The Kentucky Cabinet for Health and Family Services’ Response to the Hepatitis a Virus Outbreak in Kentucky: An Idea Model Analysis

Rachel Leigh Cato

Western Kentucky University, rachel.cato@wku.edu

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THE KENTUCKY CABINET FOR HEALTH AND FAMILY SERVICES’ RESPONSE TO THE HEPATITIS A VIRUS OUTBREAK IN KENTUCKY: AN IDEA MODEL ANALYSIS

A Thesis Proposal
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Master of Arts

By
Rachel L. Cato

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THE KENTUCKY CABINET FOR HEALTH AND FAMILY SERVICES' RESPONSE
TO THE HEPATITIS A VIRUS OUTBREAK IN KENTUCKY:
AN IDEA MODEL ANALYSIS

Date Recommended 11-26-19

Angela M. Jerome
Angela Jerome, Director of Thesis

Helen Sterk

Jieyoung Kong

Cheryl P. Davis 12/12/19
Dean, Graduate School Date
Dedicated to those Kentuckians who have lost their lives to the hepatitis A virus.
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The hepatitis A crisis in Kentucky is unprecedented compared to other states. With thousands of hospitalizations and over 60 deaths in the state of Kentucky alone, there is a need to evaluate the government’s response to the hepatitis A virus (HAV) epidemic. Therefore, the instructional risk communication messages that are being conveyed by the Kentucky Cabinet for Health and Family Services (KCHFS) are instrumental in the education and action plans of Kentuckians who are at risk of contracting HAV.

This study utilizes the IDEA Model Thematic Analysis Codebook as a guide to analyze the KCHFS’ risk communication regarding the hepatitis A crisis, identifying the strengths and weaknesses of its campaign. Through this research, I identify the weaknesses in the KCHFS’ risk communication campaign including: the need to focus on a more general audience, the need to foreground all facets of the IDEA model on its website, the need to promote the vaccination of the HAV more strongly, and the need to make the website more user-friendly for all populations.

Keywords: risk communication, hepatitis A virus, IDEA model
CHAPTER 1
RATIONALE

The Kentucky Derby is regarded as one of the most prestigious and exhilarating two minutes of racing for fans across the nation, but people were having to hold their horses when it came to eating at local Kentucky restaurants and venues in April 2018 due to the widespread hepatitis A virus (HAV) outbreak in the Commonwealth (Charlton & Ash, 2018). Concerned citizens and visitors were left with taking the ultimate bet with their health – risking getting HAV through person-to-person contact or through food consumption, or otherwise getting the vaccine as a preventative measure. This scary reality meant that people could be exposed to the HAV strain from a person who is not even showing symptoms. Kentucky businesses like 4th Street Live! took the initiative to offer free vaccines to their patrons in hopes of reassuring the public against the outbreak (Charlton & Ash, 2018). Despite the steps Kentuckians and visitors initiated at a key juncture of the HAV outbreak, the race against spreading this disease would turn out to be much longer than anyone expected.

The recent HAV outbreak was officially declared in Kentucky in November 2017 and has taken the lives of over 60 people in the Commonwealth since its inception (Costello, 2017; Kentucky Cabinet for Health & Family Services, 2019). Further, nearly 5,000 people in the state have been hospitalized due to the outbreak as of October 19, 2019 (Kentucky Cabinet for Health and Family Services, 2019). The Kentucky Cabinet for Health and Family Services (KCHFS) has been tasked with educating the state’s residents and visitors about HAV. Though KCHFS’s campaign began in November 2017, the total number of HAV infections in the state remains the largest in the nation. The next
closest state, Ohio, trails Kentucky by over a thousand cases of HAV, and other largely affected states like Florida, Indiana, Tennessee, and West Virginia are still thousands behind Kentucky’s lead (Center for Disease Control and Prevention, 2019). When government agencies need to communicate information about a health crisis/risk, whether it be the causes and preventative measures to take or attempting to get people to internalize the severity of the health crisis/risk, there are many elements necessary to build a successful campaign. This is certainly the case regarding the HAV outbreak in Kentucky.

Certainly, a number of factors may play into Kentucky’s excessive number of HAV cases. Three key factors led to Kentucky’s HAV crisis: drug use, financial constraints, and geography (Ungar & Kenning, 2019). First, drug users are the primary risk population for HAV, accounting for 71% of outbreaks (Axtell, 2019; Ungar & Kenning, 2019). Although Ungar and Kenning (2019) argue that drug users and homeless people are the largest populations spreading HAV, there is some disagreement about the prevalence of this correlation (Axtell, 2019). Most recent data from September 28, 2019, indicates that only 7.7% of those in Kentucky with HAV are both drug users and homeless (KCHFS, 2019). Additionally, only 1.4% of those infected were homeless with no illicit drug use (KCHFS, 2019). Regardless, people who use drugs “have high levels of homelessness (50%), psychiatric comorbidity (69%), arrests for serious crimes (24%) and frequent use of expensive emergency department and inpatient hospitals” (Krupski, West, Graves, Atkins, Maynard, Bumgardner, Donovan, Ries, Roy-Byrne, 2015, para. 3). Related to illicit drug use, Kentucky is in the top two percentile of states plagued with
opioid overdoses, which directly correlates with the problem of addiction that affects Kentuckians (National Institute on Drug Abuse, 2019). Without proper vaccinations distributed to those with primary risk factors and ample resources to reach those most affected by the disease, Kentuckians have paid the price with their wellbeing (Ungar & Kenning, 2019). Health care providers are still faced with the question of how to reach those who do not come to facilities for vaccinations.

Also, some argue that Dr. Jeffrey Howard, the new head of the Department of Public Health in Kentucky, has not allocated enough funds for this crisis. For example, Kentucky’s Infectious Disease Branch Chief, Dr. Robert Brawley, advocated for a $10 million response to the HAV outbreak as well as a petition to declare a public health emergency, but his boss, Dr. Howard, only gave a $2.2 million to local health departments (Ungar & Kenning, 2019). Brawley was dismissed from his position in June of 2018; his successor, Dr. John Bennett, was hired in September of 2018 and relieved of his duties in April of 2019 (Kenning, 2019). Additionally, Kentucky waited longer than other states to release funds. No money was sought from the state legislature, nor were there any “strike teams” on the case to fight against the outbreaks because the state had not experienced such a widespread and intense outbreak in such a short amount of time before (Ungar & Kenning, 2019, para. 12). Howard defended his position based on a number of factors, such as no counties asking for additional staff. Yet, others, like Scott Lockard, the Director of Kentucky River Health District, also noted the need to invest in prevention of substance abuse, notably blaming the breakdown in Kentucky’s health care system to underfunding, increased pensions, and the belief that the Affordable Care Act
would eliminate Kentucky’s health problems (KCHFS, 2019b). The lack of funding, the slow response, and the limited resources allotted to health care facilitators are puzzle pieces affecting the slow response to counter the rapid spreading of the HAV disease in Kentucky.

Finally, the problem concerning acute HAV outbreak in Kentucky is, in part, geographical. In Appalachia, the vast distribution of drug use makes it difficult for health care providers to administer vaccines because it is difficult to pinpoint the rural locations and difficult-to-reach drug users and homeless people (Ungar & Kenning, 2019). It is undeniable that the majority of outbreaks are in eastern Kentucky, as indicated in the Acute Hepatitis A Outbreak 2019 Week 39 report found under Weekly HAV Outbreak Reports on the right side of the homepage (see Figure 1 below):

**Figure 1**

*Incidence of Outbreaks by County*
Though these issues certainly account for at least a portion of the wide spreading of the HAV in Kentucky, it is still prudent to analyze the KCHFS’s risk communication messages concerning the HAV outbreak because risk communication messaging is a key component to a successful risk communication campaign. Therefore, in the remainder of this thesis, I will analyze the KCHFS’s risk communication campaign using the IDEA (internalization, distribution, explanation, and action) model created by Sellnow and Sellnow (2014) and argue that the information contained on KCHFS website is ineffective for the following four reasons: 1) Its key messages do not target nonprimary risk populations (i.e. nonhomeless and non-illicit drug users), failing to help the majority of Kentuckians in the decision-making process about the crisis/risks; 2) The KCHFS homepage does not contain all components of the IDEA model; 3) The most efficient way to prevent HAV – getting the vaccination – is not a central message; and 4) The KCHFS website does not make its key messages easily accessible for nonprimary and primary risk groups alike. As I will discuss, the KCHFS needs to improve their risk communication in order to mitigate risk, prevent more hospitalizations, and, most importantly, save lives.
CHAPTER TWO  
REVIEW OF LITERATURE

Coombs (2015) defines a crisis as “the perception of an unpredictable event that threatens important expectancies of stakeholders related to health, safety, environmental and economic issues, and can seriously impact an organization’s performance and generate negative outcomes” (p. 3). Crisis communication is a multifaceted research field aimed at deescalating impending threats to public safety, a company’s reputation or brand, and loss of profit during emergency situations (Coombs, 2015). Risk communication, though related to crisis communication, is a distinct branch of study as it focuses on understanding organizations’ attempts to educate targeted audiences susceptible to or possibly vulnerable to a certain risk, by explaining the facets of the particular risk (Porta & Last, 2018). The main function of risk communication is to identify potential risks and guard against potential crises (Sellnow & Sellnow, 2010). Risk communication evolved as a “dynamic and interactive process involving exchanges between different groups of key players and audiences” to predict and calculate against future harm (Infanti, Sixsmith, Barry, Núñez-Córdoba, Oroviogochoechea-Ortega, & Guillen-Grima, 2013, p. 5).

