
Ebola Risk Perception in Germany, 2014

Nicole Rübsamen, Stefanie Castell, Johannes Horn, André Karch, Jördis J. Ott, Heike Raupach-Rosin, Beate Zoch, Gérard Krause, Rafael T. Mikolajczyk

Ebola virus disease (EVD) outbreaks have occurred during the past 5 decades, but none has affected European countries like the 2014 epidemic in West Africa. We used an online questionnaire to investigate risk perceptions in Germany during this epidemic peak. Our questionnaire covered risk perceptions, knowledge about transmission routes, media use, reactions to the outbreak, attitudes toward measures to prevent the spread of EVD and vaccination against EVD, and willingness to volunteer for aid missions. Of 974 participants, 29% indicated that they worried about EVD, 4% correctly stated virus transmission routes, and 75% incorrectly rated airborne transmission and transmission by asymptomatic patients as possible. Many indicated that if a patient were flown to Germany for treatment in a nearby hospital, they would adapt preventive behavior. Although most participants were not worried about EVD at the current stage of the epidemic, misperceptions regarding transmission were common and could trigger inappropriate behavior changes.

Misperceptions of risk can lead to inappropriate reactions during epidemics (1,2), such as stigmatization of those who are perceived as possible sources of infection (3). With regard to Ebola virus disease (EVD) in the West African countries most affected by the outbreak in 2014, indications are strong that societal misperceptions contributed to the outbreak spread (4). Public perceptions even in countries not directly affected by the EVD outbreak might influence outbreak response (e.g., by the priorities governments will set or by the willingness of persons to volunteer for aid missions in the affected countries) (5,6).

National authorities in countries outside of Africa responded differently to the potential risks of importing EVD into their countries. In November 2014, Australia and Canada imposed entry restrictions for persons from Guinea, Sierra Leone, and Liberia (7,8). At the same time, the United

Kingdom introduced entry screening for international flight and train passengers (9,10). Because evidence for these public health actions is difficult to evaluate (11,12), public opinions might have played a role in political decision making. As of November 2014, Germany had not implemented any travel or entry restriction. As of October 14, 2014, a total of 3 patients who had acquired EVD in West Africa have been evacuated to hospitals in Germany for treatment. These evacuations to Germany were intensively covered by the media in Germany.

Several previous EVD outbreaks have occurred, but none was comparable in size and spread to the 2014 epidemic in West Africa and none directly or indirectly affected European countries, until now. To understand public reactions during an emerging epidemic in a country not directly affected by EVD, but one that is exposed to media coverage of the epidemic and involved in actions to contain the epidemic, we conducted an online survey about EVD for residents of Lower Saxony, Germany. Our goal was to improve our understanding of risk perceptions and potential changes in behavior during epidemics.

Methods

Participants

We implemented this survey by using a longitudinal online panel, which was created in March 2014 to address human hygiene and preventive behavior regarding infectious diseases (13,14). The panel consists of 1,376 persons 15–69 years of age, who complete short, online questionnaires once a month. Panel members come from 4 districts in Lower Saxony, Germany (Braunschweig, Salzgitter, Vechta, and Wolfenbüttel). The districts were chosen by convenience: Braunschweig is the location of our research institute (the Helmholtz Centre for Infection Research), Vechta is its rural counterpart, and Salzgitter and Wolfenbüttel are 2 neighboring districts of Braunschweig. In each district, potential participants were invited to the panel by means of proportional stratified random sampling from the population registry. Of 26,895 invited, 9% were successfully recruited.

Questionnaire

We used an open-source online survey application (Limesurvey; 15) to develop a knowledge-attitude-practice survey

Author affiliations: Helmholtz Centre for Infection Research, Braunschweig, Germany (N. Rübsamen, S. Castell, J. Horn, A. Karch, J.J. Ott, H. Raupach-Rosin, B. Zoch, G. Krause, R.T. Mikolajczyk); PhD Programme “Epidemiology,” Braunschweig-Hannover, Germany (N. Rübsamen, J. Horn, A. Karch, B. Zoch) German Centre for Infection Research, Hannover-Braunschweig, Germany (A. Karch, J.J. Ott, G. Krause, R.T. Mikolajczyk); Hannover Medical School, Hannover, Germany (G. Krause, R.T. Mikolajczyk)

DOI: <http://dx.doi.org/10.3201/eid2106.150013>

for online use (16). In November 2014, the questionnaire was about EVD (online Technical Appendix, <http://www-wnc.cdc.gov/EID/article/21/6/15-0013-Techapp1.pdf>). The EVD questionnaire consisted of 27 questions with 2–11 items each, totaling 123 items. The questions covered 7 topics: worries about EVD and perceived personal probability of infection, knowledge about transmission routes of Ebola virus, media use to obtain information about EVD, personal reactions to the EVD outbreak, attitudes toward specific measures to prevent the spread of EVD to Europe, willingness to volunteer to fight EVD in West Africa, and attitudes toward vaccination against EVD.

Risk perceptions were operationalized by asking participants if they worry about EVD (“yes” or “no”) and how they perceive their personal probability of acquiring EVD in the following 9 scenarios: at work, in public transport, in public places, at an airport in Germany, as a patient in a hospital in Germany, at a doctor’s office in Germany, during travel to affected countries, by food imported from West African countries, or by other products originating in West Africa. Responses were chosen from a Likert scale with 5 options: “yes,” “rather yes,” “rather no,” “no,” and “does not apply.” “Worry about EVD” describes thinking about threatening scenarios in the absence of actual danger (17), and “perceived personal probability of infection” describes participants’ estimation of the actual risk for infection.

