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Puneet Sidhu April 12, 2017

Media's Impact on Public Knowledge, Opinion and Behavior Regarding Infectious Diseases, Specifically, Ebola and Zika Virus

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BA
University of Redlands
2015

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An abstract of
A thesis submitted to the Faculty of the
Rollins School of Public Health of Emory University
in partial fulfillment of the requirements for the degree of
Master of Public Health
in Behavioral Sciences and Health Education
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Abstract

Media's Impact on Public Knowledge, Opinion and Behavior Regarding Infectious Diseases, Specifically, Ebola and Zika Virus
By: Puneet Sidhu

Media-based communication facilitates dissemination of knowledge and enhances awareness of a health risk to the public during sudden outbreaks caused by emerging biological threats (EBTs). "Risk perception, not the *actual risk* posed by a threat, seems the primary factor guiding cognitive, emotional, and behavioral reactions elicited when conditions challenge an individual's health and safety." Risk perception may be affected by factors such as perception of a hazard, cultural and social factors or the experience or memory of a prior similar hazard, all of which affect variation in risk perception. The way media disseminates information and the public's first exposure to information is crucial. Media can very markedly skew the perceptions of individuals. It is crucial that public health officials take responsibility to clearly disseminate information first and foremost before media sites alter perceptions. Health literacy and higher education allows for better comprehension of risk factors of a disease. With implications of public and policy, health status can widely begin to show improvements regarding epidemics and infectious diseases. Research needs to be more accessible to policymakers and because research is not often readily available to policymakers, it creates confusion and complexity for policymakers to clearly state the health risks of infectious diseases and epidemics. An introduction of a practice that effectively serves as a "translational bridge" between the scientific research community and policy makers and media production communities is required.

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Introduction

An important aspect of public health focuses on how to communicate crucial information in response to emerging epidemics and pandemics. Media-based communication facilitates dissemination of knowledge and enhances awareness of a health risk to the public during sudden outbreaks caused by emerging biological threats (EBTs). As Diclemente states in his paper *Risk Communications*, "risk perception, not the *actual risk* posed by a threat, seems the primary factor guiding cognitive, emotional, and behavioral reactions elicited when conditions challenge an individual's health and safety." Based on the health belief model, risk perception can be described by the probability expected and severity of the infectious diseases (Poland 2010). Risk perception may be affected by factors such as perception of a hazard, cultural and social factors or the experience or memory of a prior similar hazard, all of which affect variation in risk perception (Jacobs et al. 2010.)

For many Americans, keeping abreast of news is a daily time consuming activity that often involves use of multiple media modalities; different media, devices, and technologies (American Press Institute, 2014). When asked when they prefer to watch, read, or hear news, a plurality (33 percent) report following the news all throughout the day (American Press Institute, 2014). A smaller but sizable number of Americans continue to prefer to follow the news in the morning (24 percent) and in the evening (26 percent), while still lesser numbers say they most often get news in the afternoon (4 percent) and right before bed (9 percent)

(American Press Institute, 2014). This highlights that a low percentage of the U.S. population even watches, reads, and listens to the news to begin with.

Overall, 4 in 10 Americans report that they delve deeper into a particular news subject beyond the headlines in the last week (American Press Institute, 2014). When they did, that in-depth reading, watching, or listening followed a similar pattern to news consumption generally, with a plurality (34 percent) saying there is no particular time they prefer to read in-depth news (American Press Institute, 2014). Those finding challenges the notion that while Americans may get headlines continuously, they reserve the evening for learning more (American Press Institute, 2014). In addition, a slightly larger number, 49 percent of adults, said they delve deeper to learn more about the latest breaking news story they paid attention to, though time of day was not probed for this, given that news may break at any time (American Press Institute, 2014).

For breaking news, almost 50% of the adults in the U.S. make an effort to read more than just the headline. The way the media first disseminates information and the public's first exposure is crucial.

Addressing risk perception is a pivotal part of the process for conveying information regarding emerging biological health threats, such as epidemics like Ebola. For instance, the public's initial exposure to information about the EBT may actually be a confounding factor. Additional information disseminated after the first exposure, if it differs, may inadvertently result in conflict and that may serve to increase ambiguity and anxiety. Early in the Ebola epidemic, for example, the World Health Organization emphasized not eating bush meat as a preventive strategy.

Although eating bush meat is linked to the spread of Ebola, it is not, however, the primary factor facilitating the spread of Ebola, as the risk for Ebola infection appears to be limited to only those who hunt and prepare raw meat. The WHO advisory, though well-intended, may have had unanticipated adverse consequences, as it may have deflected attention from more salient causal transmission routes, thus, allowing certain communities to believe that avoiding bush meat is more important than having direct contact with dead bodies. Essentially, if the communication is ambiguous, the audience will be distracted, confused or, worse, attribute causal relationships that are spurious; undocumented by empirical evidence which may divert attention from actual causes of infection. Thus, the initial exposure to information about an EBT is vital.

During the Ebola outbreak CNN was a leading media source. One of the article titles CNN published was "CDC: Ebola cases could reach at least 550,000 by January" (Smith-Spark et al., 2014). The "takeaway message" from this headline could result in unnecessary anxiety, panic, possibly fuel discrimination and stigma towards those geographic regions most severely impact by the epidemic and alter the "perception" of risk versus the "actual "risk of Ebola.

Harvard School of public health conducted a study on lack of knowledge regarding Ebola and its transmission. "The HSPH/SSRS poll found people with less education are more likely to be concerned about an outbreak in the U.S. (less than high school 50% vs. some college 36% vs. college grad or more 24%)." People with less education are also more concerned they or their family will get sick with Ebola (less than high school 37% vs. some college 22% vs. college grad or more 14%).