The need for effective risk management/communication was brought to light around the 1990s in the United States, when a deadly pesticide chemical killed thousands and injured hundreds of thousands of people in India (Heath, Lee, & Lemon, 2019). If there had been a risk management plan in place which properly warned people of the dangers of the chemical or provided safe havens from the clouds of deadly pesticides, thousands of people could have been appropriately warned, and perhaps saved, but that
sadly was not the case. Instead, the deadly methyl isocyanate clouds crossed over into
villages of poor residents who were surrounded by hundreds of thousands of hazardous
chemical shipments (and numerous facilities) with no community relations at stake to
communicate about the highly-concentrated deadly chemical (Heath et al., 2019). Around
this same time, it also became clear that further inquiry was needed to better understand
how to deal with various medical issues such as HIV and anti-microbial resistance and
their effects on the public (Infanti et al., 2013). Not surprisingly, the bulk of risk
communication research focuses on risk communication in public health crises.

To avoid catastrophic events happening in the U.S. in the 1990s, “Congress
required companies to develop [risk management plans] to analyze and report to
community members the worst-case scenario” (Infanti et al., 2013, p. 129).
Communication tools such as safety operations and messages were created and designed
to protect people from high risk events or emergencies (Heath et al., 2019). Risk
communication practitioners and scholars also have created systems which best monitor
and account for risks and outbreaks of diseases or bio-terrorism (Infanti et al., 2013).
While risk communication is based on the possibility that a crisis will occur if risk is not
eliminated, adequate risk messages must prepare and inform the public about the crisis
and risk issues to deter any further problems (Infanti et al., 2013). Over the last two
decades, risk scholars have used quantitative approaches to estimate the plausibility of an
infectious disease outbreak, and qualitative studies to examine people’s uncertainties,
perceptions, and reactions to risk (Infanti et al., 2013). Nevertheless, these studies
identify just one variable of the disease outbreak, whether it be the possibility of health
hazards or people’s perceptions of an increased threat of a disease. A comprehensive risk communication model should consider a combination of factors instead of focusing on just one variable.

Previous theories and models of crisis communication such as apologia (Ware & Linkugel, 1973), Image Repair Theory (Benoit, 1995, 2014), and Situational Crisis Communication Theory (Coombs, 2007) serve well for examining some types of crisis communication campaigns. Yet, these foundational theories in crisis communication are ill-equipped at serving as the basis of examining risk communication campaigns, because they focus on a “top-down, sender-focused perspective” rather than focusing on receiver-oriented communication (Sellnow, Lane, Littlefield, Sellnow, Wilson, Beauchamp, & Venette, 2014, p. 150). Research that only focuses on top-down perspectives is insufficient to examine risk communication because the receivers of emergency or risk messages are vital to the process as people must understand, interpret, and respond to messages for risk to be mitigated (Sellnow et al., 2015). Further, other crisis communication research has focused on how crisis communication messages have been distributed and on organizations’ relationships with the media, while ignoring the implications of people’s understanding, action, and internalization of the crisis (Sellnow et al., 2017). Last, while Image Repair Theory centers on how organizations use strategies such as denial, evasion of responsibility, reducing offensiveness, corrective action and mortification (Benoit, 2015), it ignores the public’s reaction to and actions taken from the risk or crisis event as well as the basic tenets of risk communication. I argue receiver-oriented communication research needs to be identified in order to
measure its effectiveness in crisis or risk communication plans, which is central to risk mitigation.

The IDEA Model as a Tool for Risk Mitigation

The IDEA (internalization, distribution, explanation, action) model, its creators argue, is a superior model for studying risk communication because it is useful “across risk and crisis types, among disparate cultural groups, and across international borders” (Sellnow-Richmond, George, Sellnow, 2018, p. 140). To overcome the limitations of recent crisis and risk communication research, the IDEA model was introduced in 2014 by Sellnow and Sellnow. This model overcomes the limitations of its predecessors by focusing on instructional crisis message effectiveness from the perspective of the receiver. The intent of its creation was to provide “an easy-to-use and situationally generalizable framework for quickly developing effective messages instructing people on how to protect themselves before and during high risk events, crises, disasters, and other emergencies” (Sellnow et al., 2017, p. 552).

When the IDEA model is not used, as in the case when the Ebola virus disease infected a small community in Guinea in 2014, which was not identified until a few months after the outbreak, then the effectiveness of messages becomes compromised (Sellnow-Richmond et al., 2018). For instance, travel warnings and travel bans to the region were put in place to avoid the spreading of the Ebola virus disease, but ill-informed travelers were spreading the disease because the gestation period lasts anywhere from a couple weeks to several months (Sellnow-Richmond et al., 2018). The challenge of communicating the disease’s transmission and means of self-protection
proved even harder across national borders (Sellnow-Richmond et. al., 2018). Sellnow-Richmond et al. (2018) determined the Centers for Disease Control and Prevention’s (CDC) Twitter response focused less on making messages memorable and applicable for the public (only 21% of the 282 tweets had internalization components), with most of the tweets based on explanation of the disease, and an even smaller number of tweets (19%) disclosed action steps for those at risk. Other forms of instructional messaging also focused more on explanation than internalization and action (Sellnow-Richmond et al., 2018). Sellnow-Richmond et al. (2018) argue is that “multiple message-testing studies have confirmed that the most effective instructional risk and crisis messages integrate all three elements” (p. 152). In other words, by focusing on how people comprehend and learn messages, as well as on people’s behavioral intention (whether they will react or not react to the crisis/risk), target audiences are more likely to receive effective messaging (Sellnow et al., 2015). Indeed, Sellnow’s et al. (2017) and Sellnow, Sellnow & Helsel (2017) argue the importance of implementing internalization, explanation and action components interconnectedly within distribution methods as the best means of response to crisis or risk events.

Sellnow et al. (2017) describe the IDEA model as “a framework for professionals communicating at the federal, state, and local levels” (p. 15). The premise of the IDEA model is to provide a framework for creating effective messages “when the goal is to instruct nonscientific public to take appropriate actions for self-protection during risk and crisis events” (Sellnow-Richmond et al., 2018, p. 140). By explaining how to target messages to receivers, the IDEA model extends studies of receiver-based communication
in that it demonstrates how “instructional crisis messages that include all elements of the IDEA model might differentially influence the interpretation of and response to them based on individual differences of receivers” (Sellnow et al., 2015, p. 132). In a YouTube presentation for the Incorporated Research Institutions for Seismology (IRIS) Earthquake Science (2016), Sellnow and Sellnow explain there are three main tenets of their risk and crisis communication research. They discuss the need for messages to be receiver-oriented (“the right words at the right time can save lives”), to have receiver-empowerment (“empower people to make informed decisions, prevent negative behavior and/or encourage constructive responses”) and to be solution-driven (IRIS Earthquake Science, 2016 e.g. 4:20; 4:33).

The IDEA model is a versatile and flexible structure, providing an assessment of how people internalize risks from public health information, including the tools to measure the modes of and details within risk communication messaging and the independent actions encouraged in wake of immediate dangers (Sellnow et al., 2017). Scholars have developed a useful thematic codebook for using the IDEA model in risk communication campaigns and analyses (see Figure 1). Overall, this model appears useful for looking at crisis and risk messages currently implemented an emergency response plans or risk messaging. However, the IDEA model has only been tested on about 10 instructional crisis or risk communication campaigns, so it beckons further testing.

As Sellnow-Richmond et al. (2018) contend, if the purpose of a crisis or risk communication message is to provide non-scientific language for the public to
understand and act against risk or crisis events, the IDEA model produces a solid structure for calculating effective messages about crisis or risk events. The IDEA model is built on the work of Dewey (1938) that posits “learning is achieved when receivers not only understand information, but also retain it accurately and apply it appropriately” (as cited in Sellnow et al., 2015, p. 151). Kolb (1984) extended Dewey’s work by claiming that people acquire knowledge by first feeling a tangible experience, then watching and thinking about the experience, and finally actively experiencing whatever may be received (Sellnow et al., 2015). The IDEA model postulates that people’s experiences of “learning can only be measured accurately by considering comprehension, retention and application” (Sellnow & Sellnow, 2010, p. 121).

Building on three theoretical frameworks, the experiential learning theory, convergence theory, and exemplification theory, the IDEA model tackles the micro and macro levels of internalization, distribution, explanation and action in regard to a risk or crisis event. First, the IDEA model builds on the experiential learning theory because it centers on “the ongoing interactive process of knowing plus doing plus reflecting” (Sellnow et al., 2017, p. 4). Experiential learning theory takes a holistic approach in determining people’s experiences, which are largely influenced by their learning process (Kolb, Boyatzis, & Mainemelis, 1999). This theory “may be defined as simply learning from experience” (Sellnow & Sellnow, 2019). Additionally, symbolic convergence theory, created by Bormann (1985), identifies how group consciousness is evident in social theory whereas people collectively share senses, feelings, and reasonings through their learning processes. Finally, Zillman’s (1999) exemplification theory centers on “the
recognition of shared features between an example (aka exemplar) and the exemplified, as well as between all possible examples of the exemplified” (p. 72). Overall, the IDEA model is predicated on these theories because effective instructional communication is calculated by “affective (i.e., perceived value and utility), cognitive (i.e., knowledge comprehension) and behavioral (i.e., action/performance) learning outcome achievements among receivers” (Sellnow et al., 2015, p. 150).