Knowledge about the transmission of Ebola virus was assessed with regard to the following 11 potential transmission routes: by direct contact with bodily fluids of infected persons, dead or living; through material heavily contaminated with such fluids; by direct contact with infected but asymptomatic persons; through air; through material that has been heavily contaminated with bodily fluids of infected persons, dead or living; through drinking water; through food produced in Germany; by casual contact with someone already sick, such as sitting next to someone (and without any direct contact of bodily fluids); by wild animals in Africa; by insects in Africa; or by wild animals/insects in Germany. Response choices were “true,” “false,” and “don’t know.” We computed a cumulative knowledge score (1 point for each answer in agreement with current scientific knowledge, range 0–11). In addition, participants were invited to rate their personal knowledge of EVD as “very good,” “good,” “moderate,” or “not good.” They were also asked whether they increased their use of media to inform themselves about EVD.

To assess behavioral implications, participants were asked if they had changed their behavior as a result of the EVD outbreak, how they would change behavior if an EVD patient were flown from Africa to Germany for treatment in a nearby hospital, and whether they would cancel an already booked flight to Africa. Participants were also asked if they thought that specific prevention measures should be

introduced to prevent the spread of EVD to Europe (Figure). The survey also included questions about aid missions in affected countries and about the potential vaccine against EVD.

This study was approved by the Ethics Committee of the Hannover Medical School and the Federal Commissioner for Data Protection and Freedom of Information. All participants gave written informed consent before entering the study.

Statistical Analyses

To test differences among groups, we used the χ^2 test for categorical variables and the Wilcoxon test for continuous variables. To assess associations of sociodemographic factors with worrying about EVD, we used the Spearman correlation coefficient. In addition, we performed explorative multivariable logistic regression analyses to assess the effect of knowledge about transmission routes and sociodemographic factors on worries about EVD and on willingness to volunteer for aid missions. Analyses were performed by using Stata 12 (StataCorp LP, College Station, TX, USA).

Results

Risk Perceptions

A total of 974 participants, 15–69 years of age, completed the questionnaire. Sociodemographic characteristics of participants who completed the questionnaire (Table 1) did not differ from those of other panel members who did not (data not shown). In response to the question about whether they worried about EVD, 29% of participants answered in the affirmative; of those, 79.0% rated the strength of their worries as average (score ≤ 3 on a scale of 1 [a little] to 5 [very strong]) (data not shown). In response to another question, 68% of the participants reported that they perceived acquiring EVD as possible in at least 1 of the 9 scenarios specified (data not shown). In response to a question asking whether in the next 6 months EVD could spread to the general population of Germany in a similar way as occurred in some West African countries, 8% of participants worried about EVD and 1.6% of those not worried about EVD answered in the affirmative (Figure).

Knowledge

Although 25% of participants rated their personal knowledge about EVD as good or very good, only 3.9% correctly answered all questions about transmission routes. The most common misperception (by 73.7% of participants) was that airborne transmission of Ebola virus is possible; moreover, 74.0% believed that human-to-human transmission by infected but asymptomatic persons is possible. Among those who specified airborne transmission as being possible, 18.5% reported that they perceived that acquiring EVD while using public transportation was possible compared