Perhaps related, those with less education are also less likely to be following the news about the Ebola outbreak in West Africa closely (total 63%; less than high school 57% and some college 62% vs. college grad or more 73%). Two-thirds of people (68%) surveyed believe Ebola spreads "easily" ("very easily" or "somewhat easily") from those who are infected. This perception may contrast with CDC, World Health Organization (WHO), and other health experts who note that Ebola is not an airborne illness, and is transmitted through direct contact with infected bodily fluids, infected objects, or infected animals. Learn more about how Ebola is transmitted. A third of those polled (33%) believe there is "an effective medicine to treat people who have gotten sick with Ebola" (HSPH, 2014).

Measuring the rising anxiety among news consumers, a Rutgers-Eagleton poll of New Jersey residents found that 69% are at least somewhat concerned about the Ebola spreading in the U.S (Boehlert, 2014). "People who reported that they were following the story most closely also had the most *inaccurate* information about Ebola" (Boehlert, 2014). The more information they consumed about the Ebola, the less they knew about it (Boehlert, 2014). This may be a function of the primacy effect; the first exposure to information may be most influential and memorable.

The concept of delving deeper into an epidemic such as Ebola may either reflect greater confusion or may result in greater confusion.

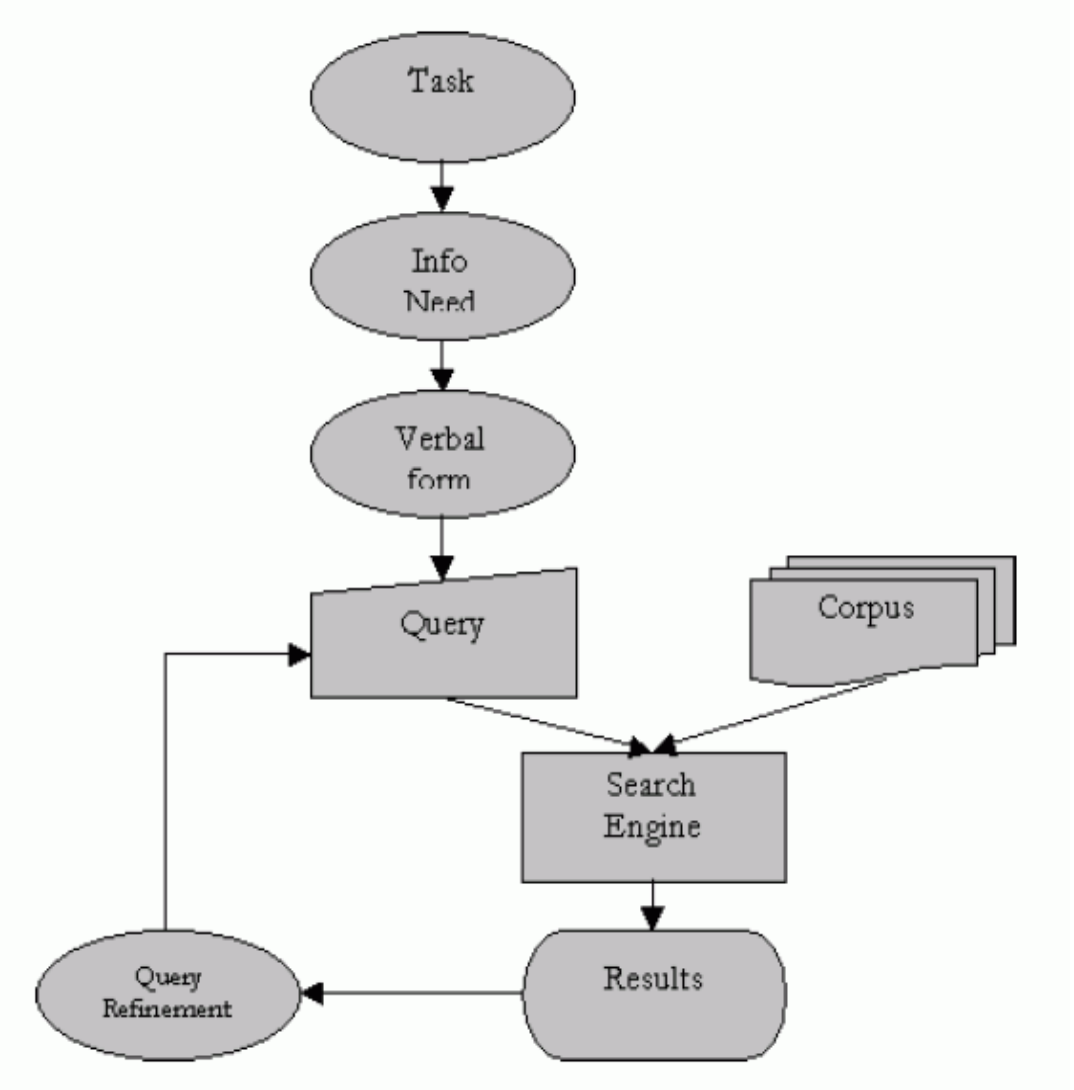

Figure 1: The standard model of the search process, adapted from Broder, 2002 (Hearst, 2009).

"Information-seeking is a special case of problem solving. It includes recognizing and interpreting the information problem, establishing a plan of search, conducting the search, evaluating the results, and if necessary, iterating through the process again" (Hearst, 2009). "Sutcliffe and Ennis (1998) associate different types of search

strategies with each of these activities (for instance, scanning titles is associated with results evaluation)". "Their model also accounts for the role of the searcher's knowledge, the system, the information collections, and of searching in general" (Hearst, 2009). If the information seeker low knowledge and does not for what information they are searching, it can reflect greater confusion and or result in greater confusion.