The IDEA model demonstrates that effective risk management should inform people of the symptoms (if any), causes, preventive and action measures to take when faced with upheaval (Sellnow et al., 2017). According to the IDEA model, more information should also be available as it is a necessary function of the collective instructional messages to inform and hinder the spreading of the outbreak, as well as proactively working against the contagious illness (Sellnow et al., 2017). Sellnow and Sellnow (2014) contend that instructional risk and crisis communication messages need to address all components of the IDEA model in order to be effective (see Figure 4). Sellnow-Richmond et al. (2018) also contend that in health crisis events in particular, “risk messages would include mention of the potential effects of the disease on people who become infected, how much time one has to notice symptoms and to seek medical help, and where the disease is appearing” (p. 140). An effective instructional risk or crisis message should detail specific steps people can take to prevent contracting the disease and/or treat themselves in an efficient manner (Sellnow-Richmond et al, 2018). The following paragraphs will detail each component in the model.
According to Sellnow, Parker, Sellnow, Littlefield, Helsel, Getchel, Smith and Merrill (2017), “Internalization involves compelling individuals to pay attention by illustrating personal relevance and impact via compassion, proximity, timeliness, level of risk, and exemplification” (p. 2). It involves captivating peoples’ interests and aiding those affected to enact prevention and safety measures. As previously implied, internalization is one of the facets which aligns with experiential learning as internalizing an experience allows learners to “engage in knowing, doing and reflecting” (Sellnow et al., 2017, p. 2).

Internalization messages must have personal relevance and prioritize self-protection from the crisis to the person (Sellnow & Sellnow, 2014). For instance, when Sellnow et al. (2017) studied the communication of the National Pork Board and the American Association of Swine Veterinarians to the public in response to the Porcine Epidemic Diarrhea virus, the three biggest sources of internalization in the messages came from describing the virus, communicating with those affected, and upholding stakeholder’s confidence. Having a target audience to send a message and convincing them of the relevance and importance of the message are some of the steps needed for effective crisis or risk messaging. Sellnow and Sellnow (2016) maintain that internalization is warranted when action is the key solution (IRIS Earthquake, e.g. 12:14). In the case of a health crisis event, effective instructional risk messages should detail how people will be affected by the disease if it is contracted, including the proximity, duration, timeliness, and outcomes of its effects (Sellnow-Richmond et al., 2018).
Messages should also encourage infected persons to seek medical attention (Sellnow-Richmond et al., 2018).

Sellnow and Sellnow (2016) maintain that distribution, when tailored to an audience’s best interests, should be easily accessible to target audiences and should provoke actions like self-protection (IRIS Earthquake, e.g. 12:16). Distribution methods commonly considered are news channels, social media, newspaper articles, magazines and the internet; in the instance of someone needing health recovery, for example, an organization may also utilize information from recovery community organizations coordinating with “an emergency department, drug court, police department, or other organizations, with the peers assigned” (Knopf, 2018, p. 20). A consistent message ought to be delivered by a variety of credible sources via multiple channels to ensure as many people as possible receive it with the goal of reducing the number of inaccurate, misleading, or conflicting messages. There are many methods of communication in the wake of a crisis, not limited to interpersonal interactions, and all of them should be used as much as possible to ensure the message is received.

Apart from distribution types, Sellnow et al. (2017) argue crisis response strategies that go into the distribution process should make sure messages align with the basic values of an organization, and furthermore, the credibility of the distribution method should also be considered. Some mediums of distribution are more accessible to the public like text messages, social media or the internet which allow for more immediate transference of emergency messages to a large majority of people simultaneously, which for instance is a priority in the wake of a deadly crisis event. No
mater the channel of distribution, the purpose of an efficient communication crisis plan is to utilize specified mediums - whether it be doctors, hospitals, press releases, television, social media, or other ways of outreach - with the goal being to adequately reach target audiences to convey the urgency of the situation.

Sellnow-Richmond et al. (2018) describe the explanation component of the IDEA model as requiring source credibility, accuracy, layman’s terminology, and exemplification. Explanation encompasses trustworthy sources communicating scientific evidence in layman’s terms; this model has been developed for mostly communicating domains in science (Sellnow-Richmond et al., 2018). For health risk or crisis messages in particular, such messages should explain what the disease is and how it is contracted in simple, nonscientific language. One cross-sectional study conducted by Sellnow et al. (2017) examined the E. Coli crisis in West Africa and the crisis communication messages implemented, finding that instructional messages which describe those at greatest risk, what the crisis is and how to take responsive measures against the crisis “have the potential to reduce or resolve these momentary perceptions of unfamiliarity and defenselessness” (p. 14).

According to Sellnow-Richmond’s et al. (2018) IDEA model thematic analysis codebook (see Figure 3), a proper explanation should “provide accurate information about what is happening and being done in the event” (p. 159). Sellnow, Parker, Sellnow, Littlefield, Helsel, Getchell, Smith & Merrill (2017) contend explanation should involve “information-sharing about what is happening, which includes what the disease is, how to diagnose it, how it is spread, and who is impacted” (p. 7). Despite the usefulness that
explanation provides, Sellnow and Sellnow (2016) note that explanation alone is not
enough for educating people, because what is also needed is having people internalize the
pertinent information that prevents the spreading of or the anticipation of the crisis (IRIS
Earthquake Science, e.g. 12:57). Effective risk communication should thus also
encompass the components of internalization and distribution, so people can take action
against a risk or crisis (Sellnow et al., 2017).

Action, the final component in an effective crisis or risk instructional message, is
defined as the “preparation action steps, specific response steps, and exemplification in
action steps” (Sellnow-Richmond, George & Sellnow, 2018, p. 159). Such messages
should propose specific actions to take (or not to take) to avoid contracting a disease as
well as what to do (or not to do) if one has been exposed to an infected individual or is
experiencing any of the symptoms (action). An organization handling a crisis must
encourage people to protect themselves, those they care about, and their belongings,
which is part of the internalization process (Sellnow et al., 2017). Sellnow-Richmond et
al. (2018) believe action should also constitute helpful instructional messages and steps
for when a crisis hits, during the crisis itself and after the climax of the crisis, “over a
variety of locations and with illustrations or exemplary models” (p. 9). Sellnow et al.
(2017) argue that an audience must both comprehend the crisis and have the knowledge
to take self-preserving actions to have a bigger percentage of participation in mitigating
the risk or crisis’ effects. This idea is aligned with “disaster warning literature” in that
people must be empowered to take the corrective steps for self-protection in the future
(Sellnow et al., 2017, p. 564).
Overall, all four components of the IDEA model must work together to formulate an effective instructional message, although there were identified elements that were placed in the “other” category (Sellnow-Richmond et al., 2018). The “other” component is described by Soares (2018) as including “mainly campaign taglines, sentence connectors and other pieces of content that were repeated throughout the materials” (p. 20). Nevertheless, internalization, explanation and action are interconnected and influencing each other at all times. Though relatively new, a good deal of research utilizing the IDEA model already exists.

**Testing the IDEA Model in Literature**

Rudolph (2014) conducted an investigation measuring the frequency of the IDEA model components of the Boston Police Department’s live tweets during the 2013 Boston Marathon bombing crisis. Rudolph (2014) only identified themes within three of the facets of the IDEA model, because distribution was limited to messages on Twitter. In particular attention to the IDEA model, Rudolph (2014) uses coding and thematic analysis to identify the remainder of the IDEA model’s components: internalization (when a tweet highlighted the possible risks relevant to the audience; a personally impactful tweet), explanation (informing people on the characteristics, timing and proximity of the crisis, as well as the steps to follow), and action (a specific call to take action and prevent harm).

Rudolph (2014) found that the tweets which used all three tested factors of the IDEA model only appeared 20% of the time, with the most commonly used factor being explanation. Seven themes from the Boston Police Department’s tweets were also found:
“proximity, personal impact, timeliness, details of the situation, what happens next, do something and don’t do something” (Rudolph, 2014, p. 40). Rudolph (2014) concludes that Twitter is an acceptable platform to communicate instructional messages during the wake of a crisis and the other components of the IDEA model are needed when composing messages. It is important for researchers to measure the ways people communicate about a crisis online, such as this tragedy in Boston, as it is equally important to use the IDEA model to “increase the likelihood that those messages will achieve what we intend from them – which is, of course, to save lives” (Sellnow-Richmond et al., 2018, p. 157).

Sellnow, Parker, Sellnow, Littlefield, Helsel, Getchell, Smith and Merrill (2017) used the IDEA model to assess a crisis response plan of the Porcine Epidemic Diarrhea virus (PEDv), which manifested in the United States’ pork industry, particularly looking at the National Pork Producers Council and National Pork Board. Sellnow et al. (2017) found that explanatory instructions were speedily and consistently produced, but with lack of internalization, the explanations reduced effectiveness and behavior from its stakeholders. Multiple channels of distribution were used, including magazines, websites, emails, professional associations and networks, and weekly phone calls from the National Pork Board. These crisis response networks were instrumental in the success of dispersing information (Sellnow et al., 2017). In regard to explanation, biosecurity training was protocol for employees, such as keeping a line of separation from the clean side of the facility versus the dirty side, although protocol was not strictly followed by employees who might breach protocols out of convenience (Sellnow et al., 2017).
Finally, while biosecurity remained prevalent in the pork industry, many workers needed to be educated on the severe risks of failing protocol as workers did not comprehend how one minor breach effects the entire facility (Sellnow et al., 2017). Sellnow et al. (2017) recommended observational learning of protocol violations to teach workers how biosecurity risks may lead to a crisis if not implemented correctly.