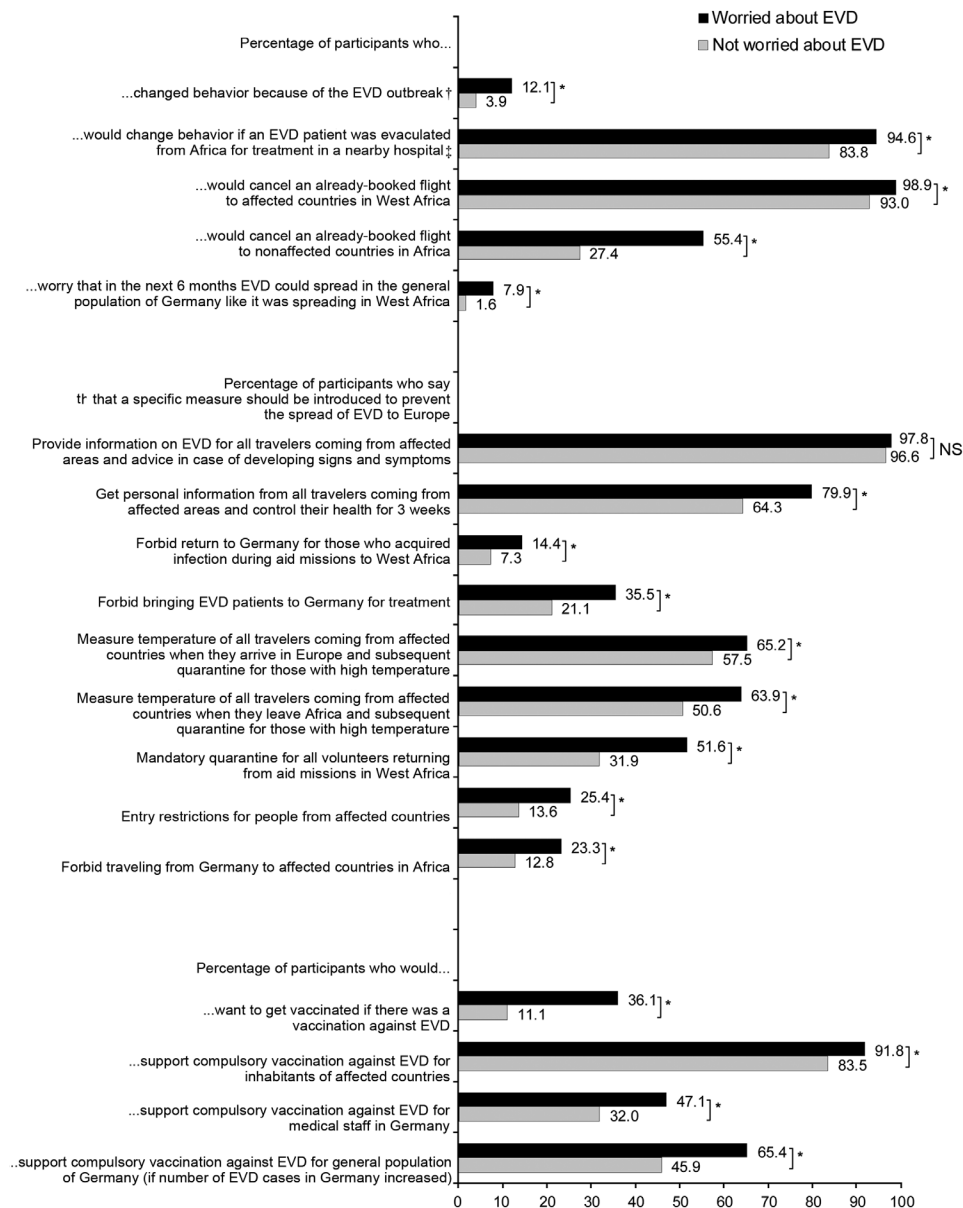


Figure. Personal behavior and attitudes toward measures against the spread of Ebola virus disease (EVD) and toward vaccination against EVD. Black, worried about EVD; gray, not worried about EVD; NS, not significant. * χ^2 test $p < 0.05$. †“Yes” to at least 1 of 5 items (avoid contact with African acquaintances; avoid contact with African persons in public places; avoid going to public events; avoid using public transportation; engage in precautionary purchases). ‡“Yes” to at least 1 of 7 items (avoid public events/crowded places; avoid using public transportation; avoid physical contact with other persons; increase hygiene behavior; wear face mask outside of the home; avoid admission to the same hospital; avoid visiting friends admitted to the same hospital).

with 9.4% of those who did not consider airborne transmission as being possible ($p = 0.001$). Education was positively associated with knowledge scores about Ebola virus transmission routes (Spearman correlation coefficient 0.18, $p < 0.001$) and rating of personal knowledge about EVD (Spearman correlation coefficient 0.39, $p < 0.001$). After controlling for the rating of personal knowledge about EVD, education was no longer associated with the score for knowledge about Ebola virus transmission routes (partial correlation coefficient -0.003 , $p = 0.91$).

Media Use

Increased use of media to learn about EVD was reported by 43% of participants. These participants most commonly

used the Internet (45.5%), television (53.1%), and print media (45.7%). Increased use of television was more common among participants with a low level of vocational or secondary education than among participants with a higher level of education (data not shown). Increased media use was not associated with a higher knowledge score (median score for both groups = 7, $p = 0.37$). Personal knowledge about EVD was self-rated as good or very good by 28.7% of those who increased their media use and by 21.8% who did not ($p = 0.01$).

Multivariable logistic regression analyses that included age, sex, education, increased media use, and knowledge score showed that those who increased their media use were more likely to be worried about EVD than were those who

Table 1. Characteristics of 974 participants in survey about risk for EVD, Lower Saxony, Germany, 2014*

Characteristic	Total, no. (%)	Not worried about EVD, no. (%)†	Worried about EVD, no. (%)‡	p value§
Sex				0.06
F	534 (54.8)	365 (52.7)	169 (60.1)	
M	414 (42.5)	311 (44.9)	103 (36.7)	
Missing information	26 (2.7)	17 (2.4)	9 (3.2)	
Median age, y (IQR)	46 (34–56)	47 (34–58)	46 (35–54)	0.10¶
Education#				0.02
Low	410 (42.1)	275 (39.7)	135 (48.0)	
Intermediate	117 (12.0)	80 (11.5)	37 (13.2)	
High	411 (42.2)	314 (45.3)	97 (34.5)	
Missing information	36 (3.7)	24 (3.5)	12 (4.3)	
Country of birth				0.59
Germany	891 (91.5)	638 (92.1)	253 (90.1)	
Other	45 (4.6)	30 (4.3)	15 (5.3)	
Missing information	38 (3.9)	25 (3.6)	13 (4.6)	
Median knowledge score (IQR)	7 (6–9)	7 (6–9)	7 (5–8)	<0.001¶

*EVD, Ebola virus disease; IQR, interquartile range.

†n = 693 (71.1%).

‡n = 281 (28.9%).

§ χ^2 test comparing those worried about EVD with those not worried (missing values were not considered).

¶Wilcoxon rank-sum test comparing those worried about EVD with those not worried.

#Low, <12 y of vocational or secondary education and/or completed apprenticeship; intermediate, at least 12 y of vocational or secondary education and/or degree of a specialized vocational school; high, university training (bachelor degree and higher academic level).

did not increase their media use and that knowledge about Ebola virus transmission routes was negatively associated with being worried about EVD (Table 2). Worrying about EVD was not affected by age, sex, or education (Table 2).

Personal Reactions

Among all participants, 7% changed behavior in response to the EVD outbreak (Figure). Among those, 68.8% avoided contact with African persons in public places and 26.6% avoided using public transportation.

If an EVD patient were to be flown from Africa to Germany and treated in a nearby hospital, 86.9% of all participants stated that they would change their behavior. Of these, 16.4% would avoid using public transportation, 74.9% would increase their hygiene behavior (e.g., washing hands more often), and 30.2% would not visit friends admitted to the same hospital.

Participants were also asked about travel to Africa. As many as 95% of all participants would cancel an already booked flight to affected countries in West Africa, and 35.6% would cancel a flight to nonaffected countries in Africa.