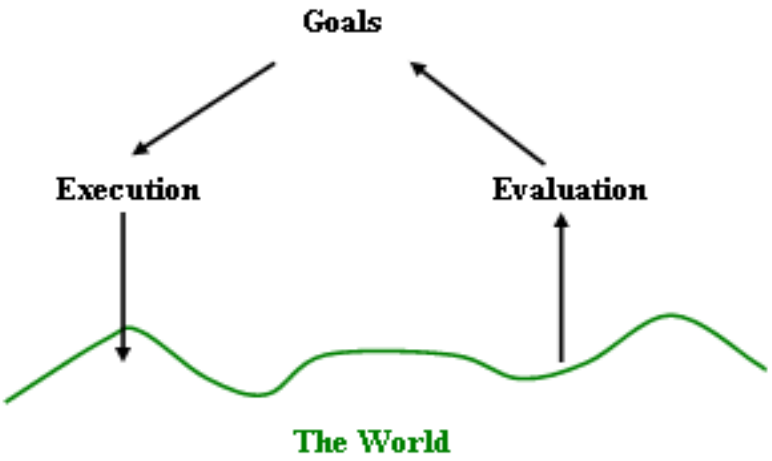

Figure 2: A sketch of Norman's cognitive execution-evaluation model, adapted from Norman, 1988 (Hearst, 2009).

"Norman describes the gap between what was intended and what was achieved as the *gulf of execution*, and the challenge of determining whether or not one's goals have been met as the *gulf of evaluation*" (Hearst, 2009). "In the case of user interface design, the smaller these gulfs, the more usable the system" (Hearst, 2009). "This also suggests that the less knowledge a person has about their task, the less they will

be able to successfully formulate goals and assess results" (Hearst, 2009). This model further supports the finding that if an individual has less knowledge to begin with on a subject, the information seeker will be unaware of their goal in their information seeking.

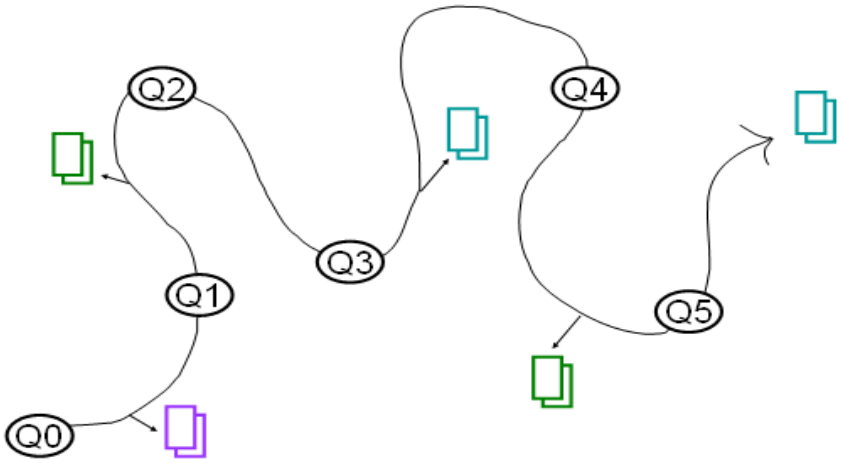

Figure 3: A sketch of an information seeker engaged in "berry-picking" style information seeking process, in which the query shifts as relevant information and documents are found along the way (Hearst, 2009).

The berry picking model depicts that "information encountered at one point in a search may lead in a new, unanticipated direction" (Hearst, 2009). Throughout the information seeking, the seeker may pick up new information that can result in greater confusion. This can lead to new goals and divert them or mask the main goal with which the seeker initially began the search.

Media can very markedly skew the perceptions of individuals. It is crucial that public health officials take responsibility to clearly disseminate information first and foremost before media sites alter perceptions.

Methods

The GfK Group (GfK, formerly Knowledge Networks) conducted the 2015 Ebola Survey on behalf of Emory University. Specifically, the study examines public knowledge and attitudes about Ebola, in general, and particularly the U.S. response to the Ebola epidemic. The survey was conducted using a sample from KnowledgePanel®.

The target population consists of the following: non-institutionalized, English-language survey-taking adults age 18 and over residing in the United States. To sample the population, GfK sampled households from its KnowledgePanel®, a probability-based web panel designed to be representative of the United States. The survey consisted of a main survey with the study-eligible respondents. To qualify for the main survey, a panel member must have been:

- Age 18 or older
- An English-language survey-taker, as determined by KnowledgePanel® Profile Surveys.

Data Collection Field Period & Survey Length

The data collection field periods were as follows:

Stage	Start Date	End Date
Pre-Test	03/31/2015	04/03/2015
Main	04/30/2015	05/08/2015

Participants completed the main survey in 11 minutes (median).

Survey Completion and Sample Sizes

The number of respondents sampled and the survey completion rates for the main interview.

Key Survey Response Statistics: Main Interview

N Sampled for Main Survey	N Completed Main Survey	Main Survey Completion Rate
2,664	1,471	55%

Of the 1,471 cases completing the main survey, 1,471 cases were determined to be valid cases and included in the final analyses.

Data Analysis

Data were analyzed using weighted linear regression in Stata. Party affiliation was entered as a factor variable. Education was entered as a continuous variable, and party-by-education interaction terms were computed by multiplication. Gender, marital status, income, and age were entered as covariates to minimize omitted-variable bias. We computed and plotted estimated marginal means with 95% confidence intervals for post hoc analyses of party-by-education interactions, while

also noting whether the regression coefficients were significant. Survey weighting was used to enable the computation of representative results.

Results

Descriptive statistics for all dependent variables are in Table 1. Fear was positively skewed: 21% of respondents were unafraid of personally being infected with Ebola, and scored 0 on fear. The skewness, which was .56, was not sufficiently severe to warrant alternatives to regression. Skewness in the other dependent variables was low.

The correlations between attitudes are displayed in Table 2. Estimated severity was inversely correlated with both fear and suspicion. Highly educated Americans may have a more sophisticated understanding of Ebola such that they are less fearful about acquiring Ebola but concomitantly they are more aware of its severity. The correlations between education, fear, and severity support this interpretation.

Fear, suspicion, and severity were all positively correlated with supporting quarantine, which suggests that people for whom Ebola is more salient are more likely to favor travel and immigration restrictions. The correlation between supporting quarantine and suspicion was notably strong, but the correlation between supporting quarantine and fear was weak.