Cato (2017) took a different approach when inspecting the Center for Disease Control & Prevention’s (CDC) response online to the nationally declared opioid epidemic in the United States. Using the IDEA model thematic analysis codebook (see Figure 3), Cato (2017) contends there is a “rather dry and scientific tone” in regard to the CDC’s website summary on the number of opioid overdoses and the information explaining about the opioid epidemic. Empathy is also lacking in the CDC’s (2017) campaign videos, most of which lasted around 30 seconds, as it does not explain how over-prescribing opioids is a contributing factor to fatalities or the perils of opioid addiction (Cato, 2017). While the pertinence and proximity of the opioid epidemic is discussed, Cato (2017) argues the scientific tone on the CDC’s website does little to help the public internalize these messages or how to combat the opioid crisis in their lives or their family’s lives. Nevertheless, the data on opioid deaths allows the public to understand and predict who is most at risk (opioid prescription patients) and how to prevent and retain abusing or misusing opioids (Cato, 2017).

The CDC website for the opioid crisis included media materials used only if people feel encouraged to share “signs, billboards, videos, images and so forth on [their] own dime” (Cato, 2017, p. 16). Cato (2017) conclusively contends that the distribution
component is less focused on the distribution of content (intended for audiences to share) and more focused on reaching a large audience of internet users. She also argues the CDC is perhaps most credible in its explanation as there are many scientifically proven data, research, and preventative measures listed on its website. For the action component, Cato (2017) argues that the CDC’s main goals in preventing opioid overdoses is “improving data, funding states, and providing guidelines for health care providers,” but ignores the audience which is affected the most – those most prone to opioid misuse and abuse. Despite ignoring the population most affected, there were preparation steps included on the CDC’s (2017) website which direct those affected to treatment facilities, instructional materials, and response steps for physicians to consider when dealing with opioid prescriptions (Cato, 2017).

Another study using the IDEA model, as implemented by Sellnow-Richmond et al. (2018), explored the Center for Disease Control and Prevention’s (CDC) communication concerning the Ebola outbreak in Liberia, Sierra Leone, Guinea, and other West African countries. It is useful to measure a government agency’s crisis response plans by looking at the many facets of which are affected by a risk or crisis, because we see through Sellnow-Richmond’s et al. (2018) thematic coding that ordinary people were deprived of a fundamental connection between public health sources and the call to action or the call to agency and internalization. Through an assemblage of the CDC’s live tweets and responses about the Ebola epidemic, Sellnow et al. (2018) conclude the organization’s cornerstone focused more on the outbreak than managing and responding to people’s internalization and action.
One of the most recent studies to use the IDEA model measured how the Brazilian Ministry of Health managed a crisis management plan in the 2016-17 Zika campaign and how it resonated with the active health agents during this time (Soares, 2018). The distribution of the campaign materials analyzed were “7 ads/posters, 3 TV spots and 2 radio spots” (Soares, 2018, p. 17). Soares (2018) took an outsider’s perspective to thematically code the IDEA model categories with some of the printed materials falling into the “other” category. Internalization was found in instructional messages from the campaign materials such as “This fight belongs to all of us” showing the importance and liability of people’s responsibility for action (Soares, 2018, p. 24). Soares (2018) notes there was also an emotional side to internalization in the printed ads and posters. Additionally, the campaign’s explanation concentrated on explaining to the public how adult mosquitoes bite humans and transmit the *Aedis Aegypti* strain, the main component of the Zika virus and other diseases, thus leaving symptoms such as red spots, intense itching, red spots, and pain in the joints, muscles and eyes (Soares, 2018). The researcher found that action was the most prevalent category within the printed materials, warning people how to eliminate mosquito breeders as well as how to react if infected (Soares, 2018). There was also the sense of a community or familial effort to take action against the mosquito breeders (Soares, 2018).

For the audio and visual elements inspected in Soares’ (2018) study, there was an emotional connection to the audience in that real people were used in the commercials and media to convey shared responsibility messages about the Zika virus and microcephaly (Soares, 2018). The TV commercials and radio spots were similar to the
printed materials in terms of explanation, educating the common folk on how the disease is spread and contracted (Soares, 2018). The action component of the model in regard to the audio and visual elements conjunctively fit with the action aspects present in the printed materials; the main difference was that “health agents were key characters of this campaign” (Soares, 2018, p. 30).

Soares (2018) expanded upon the study by interviewing two Brazilian State Representatives and an official from the Ministry of Health. Each of them perceived the crisis as a critical focal point to alert the authorities and they believed socialization was an important aspect of the crisis communication plan (Soares, 2018). There was a general consensus among the government officials that the government’s role was to recommend and reinforce preventative measures to its citizens (Soares, 2018). The interviewees also concluded that more people understood the Zika virus during the pinnacle of the outbreak, although the level of engagement was lower despite the education and instructional messages prevalent in Brazil (Soares, 2018).

The implications of Soares’ (2018) investigation reveal that the creation of empathy and fear were elements influential in creating action against the Zika virus. There was an appeal of shared responsibility throughout the printed ads, which also brought more meaningful internalized messages to the communities. While previous research has found that explanation is the most widely used in risk communication messages, the approach in this study focused more on the action aspects of the campaign (Soares, 2018). This approach happened because a qualitative study showed that people were educated about the Zika virus and outbreak but were not internalizing the sincerity
of the outbreak and thus they were not understanding the imminent actions to take (Soares, 2018). These things should be considered when implementing the campaign because risk communication plans should make a memorable impact on people so much so that they understand taking action is key to survival. Through the IDEA model analysis, research shows that the understanding of what actions to take and the gap between people actually taking actions should be largely considered when implementing the campaign because the IDEA model postulates that internalization and action components work hand-in-hand to help people mitigate risk (Soares, 2018). To combat this issue, “social mobilization and other engagement strategies should be combined with the campaign materials to trigger true commitment and participation” (Soares, 2018, p. 41). Finally, given the extent of knowledge already out there for people to learn about the Zika virus, campaigns should take careful precautions to provide layman’s language about aspects of the disease and risks involved (Soares, 2018).

As one can see, all of these studies advance the study of the IDEA model. While there is limited research available using the IDEA model, the research from various investigations effectively reference Sellnow-Richmond’s et al. (2018) IDEA model codebook (found in their appendix), allowing researchers more consistently to assess the effectiveness of organizational warnings; how organizations convey messages and recommended actions, and the personal relevance and usefulness of instructional messages with its audience members is vital for the success of risk communication according to the IDEA model. Furthermore, the IDEA model allows risk scholars and practitioners to assess the presence of these risk communication campaign components,
and, in doing so, the presence or absence of such determines the successfulness or failure of a risk communication plan. While there is research available utilizing the IDEA model, more testing of the model is warranted to examine the components the model proposes. My research using the IDEA model to analyze the KCHFS’ risk management concerning the HAV outbreak in Kentucky will provide further testing of this theoretical model. Furthermore, it will show the deficits in their risk communication plan, which need fixed in order to provide effective instructional messages, and will bridge the gap between providing accurate information, internalization of those messages by the public, and informing the public of what proper actions to take to mitigate risk.
CHAPTER THREE
METHODOLOGY

When conducting a rhetorical analysis, the first step is selecting an artifact for investigation (Foss, 2009). I selected the Kentucky Cabinet for Health and Family Services’ (KCHFS) online response to the Kentucky hepatitis A virus (HAV) outbreak, as it was the first source found on Google after searching “Kentucky HAV outbreak.” Given that the KCHFS website is at the top of the list for those internet users accessing information about the HAV outbreak in Kentucky, it is vital to examine this risk management plan KCHFS has in place. Because the purpose of this inquiry is to examine the success/failure of KCHFS’s messaging in meeting the criteria laid out by the IDEA model during Kentucky’s HAV outbreak, its website, https://chfs.ky.gov/agencies/dph/dehp/idb/Pages/hepAoutbreak.aspx, will be the main artifact for analysis. The website was accessed between June 21, 2019 and October 19, 2019 and was chosen for its relevancy and availability to Kentuckians who may be concerned about the HAV outbreak in the Commonwealth of Kentucky. It provides specific information for Kentuckians and is a credible source for HAV information because the KCHFS is part of the Infectious Disease Branch of the Department for Public Health.

The second and third steps in rhetorical criticism are to analyze the artifact and formulate a research question (Foss, 2009). Sellnow-Richmond et al. (2018) developed a thematic analysis codebook (see Figure 3) to examine if, and how, organizations use the IDEA model in its risk communication campaigns and with what level of success. As such, their codebook guided this study.
CHAPTER FOUR
ANALYSIS

As the Kentucky Cabinet for Health & Family Services’ (KCHFS) website is the primary hit when one does a Google search for “Kentucky Hepatitis A Virus Outbreak,” it is important to assess its contents to examine if it is optimal in mitigating risk for Kentuckians. Though a brief look at the websites of other states aimed at mitigating HAV risks, such as Tennessee (https://www.tn.gov/health/cedep/tennessee-hepatitis-a-outbreak.html), suggests there are better ways to organize key campaign messages, an in-depth comparison of these is beyond the scope of this thesis. This chapter examines the internalization, explanation, distribution, and action aspects of the KCHFS website messaging in response to the HAV outbreak in Kentucky. These components, analyzed using the IDEA model thematic analysis codebook (Figure 3) as determined by Sellnow-Richmond et al. (2018), offer a means to understanding the (in)effectiveness of the risk communication messages of the KCHFS.