Attitudes toward Specific Measures to Prevent the Spread of EVD to Europe

Asked about specific measures to prevent the spread of EVD to Europe, 97.0% of participants replied that all travelers from affected areas should receive information about EVD and advice on what to do if signs and symptoms of EVD developed (Figure). Entry restrictions for persons from affected countries were supported by 17.0% of participants. Mandatory quarantine for volunteers returning from aid missions in West Africa was supported by 37.6%

of participants; the difference between those worried about EVD (51.6%) and those not worried (31.9%) was significant ($p < 0.001$). Prohibiting return to Germany of persons who acquired Ebola infection during aid missions was supported by 10%.

Willingness to Volunteer to Fight EVD in West Africa

Of all participants, 38.7% would volunteer to fight EVD in West Africa if their experience and their knowledge were needed and if their personal situation and their health allowed them to do so. Multivariable logistic regression analyses including age, sex, education, increased media use, and knowledge score showed that older persons were less likely than younger persons to volunteer for aid missions and that women were less likely than men to volunteer (Table 3). Willingness to volunteer was not associated with education level.

Vaccination against EVD

If a vaccine against EVD existed, 18.3% would opt for vaccination even if they did not plan to visit affected countries in West Africa and did not have contact with EVD patients. Of those who wanted to get vaccinated, 41.1% would still do so if the vaccine were associated with occasional mild side effects and 15.2% if it were associated with rare but severe side effects.

Of all participants, 85.9% stated that compulsory vaccination against EVD should be implemented in affected countries. A total of 36.4% would support compulsory vaccination against EVD for medical staff in Germany, and 51.5% would support compulsory vaccination against EVD for the general population of Germany if the number of EVD cases in Germany increased.

Discussion

We report public perceptions of EVD in Germany, a country not directly affected by the current epidemic. Among the participants of our study, a substantial proportion were worried about EVD; however, among those worried, most did not report strong worries. Only one quarter of participants rated their knowledge of Ebola as good or very good. In addition, a large majority had poor knowledge about the transmission routes of the virus. A particularly common misperception was that Ebola virus can be transmitted by the airborne route or that it can be transmitted from human to human by infected but asymptomatic persons. These misperceptions were strongly associated with perceived personal probability of becoming infected while using public transportation. At the peak of the epidemic (November 2014), we identified inappropriate, unjustified, and stigmatizing attitudes in only a small proportion of participants. In contrast, treatment of a patient flown from Africa to a nearby hospital would induce worrying and inappropriate behavior in most participants. This response might be attributable to the fact that persons intuitively overestimate the risk for rare events (18). Our findings indicate a potential for inappropriate reactions to the epidemic should cases of EVD occur in Germany or should evacuations of EVD patients to Germany increase (19). For either of these 2 scenarios, trusted institutions (e.g., government) should spread information on the cause and the risk for infection (20).

As expected, participants who were worried about EVD were more likely to support measures preventing its spread to Europe. The difference between those worried and those not worried was particularly large for measures that can be considered inappropriate or even counterproductive to fighting the epidemic. For example, the stigmatization of returning health care workers and other volunteers can lead to fewer persons being willing to volunteer for aid missions (21). It is crucial that those

worried about EVD remain a minority so that society will not be paralyzed by worries. Thus, misperceptions regarding transmission routes of Ebola virus should be resolved, and the media should contribute to a balanced, rational response rather than fuel worries. The observation that increased media use was not associated with better knowledge of transmission routes indicates the need for qualitative improvement of media reporting of such situations. However, the direction of the association between increased media use and worries cannot be determined from our data, so conclusions on worries and increased media use should be made cautiously. Not only the media but also public health experts might have contributed to mixed messages regarding airborne transmission of Ebola virus (22).

Almost 39% of participants indicated that they would volunteer to fight EVD in West Africa, but some of those participants would at the same time support prevention measures that are likely to negatively affect willingness to participate in aid missions. The high percentage of volunteers might result from the specific question that the participants were asked. The question included 2 preconditions that would qualify persons to volunteer: having the required experience and having a personal situation that would enable going to Africa. Most participants probably did not fulfill these preconditions, so their willingness to volunteer was only hypothetical. Therefore, they might not have realized that the restriction regarding return of volunteers would hamper their own return.

The changes in personal daily behavior reported or forecasted by the study participants (change of contact structure and mode of transportation, support of rapidly introduced vaccines) have consequences for understanding future emerging epidemics. Mathematical models constructed on the basis of contact structures and health perceptions obtained outside an epidemic setting will not be able to provide helpful insights if they do not take these factors

Table 2. Association between knowledge, media use, sociodemographic factors, and worries about EVD, Lower Saxony, Germany, 2014*

Characteristic	Odds ratio (95% CI)	p value†
Age, per 10-y increase	0.97 (0.87–1.08)	0.52
Sex		0.11
F	1.28 (0.94–1.74)	
M	Reference	
Education‡		0.39
Low	1.28 (0.92–1.78)	
Intermediate	1.33 (0.83–2.14)	
High	Reference	
Increased media use		<0.001
Yes	2.14 (1.59–2.88)	
No	Reference	
Knowledge score (per 1-point increase)	0.87 (0.81–0.93)	<0.001

*Multivariable logistic regression. EVD, Ebola virus disease.

†Wald test.

‡Low, <12 y of vocational or secondary education and/or completed apprenticeship; intermediate, at least 12 y of vocational or secondary education and/or degree of a specialized vocational school; high, university training (bachelor degree and higher academic level).

Table 3. Association between knowledge, media use, and sociodemographic factors and willingness to volunteer in aid missions in Africa, Lower Saxony, Germany, 2014*

Characteristic	Odds ratio (95% CI)	p value†
Age (per 10-y increase)	0.86 (0.77–0.96)	0.07
Sex		0.03
F	0.72 (0.53–0.98)	
M	Reference	
Education‡		0.94
Low	1.09 (0.79–1.52)	
Intermediate	1.05 (0.64–1.70)	
High	Reference	
Increased media use		0.90
Yes	0.98 (0.73–1.32)	
No	Reference	
Knowledge score (per 1-point increase)	1.06 (0.99–1.14)	0.09

*Multivariable logistic regression. EVD, Ebola virus disease.