People who were fearful and suspicious were more likely to report that Western countries are “less prepared to deal with an outbreak”, an estimation that may underlie their fear and suspicion. However, they were less likely to support low-intensity interventions. This lack of support was probably not due to fear of

transmission via medical personnel because quarantine support was not correlated with support for such interventions. People who considered Ebola as severe were more likely to support such interventions, possibly because they were better educated and thus better informed about risks. Support for high-intensity interventions was also negatively correlated with suspicion, but it was uncorrelated with fear and only weakly positively correlated with estimated severity.

More than half of the 1471 participants responded that Ebola is a bigger problem than the media suggests. More highly educated Americans had a better understanding of the perceived risk vs. the actual risk. In addition, more than half of the 1471 participants responded that it is important to raise awareness about Ebola through media. This exemplifies that media can make a significant impact in the lives of many Americans as they seek information from various media sources. Almost half of respondents' trust TV news to provide accurate information on Ebola. Almost half of respondents noted that they do not trust a government website, such as the CDC website, to get accurate information on Ebola.

Discussions: What did we learn?

A study was conducted on the readability of Ebola information on websites of Public Health Agencies, United States, United Kingdom, Canada, Australia, and Europe. "For health messages to be followed effectively, they must be tailored to the health literacy of the audience. Health literacy, which refers to "the cognitive and social skills which determine the motivation and ability of individuals to gain access to, understand and use information in ways which promote and maintain good health" (Sanchez, 2017), has been associated with better self-care (Sanchez, 2017).

However, a substantial proportion of citizens worldwide have insufficient or inadequate health literacy" (Sanchez, 2017).

Several factors, including readability of information (Sanchez 2017), can reduce health literacy deficits. Readability refers to "the determination of the reading comprehension level a person must have to understand written materials" (Sanchez, 2017). It is recommended that health information materials should be written at a level typically understandable by an 11-year-old person (Sanchez, 2017). Such recommendations for clarity and understandability might be more effective if one considers that anxiety or panic attributed to a highly virulent infection, such as Ebola, might hinder comprehension of related information (Sanchez, 2017).

Information on Ebola virus is not written in a manner, which can easily be understood by the general public. "Only 12 percent of U.S. adults had proficient health literacy. Over a third of U.S. Adults- 77 million people- would have difficult with common health tasks, such as following directions on a prescription drug label or adhering to a childhood immunization schedule using a standard chart." The implications from this scenario define the newest and most recent epidemic that has surfaced, Zika virus. Due to the low health literacy level and lack of public health policy, new epidemics continue to create the same scare amongst the public. Furthermore, information is not clearly and effectively being disseminated to the public.

"Zika's lack of "containment" drives media coverage. In some ways, it's more about the size of the threat than the risk of the threat that piques media interest"

(Mediaquant, 2017). CDC conducted a study on Zika virus- Related News Coverage and Online Behavior, United States, Guatemala, and Brazil. The study's results suggest that "news coverage of public health authority announcements opens brief windows of information sharing, engagement, and searching that offer opportunities to address perceptions and provide preparation and vector control recommendations through education. Sharing and searching are less apparent outside these windows, especially in contexts in which an emerging infectious disease is not yet prevalent. Our findings may not generalize beyond the initial stages of Zika virus transmission in the United States, and future work could obtain appropriate data for investigating the tone of news coverage and online communication in various countries. Nevertheless, recent trends in online information-seeking about Zika virus has been sensitive to official announcements, suggesting the usefulness of pairing announcements with provision of information resources that can be found through search engines" (CDC, 2017).

With implications of public and policy, health status can widely begin to show improvements regarding epidemics and infectious diseases. Research needs to be more accessible to policymakers and because research is not often readily available to policymakers, it creates confusion and complexity for policymakers to clearly state the health risks of infectious diseases and epidemics.

Perhaps there needs to be policy that requires media outlets to source health related information from vetted / validated primary sources, and secondarily, require media outlets to publicly disclose their sources. Even with this policy in effect, another challenge may be faced. Will media professionals be able to

accurately interpret primary medical and public health research, to share this with the public. In effort to maintain success of such policy, a practice public health / science - media liaisons can serve as the bridge between the research community and media professionals and policy makers.

"Although not exhaustive, Table 1 highlights several important barriers that should be considered when one is attempting to develop effective policy" (Brownson, 2009).

TABLE 1

Barriers to Implementing Effective Public Health Policy

Barrier	Example
Lack of value placed on prevention	Only a small percentage of the annual US health care budget is allocated to population-wide approaches.
Insufficient evidence base	The scientific evidence on effectiveness of some interventions is lacking or the evidence is changing over time.
Mismatched time horizons	Election cycles, policy processes, and research time often do not match well.
Power of vested interests	Certain unhealthy interests (e.g., tobacco, asbestos) hold disproportionate influence.
Researchers isolated from the policy process	The lack of personal contact between researchers and policymakers can lead to lack of progress, and researchers do not see it as their responsibility to think through the policy implications of their work.
Policymaking process can be complex and messy	Evidence-based policy occurs in complex systems and social psychology suggests that decision-makers often rely on habit, stereotypes, and cultural norms for the vast majority of decisions.
Individuals in any one discipline may not understand the policymaking process as a whole	Transdisciplinary approaches are more likely to bring all of the necessary skills to the table.
Practitioners lack the skills to influence evidence-based policy	Much of the formal training in public health (e.g., masters of public health training) contains insufficient emphasis on policy-related competencies.

Researchers need to be more aware of policy when conducting research. An environment needs to be created that allows research to inform policy. With this specific research in mind of how media impacts knowledge, behavior and attitudes regarding Ebola, how can a policymaker understand this research having limited background on it? How can we clearly communicate research to a policymaker? An

introduction of a practice that effectively serves as a “translational bridge” between the scientific research community and policy makers and media production communities is required. The information being disseminated by media sources does not provide the public with valid, clear information regarding epidemics.