A screenshot of the KCHFS’ main webpage (Figure 2) on the HAV crisis is below. This visual shows the range of complexity and lack of internalization, distribution, explanation, and distribution components on its website. It also serves as a visual representation of the links named throughout my analysis.

As one can see below (Figure 2), the primary populations targeted on this webpage are health care providers and employees of correctional and substance abuse treatment facilities, where drug users and homeless people are often found. However, the general audience for people inquiring about the HAV outbreak in Kentucky is and should be primary risk groups (homeless people and/or illicit drug users) and nonprimary risk
groups (non-homeless people and/or non-illicit drug users) because there are other factors that may put someone in the general population into high-risk groups for HAV. This is especially important for people who want to eat out at restaurants like Applebee’s, Arby’s, Burger King, Jimmy Johns, Pizza Hut, or Taco Bell, where HAV outbreaks have been identified (Hackett, 2019). While some of Kentucky’s businesses, like Burger King, have mandated employees to get the HAV vaccine, there are still risks for Kentuckians who don’t want HAV on their menu (Hackett, 2019). Restaurants are particularly part of the primary risk groups because The Substance Abuse and Mental Health Administration found in a 2015 study that food services and hospitality industries rank highest in substance use disorders, thus nonprimary risk and primary risk groups alike are even more susceptible to HAV and other diseases when they are engaging within these sectors (Hackett, 2019).

As this chapter will claim, I argue first that primary and nonprimary risk populations should be the main target of the KCHFS webpage, given the concern of the public in regard to eating out at restaurants or shopping at stores like Kroger where the HAV outbreak has been declared (Hackett, 2019). Furthermore, the KCHFS website should contain all components of the IDEA model on its homepage, because as its creators Sellnow and Sellnow (2014) argue, the most effective means to risk mitigation follows that risk communication plans must have all components of the model present to aid its audiences in understanding, internalizing, and acting against the risk. Third, getting the vaccine should be a prevalent action component listed on the webpage since it is the most effective preventative measure against HAV. Finally, information on the
KCHFS’ webpage needs to be more user-friendly for nonprimary and primary risk groups in order to quickly and efficiently find information most relevant to them.

Figure 2

Screenshot of the Kentucky Cabinet for Health & Family Services’ Homepage

Overview
In November 2017, the Kentucky Department for Public Health identified an outbreak of acute hepatitis A. The increase in cases observed in Kentucky exceeded the 10-year average of reported hepatitis A cases. Several cases have been linked to outbreaks in California, Utah and Michigan. Primary risk factors remain illicit drug use and homelessness. A contaminated food source has not been identified and transmission is believed to be occurring through person-to-person contact.

Information for health care providers
Health care providers should prioritize identification of and reporting cases of acute hepatitis A in at-risk patients. If acute hepatitis A is suspected, contact local or state public health within 24 hours, in accordance with 902 KAR 2:020.

Specimens for molecular testing also should be considered. Clinical advisories and laboratory guidance are available below. Vaccination of at-risk individuals remains the best means of control. Please consider hepatitis A vaccination in accordance with ACIP recommendations. CDC recommendations for outbreaks of hepatitis A are also available.

- KY HAV Outbreak Advisory
- KY HAV Outbreak Clinician Lab Guidance
- HAV Shipping-Handling Guidance 2017
- Specimen submission form 50-34
- DLS Form 215
- Suspect HAV Risk Questionnaire
Information for correctional and substance abuse treatment facilities

Congregate settings such as correctional facilities and substance abuse treatment facilities are at higher risk for transmission of hepatitis A if a case is identified in the facility. Occupants of these facilities should be evaluated for signs and symptoms of hepatitis A upon admission and educated about hepatitis A.

Staff should closely monitor these populations for symptoms of acute hepatitis A and encourage staff to report any signs or symptoms of the disease should they occur. If the disease is suspected, the person should be isolated in an effort to prevent further spread of the disease and should see a physician as soon as possible.

In addition, these persons should not participate in food preparation until cleared by public health. If acute hepatitis A is suspected, contact local or state public health within 24 hours, in accordance with 902 KAR 2:020.

- Hepatitis A General Information.pdf
- What you should know about Hepatitis A.pdf
- Wash your hands.pdf

Disinfection guidelines

Facilities that provide services to at-risk populations should implement disinfection procedures that are effective against hepatitis A. DPH recommends that facilities review disinfection procedures to ensure products being used are both effective against hepatitis A virus and are being used in accordance with the manufacturer's label.

Hepatitis A Vaccinations Map by Rate/1000

Contact Information

- (502) 564-5261
- (502) 564-0542
- (800) 975-7670 / (800) 9-REPORT

Mailing Address
279 E. Main St. MS2E-A
Frankfort, KY 40621

Reportable Disease Section

Additional Information

Hepatitis A Environmental Health Toolkit:
- Disinfection Guidelines
- Disinfection for Food Facilities
- Disinfection for Food Facilities in Spanish
- Hepatitis A Poster for Food Service Employees
- Hepatitis A information for Food Managers/Operators
- Hepatitis A message to Food Service Establishments
- Hepatitis A Foodservice Worker Case Investigation
- Hepatitis A message to Hotel Establishments
- Hepatitis A Outbreak Environmental Health Resources, Recommendations and Special Considerations 2018

Hepatitis A Webinar for Hospital Emergency Departments
- August 16, 2019 Webinar Recording
- Hepatitis A Risk Factor Questionnaire
- Standing order for Hepatitis A vaccination in the ED

Related Agencies
- Department for Public Health
- Division of Epidemiology and Health Planning
- HIV/AIDS Branch
- Infectious Disease Branch
- Vital Statistics Branch
Internalization

To start, the goal of internalization is “to get attention and aid retention,” and the IDEA model thematic analysis codebook (Figure 3) measures internalization by the following: compassion, personal relevance, proximity, timeliness, and exemplification (Sellnow-Richmond, et al., 2018, p. 158). As such the following sections will address each category/component individually.

Compassion

First, the main page of the KCHFS’s website has an overview of those most affected by the outbreak as being illicit drug users and homeless people. It directly states, “Primary risk factors remain illicit drug use and homelessness” (para. 1). This message, however, offers no support for others that may be directly affected, or their loved ones, as the page focuses predominantly on healthcare providers and employees in correctional and substance abuse facilities. Interestingly, a deeper look into the website finds only one source of compassion offered. To get to this message, one must choose the CHFS News link in the green box on the right side of the homepage, then search “hepatitis” to be brought to numerous news articles about the HAV outbreak. Next, one must choose the “July 28, 2017 is World Hepatitis Day in Kentucky” link. The article explains more information can be found on the KCHFS Facebook page http://www.facebook.com/kychfs. The next step is to go to its Facebook page and search its videos for “hepatitis,” although there is no link on the opening of the KCHFS’ webpage. A video published 8 months ago titled “State Response to Hep A Outbreak” is a relevant 26-minute video which has a snippet of compassion in it.
In the Facebook video, after hearing Scott Lockard, the Director of Kentucky River Health District - that is the most affected health district in the state - the listener finds some sign of compassion regarding the outbreak. Lockard is the first to mention the need to invest in prevention of substance abuse, notably blaming the breakdown in Kentucky’s health care system to underfunding, increased pensions, and the belief that the Affordable Care Act would eliminate Kentucky’s health problems as some of the reasons for this large epidemic. Additionally, Lockard thanks Public Health Commissioner, Dr. Jeff Howard, for funding a $100,000 grant which aimed to vaccinate primary risk populations in jails, rehabilitation centers, and homeless shelters. This singular example of compassion from KCHFS, unfortunately, is only found after a lot of digging and determination. That is to say, one has to spend an extended amount of time clicking around on all of the homepage’s links, searching for as much information as possible, to find any substance of compassion throughout the website.

Personal Relevance

In terms of personal relevance, the KCFHS’ website focuses the majority of its homepage content on explaining the details and scientific facts of the epidemic to healthcare providers and employees of correctional and substance abuse facilities rather than connecting directly with its audience members most affected by the contagious disease or those most vulnerable to contracting it (primary risk populations). Admittedly, the website states under the “Information for correctional and substance abuse treatment facilities” that inmates in correctional facilities and patients in substance abuse treatment centers have a steeper risk of spreading the disease if an infection has been identified.
there, but there are still unreached primary risk and nonprimary risk populations who are also at risk.

One may also find in the information from the Hepatitis A General Information link on the homepage has messages aimed at people with other high risk factors, such as people who have contracted the virus and have had a bowel movement yet not properly washed their hands or people who travel to countries where HAV is common, can in fact contaminate and spread the HAV. Furthermore, the KY HAV Outbreak Advisory link recommends the HAV vaccine to other high-risk factor populations not explicitly targeted on the homepage, including: those with chronic liver disease; men who have sex with men; people working in countries that have large cases of the HAV virus transmission; or people who have been exposed to HAV within the last two weeks. This kind of information is linked off of the homepage under “Information for correctional and substance abuse treatment facilities” instead of front and center for other in potentially high-risk situations that are concerned about personal relevance to the disease.