†Wald test.

‡Low, <12 y of vocational or secondary education and/or completed apprenticeship; intermediate, at least 12 y of vocational or secondary education and/or degree of a specialized vocational school; high, university training (bachelor degree and higher academic level).

into account. Problems in modeling the further course of the influenza A(H1N1)pdm09 outbreak might be attributable to these factors (1,2), and the experience with models made for the current EVD epidemic might be similar.

A large majority of participants supported compulsory vaccination against EVD for persons in affected countries. About half also stated that EVD vaccination should be compulsory for the general population should the number of cases in Germany increase. This finding is astonishing because no compulsory vaccination exists in Germany, and during the 2009 influenza A(H1N1)pdm09 pandemic, it was regarded as completely unacceptable (23). It is possible that the acceptability of drastic and compulsory measures is high only if the likelihood that such measures will be implemented is low, as is now the situation for EVD. On the contrary, the perception of associated risks might be scored much higher for EVD than for influenza, thereby increasing the acceptance of compulsory vaccination.

This study has some limitations. Regional data collected in an online survey might not represent perceptions of the general population in Germany. Furthermore, because the respondents in our survey were participating in a study on hygiene and behavior regarding infectious diseases, their level of motivation and knowledge about health-related topics might be higher than that of the general population. The education level of participants was also higher than that of the general population (42.2% of the study participants had university training compared with only 17.2% of the general population of Germany; 24). The panel members were also older, and the percentage of female panel members was higher than that of the general population.

For some characteristics in our analyses we did not have baseline data. For example, we did not have baseline information about which types of media are generally used by participants, so we cannot tell whether participants increased their media use or whether they used

additional media sources that they did not use before. Because we do not have information about participants' professions, we cannot assess whether risk groups for exposure to EVD (e.g., medical staff) are overrepresented in the study sample.

The reported risk perceptions and attitudes are conditional for the situation in Germany as of November 2014 and assume no transmission of Ebola virus in Germany. In the case of real exposure, persons might not act as they predicted they would. We also cannot assess how much the responses are influenced by the current status and how persons would react when media attention is less. However, having access to the study population of the larger infectious diseases study will enable us to ask the same persons again several months later and to examine temporal changes of risk perceptions.

In conclusion, a substantial proportion of the study population demonstrated poor knowledge about the transmission modes of Ebola virus and about the actual risks in a European country during the 2014 EVD epidemic in West Africa. Increased media use was not associated with better knowledge, underscoring the need to improve quality of content reported by the media. Although inappropriate or unjustified attitudes in the current situation were not demonstrated by most participants, the treatment of flown-in EVD patients in a nearby hospital would trigger inappropriate behavioral changes.

Acknowledgments

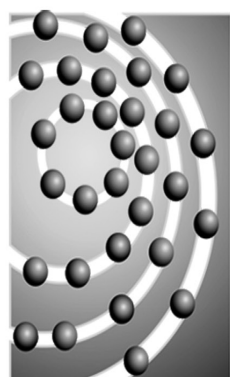
We acknowledge feedback received from colleagues of the Department of Epidemiology of the Helmholtz Centre for Infection Research.

Ms. RübSamen is a research assistant in the Research Group Epidemiological and Statistical Methods, Helmholtz Centre for Infection Research, Braunschweig, Germany. Her research interests include online methods for the investigation of the epidemiology of infectious diseases.