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Appendix A:

Ebola Survey – Main
March 2015
- Study Details -

Note: This page may be removed when the questionnaire is sent to the client. However, it must exist in the version sent to OSD.

SNO	**19649**
Survey Name	**Ebola Survey**
Client Name	**Emory University**
G&A WBS	**310.111.00458**
Project Director Name	**Ryan Tully**
Team/Area Name	**Government & Academic**

Samvar (Include name, type and response values. "None" means none. Blank means standard demos. This must match SurveyMan.)	**XPARTY7: 1 STRONG REPUBLICAN; 2 NOT STRONG REPUBLICAN; 3 LEANS REPUBLICAN; 4 UNDECIDED/INDEPENDENT/OTHER; 5 LEANS DEMOCRAT; 6 NOT STRONG DEMOCRAT; 7 STRONG DEMOCRAT; 9 MISSING** **XREL1: 1 BAPTIST—ANY DENOMINATION; 2 PROTESTANT (E.G., METHODIST, LUTHERAN, PRESBYTERIAN, EPISCOPAL); 3 CATHOLIC; 4 MORMON; 5 JEWISH; 6 MUSLIM; 7 HINDU; 8 BUDDHIST; 9 PENTECOSTAL; 10 EASTERN ORTHODOX; 11 OTHER CHRISTIAN; 12 OTHER NON-CHRISTIAN, PLEASE SPECIFY; 13 NONE; 14 MISSING**
Sample specs	
Timing Template Required (y/n)	**Enabled by default**
Multi-Media	

Important: **Do not change Question numbers after Version 1; to add a new question, use alpha characters (e.g., 3a, 3b, 3c.) Changing question numbers will cause delays and potentially errors in the program.**

Ebola Survey – Main
March 2015
- Questionnaire -

[DISPLAY]
Thank you for continuing to be part of the KnowledgePanel®. This survey asks about the recent Ebola epidemic in West Africa.

This survey is being conducted by Emory University Rollins School of Public Health. The study will help researchers understand **public knowledge and attitudes about Ebola, in general, and particularly the U.S. response to the Ebola epidemic**.

AS WITH ALL KNOWLEDGEPANEL® SURVEYS, YOUR RESPONSE TO THIS SURVEY, OR ANY INDIVIDUAL QUESTION ON THE SURVEY, IS COMPLETELY VOLUNTARY. YOU WILL NOT BE INDIVIDUALLY IDENTIFIED AND YOUR RESPONSES WILL BE USED FOR ANALYSES ONLY.

IF YOU HAVE QUESTIONS ABOUT YOUR RIGHTS AS A PARTICIPANT IN THIS SURVEY, OR ARE DISSATISFIED AT ANY TIME WITH ANY ASPECT OF THE SURVEY, YOU MAY CONTACT THE KNOWLEDGEPANEL PANEL MEMBER SUPPORT AT 800-782-6899.

[PROGRAMMING NOTE: PLEASE CREATE DOV_FUTUREPRO AND RANDOMLY ASSIGN RESPONDENTS EITHER 1 'EARLY PRESENTATION OF QA THROUGH QC' OR 2 'LATE PRESENTATION OF QA THROUGH QC']

[SHOW QUESTION AT BEGINNING OF SURVEY IF DOV_FUTUREPRO=1; SHOW QUESTION AT END OF SURVEY IF DOV_FUTUREPRO=2.]
[GRID; SP ACROSS]
[PROGRAMMING NOTE: RANDOMIZE AND RECORD ORDER OF ITEMS QA THROUGH QC]
[PROGRAMMING NOTE: RANDOMLY ASSIGN (AND RECORD) RESPONDENTS TO EITHER THE ORIGINAL RESPONSE ORDER OF 'VERY PREPARED, FAIRLY PREPARED, SOMEWHAT PREPARED, NOT PREPARED' OR ASSIGN RESPONDENTS TO THE REVERSE RESPONSE ORDER OF 'NOT PREPARED, SOMEWHAT PREPARED, FAIRLY PREPARED, VERY PREPARED.']
In the following question, we are asking you about global health epidemics. For the purposes of this question, global health epidemics are defined as an illness, virus, or disease that readily spreads from person to person and is associated with a high rate of mortality, morbidity, and general societal disruption. *More recent examples of global health epidemics may include the 1918 Influenza Outbreak, the 1956-1958 Asian Influenza Outbreak, HIV/AIDS, Severe acute respiratory syndrome (SARS), and the Ebola Virus.*

How prepared do you think the following groups are when it comes to **<u>containing the spread of potential future global health epidemics within their geographic areas</u>**?

Very prepared	Fairly prepared	Somewhat prepared	Not prepared
1	2	3	4

QA. The U.S. Governement

QB. Individual African National Governments
QC. Individual European National Governments

[SP]
Q1. How many international flights have you taken in the past 12 months?

0 ……1
1 – 2 ……2
3 – 4 ……3
5 – 6 ……4
7 or more ……5

[SP]
Q2. Have you traveled to Africa in the past 12 months?

Yes ……1
No…….. 2

[GRID; SP ACROSS]
[PROGRAMMING NOTE: RANDOMIZE AND RECORD ORDER OF ITEMS Q3 THROUGH Q13]
[PROGRAMMING NOTE: REPEAT SCALE AFTER ITEM #6; DO NOT DISPLAY SCALE AT THE BOTTOM OF THE GRID]
Below are a series of statements about general knowledge of the Ebola virus. Please read each statement and indicate in the corresponding grid below if you believe each statement is either true or false.

True	False	Don't Know
1	2	3

Q3. Ebola is a contagious disease.
Q4. A person infected with Ebola is not contagious until after the symptoms appear.
Q5. Ebola can be spread through direct contact with bodily fluids (e.g. urine, sweat, saliva) of an infected individual.
Q6. Scientists think Ebola first came from gorillas.
Q7. Ebola can be spread through sexual contact.
Q8. The Ebola virus lives on surfaces outside of the body for only 24 hours.
Q9. Currently, there is no FDA approved drug for treating individuals who are infected with the Ebola virus.
Q10. The Ebola virus can live on surfaces outside of the body for up to 6 days.
Q11. There is no vaccine currently available to prevent infection with Ebola.
Q12. If a person is infected with Ebola, symptoms may appear from 2 to 21 days after they are exposed to the virus.
Q13. Men who survive Ebola should not have sex (oral, vaginal, or anal) for at least three months after recovery because Ebola can stay in semen.