Another interesting point about personal relevance messages on this website is that there is an undertone on the home page subsections of “Overview” and other links that citizens who are not drug users or homeless should not worry about the outbreak. This conclusion stems from the fact that the KCHFS’s website focuses mostly on health care providers and employees in correctional and substance abuse treatment facilities, rather than on the nonprimary risk citizen who may, say, eat at a fast food restaurant and be worried about contracting the disease from a fast food worker. Even more, the most important preventative measure against HAV – getting the vaccine – is only
recommended under the information for health care providers. A Kentuckian in another high-risk category or one in a nonprimary risk group who simply seeks immunity from the disease might skip over this information because they believe that information is irrelevant to them. Also, two links under the information for health care providers, the KY HAV Outbreak Advisory and KY HAV Outbreak Clinician Lab Guidance note that several cases of HAV have been linked to homeless people and/or illicit drug users, furthering the narrative that diminishes the seriousness of the disease to nonprimary risk citizens. This is troubling given that homeless people comprise less than 1% of the population in Kentucky, and less than 1% of Kentuckians are affected by addiction. These primary risk populations, conclusively, are likely not accessing the website, are ill-prepared for the HAV outbreak, and are not getting the information they need to mitigate risk (United States Interagency Council on Homelessness, 2019).

It is important to further explain how, despite the fact some personal relevance can be found on the website, there is not a clearly defined section for the nonprimary risk Kentuckians to capture focus. Indeed, there are many different places to find the ways people can internalize the messages received by the KCHFS, albeit under labels that are not intended for them. For example, one personally relevant fact can be found in the KY HAV Outbreak Advisory link (under Information for Health Care Providers), which states how contaminated commercial food sources are not likely to be the source of transmission, as the HAV is mainly contracted through interpersonal exchange, but this information is not directed to nonprimary populations; it is directed at health care providers and correctional and substance abuse treatment facilities. Other examples found
under Information for Correctional and Substance Abuse Treatment Facilities show flyers on What You Should Know about Hepatitis A, the Hepatitis A General Information, and Wash Your Hands. These links are relevant to nonprimary and primary risk groups alike but are not labeled for them to find. Another important source of personal relevance to utilize is the Weekly HAV Outbreak Reports which details the proximity, percentages, and populations identified to have the HAV, yet there is no way to guarantee nonprimary or primary risk populations will know where to look to find this relevant information.

Another important aspect of personal relevance is knowing the extent of consequences and what to expect from contracting the disease (Sellnow-Richmond et al., 2018). Educational information can be found throughout the site by clicking on the Hepatitis A General Information link as well as the CDC’s website as linked on the flyer. From these links, one can learn symptoms include jaundice (yellowing of skin and/or eyes), fever, dark urine, pale stools or diarrhea, vomiting, abdominal pain, joint pain, loss of appetite, and nausea. It is very rare, but injection drug use and blood transfusions also pose a risk in transmitting the virus. Symptoms are more likely to occur in adults than in children, and some adults may have no symptoms at all. Consequently, the illness can last anywhere from two to six months and someone with the disease may be hospitalized or could even die.

Overall, the personal relevance is harder to find for nonprimary risk populations as the primary risk populations are the initial focus on the homepage. According to the IDEA model, information for both primary risk and nonprimary risk people is good to have, but it is not clearly defined into categories on the homepage. Indeed, the IDEA
model shows that personal relevance is important for all Kentuckians to internalize the sincerity of the HAV outbreak, and proximity is also important for Kentuckians to understand where the HAV outbreak is mostly occurring.

**Proximity**

On the Acute Hepatitis A Outbreak 2019 Week 39 link as found under the September category under the Weekly HAV Outbreak Reports on the right side of the homepage, one can see the majority of outbreaks are happening in the following counties: Boyd, Carter, Fayette, Floyd, Jefferson (Louisville area being the most serious of outbreaks), Kenton, Knox, Laurel, Madison, and Whitley. The majority of these counties are located in the northern and eastern parts of Kentucky. Also, on the homepage, the Hepatitis A Vaccinations Map by Rate/1000 details the amount of vaccines distributed to Kentuckians, with the majority of them also being in eastern Kentucky. Overall, the KCHFS’s data details the proximity of the disease with scientific, geographical and numerical specificity on its homepage, meaning proximity is a strong component in this risk communication response.

**Timeliness**

Although the website has details of the Hepatitis A Outbreak Status on the right side of the homepage, the most recent Weekly HAV Outbreak Report on the homepage report is the Morbidity and Mortality Weekly Report Week 39, 2019 (September 22, 2019 – September 28, 2019). This report explains that the majority of outbreaks happened in March 2018 through March 2019, with at least 100 cases each month. The homepage also states that the HAV outbreak started in November 2017 and the green
Hepatitis A Outbreak Status box shows that there are 4,958 outbreak counts as of October 19, 2019. While the homepage and Weekly HAV Outbreak Reports are intricate in details regarding the proximity of the disease and when the disease occurs, it offers no research on how long people have to prepare for the spreading of the disease. According to the What you should know about Hepatitis A (under “Information for correctional and substance abuse facilities”), the recommendation is to talk with a medical provider if suspicious of having contracted the disease.

Perhaps a bigger issue is the homepage never mentions that those who have contracted the virus can get the vaccination within the first couple of weeks to eliminate symptoms. That is only mentioned once in the Hepatitis A Outbreak Environmental Health Resources, Recommendations and Special Considerations 2018 buried in the bottom right hand corner of the homepage. On the home page, audience members are only told to contact local or state public health agents within 24 hours if suspected to have the HAV, as indicated under “Information for correctional and substance abuse treatment facilities.”

In conclusion, it is evident from the website that the HAV outbreak is a longstanding problem (for the past two years), but Kentuckians are left with no information about preparation steps or the time estimated for people to react. This lapse in information is not suitable for a successful risk communication response according to the IDEA model’s research, which may, in turn, lower people’s behavioral intentions to participate in self-protection acts (Sellnow et al., 2017).
Exemplification

The IDEA Model Thematic Analysis Codebook (see Figure 3) asks what, if any positive or negative exemplars are offered to capture people’s attention and make it significant and/or interesting to them. In fact, there are exemplars on the KCHFS’s homepage including the KY HAV Outbreak Advisory press release under “Information for health care providers,” which aims to prevent cases and control the HAV outbreak in Kentucky. This official document may positively indicate to an audience the seriousness of the outbreak, as the state has detailed information on recommendations to vaccinate primary risk populations. Other documents include clinician lab guidance for medical providers and laboratory colleagues which provide instructions on actions to take when investigating the possibility of HAV spreading in persons. These examples are positive in nature as such indicate to people the need to take action when coming across the HAV. Further analysis of the website demonstrates, there were many negative exemplars like health care providers being targeted, thus nonprimary risk populations may determine from the website they are not at risk since its main focus is detailing the primary risk populations.

Distribution

The goal of the distribution component of the IDEA model as outlined by Sellnow-Richmond et al. (2018) is to convey the proper messages to the target audiences by utilizing the best sources for vast distribution of messages and the capacity to send multiple consistent messages. Because the only distribution method being analyzed for this thesis was KCHFS’s website, I cannot make claims about distribution components
beyond the scope of the website. Rudolph (2014) also makes this claim as she limited her analysis of instructional messaging to Twitter.

One distribution flaw is that KCHFS’s homepage offers no social media icons or links to social media. So, even though there is a Facebook page dedicated to reporting updates on prevalent issues in Kentucky, such as the HAV outbreak, one has to go from the website’s homepage to the CHFS News link in the green box on the right side of the homepage, then search “hepatitis A” and scroll through numerous articles to choose the “July 28, 2017 is World Hepatitis Day in Kentucky” link. This article then only briefly mentions at the end that more information can be found on the KCHFS Facebook page, encouraging people to like and share posts with their friends. Moreover, the Facebook page is not consistently posting about the HAV outbreak (only a few times during the duration of this study), and instead updates the public on such things as older adults facing hunger in the country, foster care, transitioning from government aid to employment opportunities, and flu shots (KCHFS, 2019b).

Another problem with the distribution channel studied is that 7% of Kentuckians do not have access to broadband Internet, notably in rural counties (Dick, 2018). That is a target audience of over 300,000 people who do not have the means to access the KCHFS’s website or social media. Another interesting point is that Kentuckians in rural and/or low-income areas show trends that broadband services are not readily available for them, according to the United States Census Bureau’s recent study (Martin, 2018). Further, in 2018, Continuums of Care to the U.S. Department of Housing and Urban Development (HUD) reported over 3,500 Kentuckians are homeless, meaning they likely
do not have the means to access the website’s information either (United States Interagency on Homelessness, 2019). Overall, the distribution of instructional messages on the KCHFS website needs to be considered by its organization, because, in singularity, the website does not meet the needs of all people who may not have access to the internet. On the other hand, the website’s information deserves to be posted on its Facebook page to reach a broad audience of roughly 13,000 people who only may be getting their information from social media.

**Explanation**

The facets of internalization and explanations in this case study are undoubtedly intertwined on the KCHFS website, as people must internalize what is happening and what is being done about the HAV outbreak to understand the seriousness of its impact. While internalization is aimed at marketing messages which grab attention and make an imprint on a person, explanation is also needed (for a successful communication response plan) to convey trustworthy, scientific information about an occurrence as well as to convey the actions being taken to mitigate the risk or crisis. Explanation is important because the target audience is asking “what is happening, and why?” (Sellnow-Richmond et al., 2018, p.159). Sellnow-Richmond et al. (2018) argue that explanation should encompass a reliable reputation, precise scientific evidence, and accurate information. Explanation should also entail what is being done about the event all the while explaining it to its target audience in layman’s terms. Finally, Sellnow-Richmond et al. (2018) look at the explanation component to determine if examples are being used to explain things
more easily, and if so, the authors ask if the examples are positive or negative in the way of understanding. The aspects of explanation are discussed below.