References

- Poletti P, Ajelli M, Merler S. The effect of risk perception on the 2009 H1N1 pandemic influenza dynamics. *PLoS ONE*. 2011;6:e16460. <http://dx.doi.org/10.1371/journal.pone.0016460>
- Poletti P, Ajelli M, Merler S. Risk perception and effectiveness of uncoordinated behavioral responses in an emerging epidemic. *Math Biosci*. 2012;238:80–9. <http://dx.doi.org/10.1016/j.mbs.2012.04.003>
- Brug J, Aro AR, Oenema A, De Zwart O, Richardus JH, Bishop GD. SARS risk perception, knowledge, precautions, and information sources, the Netherlands. *Emerg Infect Dis*. 2004;10:1486–9. <http://dx.doi.org/10.3201/eid1008.040283>
- Gostin LO, Lucey D, Phelan A. The Ebola epidemic: a global health emergency. *JAMA*. 2014;312:1095–6. <http://dx.doi.org/10.1001/jama.2014.11176>
- Antes G. Ebola—contradictions between knowledge and communication. *Z Evid Fortbild Qual Gesundheitswes*. 2014;108:604–5. <http://dx.doi.org/10.1016/j.zefq.2014.10.026> PMID: 25499115
- Merino JG. Response to Ebola in the US: misinformation, fear, and new opportunities. *BMJ*. 2014;349:g6712. <http://dx.doi.org/10.1136/bmj.g6712>
- Reuters-Videokanal. Australian and U.S. governments tighten rules because of Ebola [in German] [cited 2014 Nov 6]. <http://de.reuters.com/article/topNews/idDEKBN0IH1B720141028>
- Reuters-Videokanal. Canada closes its borders because of fear [in German] [cited 2014 Nov 6]. <http://sz.de/1.2200271>
- Clinicians deployed at more UK entry points as Ebola screening increases. *Nurs Stand*. 2014;29:8. <http://dx.doi.org/10.7748/ns.29.8.8.s4>
- Mabey D, Flasche S, Edmunds WJ. Airport screening for Ebola. *BMJ*. 2014;349:g6202. <http://dx.doi.org/10.1136/bmj.g6202>
- Pitman RJ, Cooper BS, Trotter CL, Gay NJ, Edmunds WJ. Entry screening for severe acute respiratory syndrome (SARS) or influenza: policy evaluation. *BMJ*. 2005;331:1242–3. <http://dx.doi.org/10.1136/bmj.38573.696100.3A>
- Selvey LA, Antão C, Hall R. Evaluation of border entry screening for infectious diseases in humans. *Emerg Infect Dis*. 2015; 21:197–201. <http://dx.doi.org/10.3201/eid2102.131610>
- Rübsamen N, Akmatov M, Karch A, Schweitzer A, Zoch B, Mikolajczyk R. The HaBIDS study (Hygiene and Behaviour Infectious Diseases Study)—setting up an online panel in Lower Saxony [in German]. In: Abstracts of the 9th Annual Meeting of the German Society of Epidemiology; 2014 Sep 17–20; Ulm, Germany. Ulm (Germany): German Society of Epidemiology; 2014. Abstract P27.
- Rübsamen N. HaBIDS. Hygiene practices and infection prevention in the general population of Lower Saxony [cited 2014 Nov 6]. http://www.helmholtz-hzi.de/en/research/research_projects/view/projekt/projekt/habids_studie/
- Schmitz C. LimeSurvey. The open source survey application [cited 2014 Nov 6]. <http://www.limesurvey.org/>
- Valente TW, Paredes P, Poppe PR. Matching the message to the process. The relative ordering of knowledge, attitudes, and practices in behavior change research. *Hum Commun Res*. 1998;24:366–85. <http://dx.doi.org/10.1111/j.1468-2958.1998.tb00421.x>
- Borkovec TD, Robinson E, Pruzinsky T, DePree JA. Preliminary exploration of worry: some characteristics and processes. *Behav Res Ther*. 1983;21:9–16. [http://dx.doi.org/10.1016/0005-7967\(83\)90121-3](http://dx.doi.org/10.1016/0005-7967(83)90121-3)
- Van Damme W, Van Lerberghe W. Epidemics and fear. *Trop Med Int Health*. 2000;5:511–4. <http://dx.doi.org/10.1046/j.1365-3156.2000.00599.x>
- de Jong MD, Reusken C, Horby P, Koopmans M, Bonten M, Chiche JD, et al. Preparedness for admission of patients with suspected Ebola virus disease in European hospitals: a survey, August–September 2014. *Euro Surveill*. 2014;19:20980.
- Liao Q, Cowling B, Lam WT, Ng MW, Fielding R. Situational awareness and health protective responses to pandemic influenza A (H1N1) in Hong Kong: a cross-sectional study. *PLoS ONE*. 2010;5:e13350. <http://dx.doi.org/10.1371/journal.pone.0013350>
- Solomon T, Turtle L, McGill F, Matata C, Christley R. What stops healthcare workers volunteering to fight Ebola in west Africa? *BMJ*. 2014;349:g6443. <http://dx.doi.org/10.1136/bmj.g6443>
- Kapern P. “Time window could close.” Karl Lauterbach in conversation with Peter Kapern. 2014 Sep 17 [in German] [cited 2014 Feb 19]. http://www.deutschlandfunk.de/kampf-gegen-ebola-zeitfenster-koennte-sich-schliessen.694.de.html?dram:article_id=297730
- Walter D, Böhmer MM, Reiter S, Krause G, Wichmann O. Risk perception and information-seeking behaviour during the 2009/10 influenza A(H1N1)pdm09 pandemic in Germany. *Euro Surveill*. 2012;17:20131.
- German Microdata Lab. Marginal distributions microcensus original file and SUF of the federal statistical office [in German] [cited 2014 Dec 8]. http://www.gesis.org/missy/fileadmin/missy/daten/Randverteilung/Randverteilung_2011.pdf

Address for correspondence: Rafael T. Mikolajczyk, Helmholtz Centre for Infection Research, Epidemiology Inhoffenstr., 7 Braunschweig 38124, Germany; email: rafael.mikolajczyk@helmholtz-hzi.de



ICEID
2015

International Conference
on Emerging Infectious Diseases

August 24–26, 2015

Ebola Risk Perception in Germany, 2014

Technical Appendix

Questionnaire on Ebola

In March 2014, the first cases of Ebola virus disease were notified in Guinea (West Africa). In the following months, the disease spread to Sierra Leone, Liberia, Nigeria, and Senegal. The WHO declared this outbreak as a Public Health Emergency of International Concern.

We are interested in your thoughts about this outbreak and if/how Ebola affects your daily life in Germany.

Ebola virus disease

1. Are you worried about Ebola?

Yes No

2. *[if yes]* How much are you worried about Ebola?

Please mark a number from 1=“not much “ to 5=“very much “

	1	2	3	4	5	
not much	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	very much

3. How do you rate your personal knowledge about Ebola virus disease?

Very poor	<input type="checkbox"/>
Poor	<input type="checkbox"/>
Moderate	<input type="checkbox"/>
Good	<input type="checkbox"/>
Very good	<input type="checkbox"/>

4. How do you rate the information that you get from the media about the situation in African countries affected by Ebola?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	--------------------------	--------------------------	--------------------------

Probability of acquiring Ebola

5. How can Ebola be transmitted?

By direct contact with bodily fluids of infected persons, either dead or living	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Don't know
By direct contact with infected, but asymptomatic persons	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Through air, if infected people cough or sneeze	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Through material which has been heavily contaminated with bodily fluids of dead or living infected persons	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Don't know
Through drinking water	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Through food produced in Germany	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
By casual contact with someone already sick, such as sitting next to the person (without any direct contact of bodily fluids)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
By wild animals in Africa (monkeys, bats)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
By wild animals in Germany (rats, foxes)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
By insects in Africa (mosquitoes, tsetse flies)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
By insects in Germany (midges)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

6. If you think of the recent worldwide situation about Ebola: Do you think that you have a personal risk of acquiring Ebola...