[PROGRAMMING NOTE: CREATE DOV_BLOCK; RANDOMLY ASSIGN RESPONDENTS TO EITHER 1 'BLOCK A (ORIGINAL SCALE PATTERN)' OR 2 'BLOCK B (REVERSE SCALE PATTERN)'; IF RESPONDENTS ARE ASSIGNED TO 1 'BLOCK A (ORIGINAL SCALE PATTERN)' THEN PRESENT ALL AGREEMENT SCALES IN THE SURVEY IN THE INTEND ORDER OF 'STRONGLY AGREE TO STRONGLY DISAGREE'; IF RESPONDENTS ARE ASSIGNED TO 2 'BLOCK B (REVERSE SCALE PATTERN)' THEN PRESENT ALL AGREEMENT SCALES IN REVERSE OF THE INTENDED ORDER 'STRONGLY DISAGREE TO STRONGLY AGREE']

[GRID; SP ACROSS]
[PROGRAMMING NOTE: RANDOMIZE AND RECORD ORDER OF ITEMS Q14 THROUGH Q19]
[PROGRAMMING NOTE: REPEAT SCALE AFTER ITEM #3; DO NOT DISPLAY SCALE AT THE BOTTOM OF THE GRID]
Below are a series of statements about the transmission of the Ebola virus. Please read each statement and indicate in the corresponding grid below your level of **[SHOW IF INTENDED ORDER:** agreement or disagreement; **SHOW IF REVERSE ORDER:** disagreement or agreement**]**.

Strongly agree	Agree	Neither Agree or Disagree	Disagree	Strongly disagree
1	2	3	4	5

Q14. My risk of getting infected with Ebola is high.
Q15. I am concerned about getting infected with Ebola.
Q16. Ebola is not as big a problem as the government suggests.
Q17. Ebola is not as big a problem as the media suggests.
Q18. There is a good possibility that I will get infected with Ebola.
Q19. It is unlikely that I will get infected with Ebola.

[SP]
Q20. My chances of getting infected with Ebola are:

0 – 10%.....1
11 – 20%.....2
21 – 30%.....3
31 – 40%.....4
41 – 50%.....5
51 – 60%.....6
61 – 70%.....7
71 – 80%.....8
81 – 90%.....9
91 – 100%.....10

[GRID; SP ACROSS]
[PROGRAMMING NOTE: RANDOMIZE AND RECORD ORDER OF ITEMS Q21 THROUGH Q29]
[PROGRAMMING NOTE: REPEAT SCALE AFTER ITEM #5; DO NOT DISPLAY SCALE AT THE BOTTOM OF THE GRID]

Below are a series of statements about how serious contracting the Ebola virus may or may not be. Please read each statement and indicate in the corresponding grid below your level of **[SHOW IF INTENDED ORDER:** agreement or disagreement; **SHOW IF REVERSE ORDER:** disagreement or agreement**]**.

Strongly agree	Agree	Neither Agree or Disagree	Disagree	Strongly disagree
1	2	3	4	5

Q21. Ebola is a severe disease.
Q22. If a person becomes infected with Ebola, it is likely that they would die.
Q23. If a person becomes infected with Ebola, it is likely that they would have a hard time recovering.
Q24. Ebola is more deadly than HIV/AIDS.
Q25. Ebola is considered a bioterrorism class A agent.
Q26. Ebola is more deadly than the measles.
Q27. If a person gets infected with Ebola, his/her financial security would be endangered.
Q28. Ebola poses a threat to me personally.
Q29. Ebola poses a threat to the national security of the United States.

[GRID; SP ACROSS]
[PROGRAMMING NOTE: RANDOMIZE AND RECORD ORDER OF ITEMS Q30 THROUGH Q39]
[PROGRAMMING NOTE: REPEAT SCALE AFTER ITEM #5; DO NOT DISPLAY SCALE AT THE BOTTOM OF THE GRID]
Below are a series of statements about situations and proposed public policies regarding the Ebola virus. Please read each statement and indicate in the corresponding grid below your level of **[SHOW IF INTENDED ORDER:** agreement or disagreement; **SHOW IF REVERSE ORDER:** disagreement or agreement**]**.

Strongly agree	Agree	Neither Agree or Disagree	Disagree	Strongly disagree
1	2	3	4	5

Q30. Students from African countries where Ebola has been detected should not be permitted to enroll in colleges or universities in the United States.
Q31. I would not want to be in the same classroom or work space with a person who had previously been diagnosed with Ebola.
Q32. People coming from countries where Ebola has been detected should be quarantined until tested for the virus.
Q33. If I sit next to someone on the airplane from countries where Ebola has been detected, there is a strong likelihood that I would get infected with Ebola.
Q34. The only way to stop Ebola spreading in the United States is to halt flights from going to and out of countries where cases of Ebola have been detected.

Q35. Bringing Ebola patients back to the US for treatment puts Americans at risk for infection.
Q36. Bringing Ebola patients back to the US for treatment may create a widespread Ebola infection in the US.
Q37. In the next five years, I think that the Ebola epidemic will spread to more countries in Africa.
Q38. In the next five years, I think that the Ebola epidemic poses a serious public health threat to European countries.
Q39. In the next five years, I think that the Ebola epidemic poses a serious public health threat to the United States.

