at a professional level, given similar academic backgrounds.

All involved must advocate for consolidation of grant guidance documents from the federal level to reduce redundancy and create agency silos. When the CDC, ASPR and DHS align the grant guidance and deliverables so each one maintains its own lane while collaborating with the others to produce a quality product, the profession has won as well as the public. While employees who receive grant funding are prohibited from lobbying efforts, this can be completed

through education of elected officials using the principal-agent theory. Professional associations, both state and national, can also bridge this gap.

Discussion on the federalism mismatch must occur with key stakeholders to understand the concept. The aftermath of Katrina is a great example where the federal government received a big black eye for something that is a responsibility of state and local governments. The pre-event marble cake but post-event layer cake philosophy can work if everyone understands role and purpose. Blame shifting has added to distrust in government's ability to assist citizens.

Further research on meta-leadership is a must. The principle shows great merit but the lack of an academic body of work on the topic limits further understanding. Leadership is a topic of many works, but meta-leadership is a global topic to reach across the various types of leadership. How is this best practice? Does one practice it all of the time? How does one maintain their own professional identity while reaching across silos without creating additional role confusion? Academics must answer these questions and more but practitioners must test the concepts to provide results.

Public health preparedness and emergency management rely upon one another to protect the public during a disaster. The concepts of plan, prepare, respond and recovery apply to both career fields. Efforts must be undertaken to further the collaboration of these two groups. Meta-leadership is a process by which it can occur. The case studies examined in this thesis show the progress of relationship (trust) building leading to the concepts of meta-leadership. Much work remains to further the effort.

Future research should also look at the organization of the federal, state and local systems for public health preparedness and emergency management. Creation of the various entities in

response to the September 11th attacks has caused some of the problems that meta-leadership can address. The future research should look at the organizational structure of the programs to see how structural changes can produce long-term changes over the Band-Aid of meta-leadership.

Legislative intent and grant guidance has led to role confusion between emergency management and public health preparedness. If the top levels cannot determine how the fields fit together, how can lower level professionals work it out? Concepts, such as meta-leadership, can provide an answer. The tail may have to wag the dog in order to produce change. Meta-leadership is a proven process that will assist, but it is a Band-Aid until the bigger issues that cause the separation are addressed.

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APPENDIX A – Observation Matrix Results

Observation	2009/2010 H1N1	2012 Douglas County Flu	2014 Nevada Ebola
Were public health preparedness and emergency management seen as equal partners in planning?	No	Yes	Yes
Did a key stakeholder utilize meta-leadership concepts of leading up, down and across to reach other silos?	Partially	Yes	Yes
Were planning efforts collaboratively formed between silos?	Partially	Yes	Yes
Were disparate organizations involved in the decision making process?	No	Yes	Yes