	☐ Highly unlikely	☐ Quite unlikely	☐ Quite likely	☐ Highly likely	☐ Does not apply
... at work?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
... in public transport?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
... in public places (school, childcare ...) or public events?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
... at an airport in Germany?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
... as a patient in a German hospital?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
... at a doctor's office in Germany?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
... during a travel to affected countries?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
... by food imported from Western African countries?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
... by other products originating in West Africa?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

7. Are you worried that...

- | | Highly unlikely | Quite unlikely | Quite likely | Highly likely |
|--|--------------------------|--------------------------|--------------------------|--------------------------|
| ... <u>in the next three months</u> people might arrive in Germany who are identified as infected persons after their entry? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| ... individual persons might be infected with the Ebola virus in Germany <u>during the next six months</u> ? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| ... <u>in the next six months</u> Ebola could spread in the general population of Germany similar to how it is spreading currently in West Africa? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Personal behavior and prevention measures

8. Imagine that you have booked a flight for the coming week to travel to any of the affected countries in West Africa. What would you do?

- Take the flight.
- Cancel the flight, but only if I am paid back my money.
- Cancel the flight even if 100% of the travel costs would be lost.
- Cancel the flight, but only to a maximum loss of % of the travel costs.

9. Imagine that you have booked a flight for the coming week to a non-affected country in Africa. What would you do?

- Take the flight.
- Cancel the flight, but only if I am paid back my money.
- Cancel the flight even if 100% of the travel costs would be lost.
- Cancel the flight, but only to a maximum loss of % of the travel costs.

10. Did you change your behavior because of the Ebola outbreak in West Africa?

- | | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
|--|------------------------------|-----------------------------|
| I engaged in precautionary purchases. | <input type="checkbox"/> | <input type="checkbox"/> |
| I avoid contact to African people <u>from acquaintanceship</u> . | <input type="checkbox"/> | <input type="checkbox"/> |
| I avoid contact to African people <u>in public places</u> . | <input type="checkbox"/> | <input type="checkbox"/> |
| I avoid going to public events (football, theater ...). | <input type="checkbox"/> | <input type="checkbox"/> |

11. Would you change your behavior if an Ebola patient was evacuated from Africa and brought to Germany for treatment in a near-by hospital?

	No	Rather no	Rather yes	Yes
I would avoid public events and crowded places.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I would avoid using public transport.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I would avoid physical contact with other people.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I would increase my hygiene behavior (e.g. wash my hands more often)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I would wear a face mask outside of my home.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I would not want to be admitted to the same hospital.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I would not visit friends admitted to the same hospital.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

12. Should the following measures be introduced to prevent the spread of Ebola to Europe?

	Not on any account	Not encouraged	Encouraged	Yes, absolutely
Provide information on Ebola to all travelers coming from affected areas and provide advice in case one develops signs and symptoms	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Get personal information of all travelers coming from affected areas and control their health for three weeks long upon arrival	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Forbid return transport for Germans who get infected during aid missions in West Africa	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Forbid bringing Ebola patients for treatment to Germany	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

13. Should the following measures be introduced to prevent the spread of Ebola to Europe?

	Not on any account	Rather no	Rather yes	Yes, absolutely
Measure temperature for all travelers coming from affected countries upon arrival at <u>Europe</u> with subsequent quarantine for those with high temperature	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Measure temperature for all travelers coming from affected countries when they are about to <u>leave Africa</u> with subsequent quarantine for those with high temperature	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Three weeks of mandatory quarantine for all volunteers returning from aid missions in West Africa	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

14. Should the following measures be introduced to prevent the spread of Ebola to Europe?

	Not on any account	Rather no	Rather yes	Yes, absolutely
Entry restrictions for people from affected countries	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Forbid travelling from Germany to affected countries in Africa	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Compulsory vaccination against Ebola for all inhabitants of affected countries as soon as a vaccine is available	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Personal commitment

15. Would you volunteer to fight EVD in West Africa if your experience and knowledge were needed and if your personal situation and your health allowed so?

- Yes Likely Don't know
 Unlikely No

16. What would be the main reason not to volunteer?

- I would be worried about getting infected.
 I think that the help would not be useful.
 I would be worried that I might not return to Germany if I get infected.
 I would be worried about not being able to get back to Germany because of an entry restriction.
 I think every country should solve its problems by itself without depending on help from other countries.

17. Would you support a nonrecurring, compulsory, and income-related payment for the fight against Ebola in Africa?

- Yes Likely Don't know
 Unlikely No

18. [if not no] Which sum would you pay for the cause?

- Up to 10€
- 11 to 20€
- 21 to 50€
- 51 to 100€
- 101 to 200€
- More than 200€

Vaccination

19. If a vaccine against Ebola existed, would you opt for the vaccination even if you do not plan to visit affected countries in West Africa and do not have contact with Ebola patients ever?

- Yes
- No
- Don't know

20. [if not no] Would you still do so if the vaccine was associated with occasional mild side effects?

- Yes
- No
- Don't know

21. [if not no] Would you still do so if the vaccine was associated with rare and severe side effects?

- Yes
- No
- Don't know

22. Should there be a compulsory vaccination against Ebola for the medical staff in Germany?

- Yes No Don't know

23. Should there be a compulsory vaccination against Ebola for the general population in Germany if the number of EVD cases in Germany increased?