[GRID; SP ACROSS]
[PROGRAMMING NOTE: RANDOMIZE AND RECORD ORDER OF ITEMS Q40 THROUGH Q50]
[PROGRAMMING NOTE: REPEAT SCALE AFTER ITEM #6; DO NOT DISPLAY SCALE AT THE BOTTOM OF THE GRID]
Below are a series of statements about U.S. public policy towards issues related to the Ebola virus. Please read each statement and indicate in the corresponding grid below your level of
[SHOW IF INTENDED ORDER: agreement or disagreement; **SHOW IF REVERSE ORDER:** disagreement or agreement**]**.

Strongly agree	Agree	Neither Agree or Disagree	Disagree	Strongly disagree
1	2	3	4	5

Q40. It is important to support the US government spending money to fight Ebola in African countries.
Q41. Americans would feel safer if the US government quarantined people coming from countries where Ebola has been detected.
Q42. It is important to support the US spending money to conduct Ebola research to develop treatments for people who are infected with Ebola.
Q43. It is important to support the US spending money to conduct Ebola research to develop a vaccine to protect against infection from Ebola.
Q44. It is important to support raising awareness about Ebola through the media.
Q45. US policy of sending military troops to African countries where Ebola has been detected may increase the troops' risk of getting infected with Ebola.
Q46. US troops and health care workers, who are stationed in African countries where Ebola has been detected, should be tested for the Ebola virus before being allowed to return to the US.
Q47. US troops and health care workers, who are stationed in African countries where Ebola has been detected, should be quarantined for 21 days, even if they test negative for the Ebola virus.
Q48. Doctors and nurses who travel to Africa to treat Ebola patients should be tested for the Ebola virus before being allowed to return to the US.
Q49. US government employees and business people who travel to African countries where Ebola has been detected should be tested for the Ebola virus before being allowed to return to the US.

Q50. US government employees and business people who travel to African countries where Ebola has been detected should be quarantined for 21 days, even if they test negative for the Ebola virus.

[PROGRAMMING NOTE: RANDOMIZE AND RECORD ORDER OF ITEMS Q51 THROUGH Q54]
[GRID; SP ACROSS]
Below are a series of statements about how you obtain information related to the Ebola virus. Please read each statement and indicate in the corresponding grid below your level of **[SHOW IF INTENDED ORDER:** agreement or disagreement; **SHOW IF REVERSE ORDER:** disagreement or agreement**]**.

Strongly agree	Agree	Neither Agree or Disagree	Disagree	Strongly disagree
1	2	3	4	5

Q51. I know where to go to get accurate information about Ebola.
Q52. I know where to get up-to-date information about Ebola.
Q53. I search for new information related to the Ebola outbreak.
Q54. I follow the news stories related to the Ebola outbreak.

[MP]
Q55. Which sources do you trust to get accurate information about Ebola?

Family……1
Friends……2
Spouse/partner……3
Religious leader (e.g. minister)……4
Doctor……5
News on TV……6
News on the radio……7
Information on the internet from newspaper website (e.g., the New York Times)……8
Information on the internet, from government website (e.g., the CDC)……9
Information on the internet, from social media (e.g., Facebook or twitter)……10
Other: _____ **[TEXTBOX]**

[PROGRAMMING NOTE: RANDOMIZE AND RECORD ORDER OF ITEMS Q56 THROUGH Q57]
[GRID; SP ACROSS]

Below are two statements about your travel habits and the Ebola virus. Please read each statement and indicate in the corresponding grid below your level of **[SHOW IF INTENDED ORDER:** agreement or disagreement; **SHOW IF REVERSE ORDER:** disagreement or agreement**]**.

Strongly agree	Agree	Neither Agree or Disagree	Disagree	Strongly disagree
1	2	3	4	5

Q56. I would not travel to Africa because of the Ebola epidemic.
Q57. I would not sit next to someone who is coughing because of my fear that they may have Ebola.

[PROGRAMMING NOTE: RANDOMIZE AND RECORD ORDER OF ITEMS Q58 THROUGH Q61]
[GRID; SP ACROSS]
Below are a series of statements about possible future U.S. interventions regarding the Ebola virus. Please read each statement and indicate in the corresponding grid below your level of
[SHOW IF INTENDED ORDER: agreement or disagreement; **SHOW IF REVERSE ORDER:** disagreement or agreement**]**.

Strongly agree	Agree	Neither Agree or Disagree	Disagree	Strongly disagree
1	2	3	4	5

Q58. I support the US policy to allocate billions of dollars to assist countries in confronting the Ebola crisis.
Q59. I support the US policy to send troops to Africa to fight the Ebola epidemic.
Q60. I support the US sending medical teams to countries affected by Ebola.
Q61. I support the US sending humanitarian aid in the form of food and health supplies to countries affected by Ebola.

[PROGRAMMING NOTE: RANDOMIZE AND RECORD ORDER OF ITEMS Q62 THROUGH Q63]
[GRID; SP ACROSS]
Below are two statements about your hygiene habits and the Ebola virus. Please read each statement and indicate in the corresponding grid below your level of **[SHOW IF INTENDED ORDER:** agreement or disagreement; **SHOW IF REVERSE ORDER:** disagreement or agreement**]**.

Strongly agree	Agree	Neither Agree or Disagree	Disagree	Strongly disagree
1	2	3	4	5

Q62. Because of the Ebola virus, I am more likely to use hand sanitizers.

Q63. Because of the Ebola virus, I wash my hands with soap more frequently.

[DISPLAY]
For the last set of questions, assume there was an FDA approved vaccine to prevent Ebola.

PROGRAMMING NOTE: RANDOMLY ASSIGN (AND RECORD) RESPONDENTS TO EITHER THE ORIGINAL RESPONSE ORDER OF 'VERY LIKELY, FAIRLY LIKELY, SOMEWHAT LIKELY, NOT LIKELY' OR ASSIGN RESPONDENTS TO THE REVERSE RESPONSE ORDER OF 'NOT LIKELY, SOMEWHAT LIKELY, FAIRLY LIKELY, VERY LIKELY' FOR BOTH Q64 & Q65 (DIRECTION OF SCALES SHOULD BE THE SAME FOR BOTH QUESTIONS]
Q64. How likely would you be to get a vaccine that would prevent you from getting Ebola?