Source Credibility (International, National, Local)

First, KFCHS is an extension of the Kentucky Department for Public Health (DPH) and is a credible source. Its statement at the bottom of each press release (under the CHFS News link) details the organizations within and the importance of this government agency’s presence in healthcare:

The Cabinet for Health and Family Services is home to most of the state's human services and healthcare programs, including the Department for Medicaid Services, the Department for Community Based Services, the Department for Public Health, the Department for Aging and Independent Living and the Department for Behavioral Health, Developmental and Intellectual Disabilities. CHFS is one of the largest agencies in state government, with nearly 8,000 full- and part-time employees located across the Commonwealth focused on improving the lives and health of Kentuckians. (KCHFS, 2019a, “Acute Hepatitis A Outbreak,” para. 15)

It may come as little surprise that the site links to related (credible) agencies which include the Division of Epidemiology and Health Planning, HIV/AIDS Branch, Infectious Disease Branch, the Center for Disease Control and Prevention, and the Vital Statistics Branch. There is no denying the credibility of these linked national sources on the KCHFS’s website either.
Accurate Science, Accurate Information

Overall, the KCHFS’s website information is written in nonscientific, easy-to-understand language; or, in cases when scientific information is used - like using the word jaundice, for example - in most cases, it is explained right after that jaundice is the yellowing of the skin and/or eyes. The majority of readers likely can grasp a clear understanding of the HAV crisis given the explanations present, but this would still require the skill of researching a website and knowing to look for information that may not necessarily match the target audiences’ demographic. This may be particularly concerning for the communities which do not use the internet regularly and given the lack of broadband in rural communities, this is a real problem in Kentucky. Nevertheless, the KCHFS website is distinctly accurate in its scientific facts about the HAV outbreak and the information that is portrayed.

What Are the Responsible Agencies Doing to Deal with the Event?

One example of how the website discusses what responsible agencies are doing to deal with the event is that it provides a one-page questionnaire under “Information for health care providers” to determine various risks that may be associated with the disease outbreak. Another exemplar is found through the Hepatitis A Outbreak Environmental Health Resources, Recommendations and Special Considerations 2018 (found under “Additional Information Hepatitis A Environmental Health Toolkit” on the homepage), where people can learn that HAV does have a road to recovery in that post-exposure prophylaxis (also known as post-exposure prevention) can be administered within two weeks after exposure, unless previously vaccinated. In all, it is simply difficult to
determine what KCHFS is doing to mitigate risk and the HAV crisis based on its website’s information, because its homepage does not indicate the specific tasks being carried out to help primary risk or nonprimary risk populations. While there is some information listed for various demographics, it fails to reach the audiences it needs to the most.

*Intelligible Translation for the Target Audience?*

Despite the fact that information is poorly sorted for the nonprimary and primary risk communities concerned with risks of HAV, because the main audience on the homepage is indicated by their subheadings to be healthcare providers and treatment and substance abuse facilities, there is information available on the website that people can understand even without being doctors or healthcare providers. Yet still, there are documents like the HAV Shipping Handling Guide, the Specimen Submission Form 50-34, and the DLS Form 213 under the “Information for health care providers” subtitle on the homepage, that are directly related to health care providers; which in turn, may not make sense to the nonprimary and primary risk audiences. For instance, the KY HAV Outbreak Advisory under Information for health care providers”, reads “serologic testing for HAV infection is not recommended for asymptomatic people, nor is serologic testing for HAV immunity recommended as screening before vaccination” (KCHFS, 2019a, para. 5). This information can easily go over someone’s head who does not have a medical degree or background, furthering the narrative that nonprimary risk audiences need not be concerned about the HAV crisis and should leave it to the medical professionals to worry about. In other words, there is no “get the vaccine today” narrative
that pushes the importance of this powerful and effective immunization to mitigate the crisis/risk in Kentucky.

Comprehensive Exemplification

As far as exemplars are concerned, I have previously discussed the positive and negative exemplars evident on the website. Yes, the website offers official documents, guidelines and questionnaires, which all point towards taking action if needed, but only for certain target groups. Thus, primary risk Kentuckians are mentioned but are not directly communicated to in the way KCHFS has set up their website. Of the same token, nonprimary risk people must dig through the website to find exemplars relevant to them. Given the framework of the KCHFS’s recommendations, nonprimary risk people may not think that getting the vaccine is as important as it is for the primary risk populations.

Action

As noted throughout the analysis section of this thesis, the KCHFS provides preparation action steps, specific response steps, and examples in actions steps throughout its website. Although action steps are the most prominent source of information on the website, one has to conduct a thorough investigation of the website in order to find the proper information for any groups other than the groups KCHFS has designated primary. It is simply difficult to locate appropriate action steps on the homepage.

Specific Preparation Action Steps

According to Sellnow et al. (2014), action steps must be focused on saving lives and instructing people on what to do. To start, the KCHFS provides preparation steps in
the What You Should Know About Hepatitis A, Hepatitis A General Information, and Wash Your Hands, with the most notable and predominant being to get the HAV vaccine. As the website indicates on the Hepatitis A General Information link, experts recommend that children and people with certain risks or medical conditions also get vaccinated. The Hepatitis A General Information flyer also posits that heavy alcohol use, toxins, and certain medications can cause the virus. The HAV vaccine is given as two shots at a six-month interval, although I could not find this vital point of information on the KCHFS’s website. Despite this, the CDC Recommendations link finally takes a user to the important bolded information that the vaccine is the best control against the HAV crisis. Concerned people are advised to talk with a health provider, health department, or visit the CDC’s website concerning travel to potentially high-populated HAV areas or about concerns of HAV in general.

For those “anti-vacciners” who do not believe in vaccinations, the KCHFS’s website offers alternate prevention steps through the Wash Your Hands link, the Hepatitis A Poster for Food Services flyer, and in the Hepatitis A Outbreak Environmental Health Resources, Recommendations and Special Considerations 2018 PowerPoint. While vaccines are significantly encouraged in various links, the government branch recommends for people to wash their hands properly with warm, soapy water for at least 20 seconds (while the Wash Your Hands flyer only says ‘Wash Your Hands’ in several different languages, and the Hepatitis A Poster for Food Service Employees flyer provides information on the proper way to disinfect your hands). Furthermore,
interpersonal contact with an infected person is one of the most effective ways to contract HAV, so this is a positive action step people can take.

As indicated by the Suspect HAV Risk Questionnaire, people should also avoid primary risk carriers of HAV. Other prevention techniques can be found in the Hepatitis A Outbreak Environmental Health Resources, Recommendations and Special Considerations 2018 PowerPoint including avoiding waters that may be contaminated with sewage, avoiding raw or undercooked oysters or shellfish, and practicing safe sex. Furthermore, food should be cooked to at least 185 degrees Fahrenheit for at least one minute to avoid the transmission of HAV. Keeping good hygiene and proper sanitary conditions are recommended too. Overall, there are many recommended action steps which can help people with self-protection during this crisis found in various parts of the website (i.e. not in a centralized area). Nevertheless, getting the vaccine is not very prominent on the website’s homepage.

Specific Response Steps

The action steps provided by the KCHFS include correctional and substance abuse treatment facilities contacting local or state public health within 24 hours in accordance with 902 KAR 2:020 (under “Information for correctional and substance abuse treatment facilities”). This first step in contacting a medical provider is crucial for any such testing to occur. While there are no contact numbers for local or public health care providers offered on the website, such a comprehensive list would be too extensive for the website’s main function to encourage people to take action. Communicating the case via telephone is first preferred, but a certified letter is recommended next for health
care providers who are unable to contact someone via the phone. Moreover, health care providers must inform the local or state public health agents of the infectious period, and if one works in a food industry, healthcare setting, or daycare, someone should be notified of exclusion recommendations not to come to work for at least a week. Health care professionals are told to isolate the case and monitor other residents for symptoms. People should also consider who are the closest contacts and are recommended to get the vaccine. As previously stated, KCHFS does not indicate directly on the homepage how getting the vaccine is the most reliable way to reduce symptoms or prevent people from getting the virus, although it is found after searching several of the links like the CDC Recommendations or the Hepatitis A General Information link.

There is no specific treatment for HAV, but the Hepatitis A Outbreak Environmental Health Resources, Recommendations and Special Considerations 2018 PowerPoint, as provided by the KCHFS under “Additional Information Hepatitis A Environmental Health Toolkit,” recommends rest, adequate nutrition and fluids. Additionally, people should avoid drinking and taking certain medications or supplements that pose risks of liver damage. Hospitalization is common for those who have contracted the virus but speaking with a health agent will help someone determine the next steps in the process.