Very likely……1
Fairly likely……..2
Somewhat likely……3
Not likely……4

[SP]
Q65. How likely would you be to get a vaccine for your children that would prevent them from getting Ebola?

Very likely……1
Fairly likely……..2
Somewhat likely……3
Not likely……4

[SP]
Q66. How much would you pay out of pocket for an Ebola vaccine if your health insurance did not cover the cost of the vaccine?

$0 (I would not pay for an Ebola vaccine)……1
$1 - $50……2
$51 - $100……3
$101 - $150……4
$151 - $200……5
More than $200……6

[PROGRAMMING NOTE: RANDOMIZE AND RECORD ORDER OF ITEMS Q67 THROUGH Q70]
[GRID; SP ACROSS]
For the final few statements, please indicate in the grid below your level of **[SHOW IF INTENDED ORDER:** agreement or disagreement; **SHOW IF REVERSE ORDER:** disagreement or agreement**]**.

Strongly agree	Agree	Neither Agree or Disagree	Disagree	Strongly disagree
1	2	3	4	5

Q67. If new or emerging epidemics threaten countries, the U.S. should assume the worldwide leadership in confronting this health threat by sending economic aid.
Q68. If new or emerging epidemics threaten countries, the U.S. should assume the worldwide leadership in confronting this health threat by sending health care and medicine.
Q69. If new or emerging epidemics threaten countries, the U.S. should assume the worldwide leadership in confronting this health threat by sending military troops.
Q70. Emerging epidemics pose a threat to U.S. security by destabilizing other countries' economics and political infrastructure.

RELIGION1

SHOW REL1 IF XREL1= 14 (MISSING).
[SP]

REL1. What is your religion?

[DO NOT ROTATE]

Baptist—any denomination . 1
Protestant (e.g., Methodist, Lutheran, Presbyterian, Episcopal) 2
Catholic 3
Mormon 4
Jewish 5
Muslim 6
Hindu 7
Buddhist 8
Pentecostal 9
Eastern Orthodox 10
Other Christian 11
Other non-Christian 12
None 13

PROMPT ONCE.

[SP]

DOV_REL1. Merge coding of REL1 and missing data ask.

Baptist—any denomination . 1

Protestant (e.g., Methodist, Lutheran, Presbyterian, Episcopal) 2
Catholic 3
Mormon 4
Jewish 5
Muslim 6
Hindu 7
Buddhist 8
Pentecostal 9
Eastern Orthodox 10
Other Christian 11
Other non-Christian 12
None 13
Refused ..... -1

IF XREL1≠14 THEN DOV_REL1=XREL1;
ELSE DOV_REL1=REL1.

PARTY7

SHOW PARTY1 IF XPARTY7 = 9 (MISSING).
[SP]

PARTY1. Generally speaking, do you think of yourself as a...

Republican 1
Democrat 2
Independent 3
Another party, please specify **[TEXTBOX]**: 4
No preference 5

ASK PARTY2 IF "REPUBLICAN" AT PARTY1.
[SP]

PARTY2. Would you call yourself a...

Strong Republican 1
Not very strong Republican. 2

ASK PARTY3 IF "DEMOCRAT" AT PARTY1.
[SP]

PARTY3. Would you call yourself a...

Strong Democrat 1
Not very strong Democrat ... 2

ASK PARTY4 IF "INDEPENDENT", "ANOTHER PARTY", OR "NO PREFERENCE" OR SKIP AT PARTY1.
[SP]
PARTY4. Do you think of yourself as closer to the...

Republican Party..... 1
Democratic Party 2

DATA-ONLY
[SP]
DOV_XPARTY7. Merge coding of XPARTY7 and missing data ask.

Strong Republican 1
Not Strong Republican 2
Leans Republican 3
Undecided/Independent/Other 4
Leans Democrat..... 5
Not Strong Democrat 6
Strong Democrat..... 7
Refused.....-1

IF XPARTY7≠9 THEN DOV_XPARTY7=XPARTY7;
ELSE DOV_XPARTY7=RECODED VALUE AS DEFINED BY THE FOLLOWING:

IF (PARTY1=1 & PARTY2=1) DOV_XPARTY7=1
IF (PARTY1=1 & PARTY2=2) DOV_XPARTY7=2
IF (PARTY1=1 & PARTY2=REFUSED) DOV_XPARTY7=2

IF (PARTY1=3 & PARTY4=1) DOV_XPARTY7=3
IF (PARTY1=4 & PARTY4=1) DOV_XPARTY7=3
IF (PARTY1=5 & PARTY4=1) DOV_XPARTY7=3
IF (PARTY1=REFUSED & PARTY4=1) DOV_XPARTY7=3

IF (PARTY1=3 & PARTY4=2) DOV_XPARTY7=5
IF (PARTY1=4 & PARTY4=2) DOV_XPARTY7=5
IF (PARTY1=5 & PARTY4=2) DOV_XPARTY7=5
IF (PARTY1=REFUSED & PARTY4=2) DOV_XPARTY7=5

IF (PARTY1=2 & PARTY3=1) DOV_XPARTY7=7
IF (PARTY1=2 & PARTY3=2) DOV_XPARTY7=6
IF (PARTY1=2 & PARTY3=REFUSED) DOV_XPARTY7=6

IF (PARTY1=1 & PARTY2=REFUSED) DOV_XPARTY7=2
IF (PARTY1=2 & PARTY3=REFUSED) DOV_XPARTY7=6
IF (PARTY1=3 & PARTY4=REFUSED) DOV_XPARTY7=4
IF (PARTY1=4 & PARTY4=REFUSED) DOV_XPARTY7=4
IF (PARTY1=5 & PARTY4=REFUSED) DOV_XPARTY7=4

IF (PARTY1=REFUSED & PARTY4=REFUSED) DOV_XPARTY7=4

PROMPT ONCE.

[INSERT STANDARD CLOSE]