*Exemplification in Action Steps*

Education about HAV and disinfection guidelines are crucial to the success of the risk communication plan of the KCHFS, and the education aspects of the KCHFS’s risk communication plan are surely the most prominent examples on the website. The
webpage allows you to learn about the action steps required through the Additional Information Hepatitis A Environmental Health Toolkit links. For example, food industry workers are told how to properly handle food by not touching the foods with your bare hands and following safe food handling requirements in a variety of instances including: after using the restroom, before putting gloves on to start working with food, and during food preparation. The government agency says hand washing is the best defense against foodborne illness and many infectious diseases like HAV. Other examples provided include ways that HAV can be transmitted, such as through touching door handles, sharing cigarettes, towels or drinks, and by exchanging money with someone who has contracted the virus. Hygiene practices, handwashing, and getting the vaccine are overall the best ways to prevent the virus from spreading according to the KCHFS. These examples provide great education to people on how diseases are transmitted and the action steps to take the vaccine as well as to practice safe hygiene and food sanitation policies in order to prevent the spreading of any disease.
CHAPTER FIVE
DISCUSSION

Literature regarding the IDEA model indicates the Kentucky Cabinet for Health & Family Services’ (KCHFS) website and social media messaging may be a significant factor in mitigating risk. This discussion aims to identify areas of improvement for the KCHFS website, using the IDEA model as a guide. As one can infer from the analysis section of this thesis, the IDEA model components are all present in the KCHFS online materials about the hepatitis A virus (HAV) outbreak in Kentucky. However, I argue that the website as a whole is ineffective at mitigating risk for the following four reasons. I recommend that KCHFS should target primary and nonprimary risk groups centrally on their webpage, it should contain all components of the IDEA model on its webpage in order to have an effective risk mitigation plan, getting the HAV vaccine should be a bolded, primary and important point placed at the forefront of its webpage, and finally, information should be easily accessible and searchable for all audiences.

First, KCHFS does not primarily target anyone on the homepage except healthcare providers and employees of correctional and substance abuse treatment facilities. Yes, the information is available to others, like food service industry workers, but the information is located on the bottom right hand corner of the screen, linked via a series of pdfs. In some cases, like for those in other high-risk groups, such as travelers, persons with chronic liver diseases like hepatitis B or C, etc., the pertinent pdfs are not clearly labeled and hard to find. Through this IDEA model analysis of the KCHFS’s website, it is evident that people other than healthcare providers and employees of correctional and substance abuse treatment facilities need easier access to messages.
which will help them internalize the sincerity of the crisis, because this website is not formatted well for them. This overall theme, as one may be able to infer, is part of the “other” component in the IDEA model which is used to communicate messages about the Kentucky hepatitis A virus (HAV) crisis because this message is consistently conveyed on the website. Given that Kentucky accounts for 22% of the death tolls from HAV in the nation, there should be more emphasis on the personal impact to all Kentuckians in high risk groups.

This was certainly not the case in Rudolph’s (2014) study which saw personal relevance as one of the top three themes in the tweets, with an overlying theme of trauma attached to it due to the tragedy of the Boston Marathon Bombings. Sellnow-Richmond et al. (2018) also found fewer than a quarter of the Center for Disease Control & Prevention’s (CDC) tweets about the Ebola crisis showed internalization, with the majority of its tweets being focused on the explanation aspect. Surely, explanation is important, but telling people about personal impact is also just as pressing when developing a successful crisis/risk communication response, as indicated by the IDEA model. A new theme should be implemented by the KCHFS wherein the nonprimary and primary risk Kentuckian, as audience members, both are kept in mind when developing this risk communication response plan, meaning that there needs to be a section at the top of the website that is aimed at helping concerned citizens.

For example, The Tennessee Department of Health website concerning HAV does a better job of categorizing target audiences, and has a section titled “Public Health” on its homepage: https://www.tn.gov/health/cedep/tennessee-hepatitis-a-outbreak.html. By
clicking on the TDH Contact Investigation Form under the title, one can learn that the incubation period is on average 28-30 days and the average length of the illness is 1-2 weeks. Sadly, the KCHFS website is clear about when the outbreak started and has facts on the website about vaccinations, but the layout of the information is not very timely when the goal is to help prevent people from contracting HAV in a quick manner. It would serve the KCHFS best to look at the Tennessee Department of Health’s website when reconfiguring the homepage to be more inclusive of all audiences.

Secondly, another issue with the KCHFS’s risk communication campaign is it does not have all key components of the IDEA model prevalent on its homepage. In particular, it is evident from this study that there is close to no compassion in the KCHFS risk communication online campaign. I have discussed, in detail, the many links one has to choose in order to find a snippet of compassion within the website, and, even then, it is found through the KCHFS’s Facebook page instead of the website itself. While Rudolph (2014) skips over the discussion of compassion in her study of the Boston Police Department’s tweets after the Boston Marathon Bombings, Sellnow et al. (2017) talk indirectly about the need for compassion from people who worked for the National Pork Board, American Association of Swine Veterinarians or other related offices. For instance, these people were found to be under a “real emotional toll” from the PEDv outbreak, and this required the organizations to be compassionate towards the people dealing with great levels of stress concerning the virus outbreak, all the while staying weary of advising them of any risks and what to do about them (Sellnow et al., 2017, p. 6.). This example focuses on the need people have to feel understood during the wake of
a crisis instead of just being told what to do about the crisis. The KCHFS should offer supportive messages on its homepage which will help ease the minds of people to the extent to where they can retain information that means something to them.

Third, the KCHFS does not make getting the vaccine a priority on its webpage, when this is the most effective preventative measure in mitigating risk. While explanation is one of the strongest components in the KCHFS risk campaign, there needs to be a stronger push for everyone to get the vaccine – medical providers, fast food workers, primary and nonprimary risk communities alike. The counties and areas where HAV are spreading the most and the demographics of people who are contracting the disease should especially be primarily targeted. Sellnow et al. (2017) found that explaining the porcine epidemic diarrhea virus (PEDv) was difficult for the various organizations in their study, because of the “unknowns” of the disease; but, the KCHFS has no excuse not to explain the proven preventative measures at the forefront of its risk communication campaign.

Last, KCHFS does not make the information easily navigable or searchable for nonprimary and primary risk groups. My suggestion is to have a subtitle under Weekly HAV Outbreak Reports that says, “Get vaccinated now,” “How am I affected,” “Where is the outbreak” and “Why are people being infected” (as just a few examples), so someone can directly look at the reports, flyers, and articles for information most relevant to them. Ideally, the KCFHS has good materials on the website, but it needs to be more user-friendly, so someone can know where to look for certain types of information. Despite all of the information available on the homepage, action steps are only found by clicking
through several links that do not directly say they relate to the nonprimary or primary risk Kentuckians!

Getting the HAV vaccine is the most notable and reliable source of preparation that is exemplified throughout the website, so it should be front and center on the website, allowing people to navigate their personal relevance through the website. The overall guideline the website should point to is to get the vaccine as a preventative measure. My suggestion continues to be that a serious renovation of the website is needed to meet the majority of Kentuckians where they are, with many ignorant of the vaccine’s importance or vaccination altogether, as well as ignorance of the other preventative measures and action steps available to combat the crisis.

There are limitations to this study and areas for future research regarding the HAV crisis that has spread across the nation. First, this inquiry of the KCHFS’s risk communication campaign is only an analysis of its website. KCHFS may be responding to the HAV crisis in other ways, which are not being analyzed. The study also does not compare other distribution methods or how the risk communication response is created by KCHFS. An additional limitation is that this study only examines the website as it existed from June 21, 2019 to October 19, 2019. Previous iterations were not examined. Finally, the KCHFS website is not the only source Kentuckians will look for when curious about the HAV outbreak, but this study aimed to target the “top hit” on Google which is most likely to receive a high amount of traffic to the website. Areas for future research should include using the IDEA Model Thematic Analysis Codebook to identify the strengths and weaknesses of other, related risk communication campaigns,
particularly looking at other states’ responses to the HAV outbreak. Last, other risk communication forms from KCHFS could be examined to have a holistic view of its campaign, and the study could range from the declared outbreak in November 2017 to the present.
Figure 3: IDEA Model Thematic Analysis Codebook

**Internalization**

*Goal:* To get attention and to aid retention.

*Question:* Am I (or those I care about) affected, and how?

  a. Compassion (People don’t care how much you know, until they know how much you care.)
     Does the message say something to this effect (e.g., empathetic messages about supportive care being given to infected patients, as well as to their loved ones)?

  b. Personal relevance
     How likely am I (or those I care about) to be affected?
     What and how severe might the consequences be?

  c. Proximity
     Where is the event occurring, and how close is that to me and/or those I care about?
     Is location specified, and to what specificity?

  d. Timeliness
     When is the event occurring?
     How much time do I have to prepare?
     How much time do I have to respond if exposed?
     How much time do I have to respond if infected?

  e. Exemplification
     What if any positive exemplars are offered to get attention and make it memorable?
     What if any negative exemplars are offered to get attention and make it memorable?

**Distribution**

*Goal:* To get the correct message to the target audience(s).

*Question:* What channel or channels is/are the message(s) being sent through? • Convergence of multiple messages being sent through diverse channels.

**Explanation**

*Goal:* Provide accurate information about what is happening and being done about the event.

*Question:* What is happening, and why?

  a. Source credibility (international, national, local)
  
  b. Accurate science, accurate information
  
  c. What are the responsible agencies doing to deal with the event?
  
  d. Intelligible translation for target audience?
  
  e. Is exemplification used to help make complex information easier to understand, and if so, is it positive and helpful or negative in ways that foster misunderstanding?
**Action**

*Goal*: To empower people to take appropriate action to save lives.

*Question*: What should I (and those I care about) do (or not do) for self-protection?

a. Specific preparation action steps
b. Specific response steps
c. Exemplification in action steps?
Figure 4: The IDEA Model
References


Cato, R. (2017). *An analysis of the Center for Disease Control & Prevention’s (CDC) response to the opioid epidemic: The CDC’s remedy for pills that kill.* (Unpublished article). Western Kentucky University, Bowling Green, KY.