- Yes No Don't know

24. A vaccine must be tested for safety and efficacy. In which country should this be done?

- | | | | |
|--|--------------------------|--------------------------|--------------------------|
| In the country that develops the vaccine | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| In the affected countries of West Africa | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Activities about Ebola

25. Have you changed your media use since the Ebola outbreak has become public?

- | | Yes | No |
|---|--------------------------|--------------------------|
| I use the Internet more often/in addition to inform myself about Ebola. | <input type="checkbox"/> | <input type="checkbox"/> |
| I use television more often/in addition to inform myself about Ebola. | <input type="checkbox"/> | <input type="checkbox"/> |
| I use the radio more often/in addition to inform myself about Ebola. | <input type="checkbox"/> | <input type="checkbox"/> |
| I use print media more often/in addition to inform myself about Ebola. | <input type="checkbox"/> | <input type="checkbox"/> |
| I use information from public institutions (e.g. Robert Koch-Institute, World Health Organization) more often/in addition to inform myself about Ebola. | <input type="checkbox"/> | <input type="checkbox"/> |

26. Did you do something among the following list of actions in connection to Ebola?

Multiple choice

- Write a letter to the editor or a blog entry about Ebola in a paper or on the Internet
- Write a comment to an article in the Internet (e.g. Tagesschau.de, Spiegel online)
- Discussion in the circle of acquaintances
- Adhered to preventive measures at work
- Donations
- Participation in information events
- Organizing an information event
- Offer to participate in aid missions in Africa
- Offer to help in Germany

27. At your workplace, do you have contact to...?

- | | | |
|--|------------------------------|-----------------------------|
| ... patients or persons in need of care? | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| ... more than 10 persons a day (e.g. students, customers, colleagues)? | <input type="checkbox"/> | <input type="checkbox"/> |

Submit

Thank you for your answers!

Get information about Ebola:

- <http://www.bzga.de/?sid=1295>
- www.rki.de/ebola
- http://www.auswaertiges-amt.de/cae/servlet/contentblob/675054/publicationFile/196334/Ebola_Westafrika.pdf

Umfrage zu Ebola

Im März 2014 wurde aus Guinea (West-Afrika) ein gehäuftes Auftreten der Ebola-Virus-Erkrankung berichtet. Die Krankheit breitete sich in den folgenden Monaten nach Sierra Leone, Liberia, Nigeria und in den Senegal aus und wird von der Weltgesundheitsorganisation als Bedrohung der internationalen Gesundheit eingestuft.

Wir interessieren uns dafür, was Sie über diesen Ausbruch denken und wie/ob Ebola Ihren Alltag in Deutschland beeinflusst.

Ebola-Virus-Erkrankung

7. Haben Sie persönlich Angst vor Ebola?

Ja Nein

8. *[falls ja]* Wie stark ist Ihre Angst vor Ebola?

Bitte kreuzen Sie eine Zahl von 1 = „gering“ bis 5 = „sehr stark“ an

	1	2	3	4	5	
gering	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	sehr stark

9. Wie schätzen Sie Ihr Wissen über die Ebola-Virus-Erkrankung ein?

	Nicht gut	Weniger gut	Mittelmäßig	Gut	Sehr gut
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

10. Wie gut fühlen Sie sich von Medien informiert über die Situation in den von Ebola betroffenen afrikanischen Ländern?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	--------------------------	--------------------------	--------------------------

Ansteckungsgefahr

11. Wie kann das Ebola-Virus übertragen werden?

	<input type="checkbox"/> Ja	<input type="checkbox"/> Nein	<input type="checkbox"/> Weiß nicht
Über direkten körperlichen Kontakt zu Ebola-Erkrankten oder -Verstorbenen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Über direkten körperlichen Kontakt zu Personen, die sich mit Ebola angesteckt haben, aber noch keine Symptome zeigen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Durch die Luft, wenn Ebola-Erkrankte niesen oder husten	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> Ja	<input type="checkbox"/> Nein	<input type="checkbox"/> Weiß nicht
Durch Gegenstände, die mit Körperflüssigkeiten von Ebola-Erkrankten in Kontakt gekommen sind, z. B. Kleidung, Bettwäsche, Besteck	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Durch Trinkwasser	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Durch in Deutschland produzierte Lebensmittel	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bei gemeinsamem Aufenthalt mit Ebola-Erkrankten in einem Raum, z.B. Busfahrt, ohne direkten körperlichen Kontakt	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Durch wildlebende Säugetiere in Afrika (Affen, Fledermäuse)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Durch wildlebende Säugetiere in Deutschland (Ratten, Füchse)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Durch Insekten in Afrika (Moskitos, Tsetsefliegen)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Durch Insekten in Deutschland (Mücken)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

12. Wenn Sie an die aktuelle weltweite Situation bezüglich Ebola denken: Befürchten Sie, dass Sie sich mit Ebola infizieren könnten...

	<input type="checkbox"/> Nein	<input type="checkbox"/> Eher nein	<input type="checkbox"/> Eher ja	<input type="checkbox"/> Ja
... an Ihrem Arbeitsplatz?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
... in öffentlichen Verkehrsmitteln (Bus, Bahn etc.)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
... in öffentlichen Einrichtungen (Schule, Kindergarten, ...) oder bei öffentlichen Veranstaltungen?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
... am Flughafen in Deutschland?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
... als Patient in einem deutschen Krankenhaus?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
... in einer Arztpraxis in Deutschland?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
... bei einer für dieses Jahr geplanten Urlaubsreise oder Dienstreise in Länder mit Erkrankungsfällen?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
... durch Lebensmittel aus West-Afrika?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
... durch andere Produkte aus West-Afrika (Schnitzereien, Schalen, ...)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

13. Befürchten Sie, dass...

... in den nächsten 3 Monaten Personen nach Deutschland einreisen, bei denen erst nach Einreise auffällt, dass sie angesteckt sind?

Nein Eher nein Eher ja Ja

... sich in Deutschland in den nächsten 6 Monaten vereinzelt Personen mit dem Ebola-Virus anstecken und erkranken?

Nein Eher nein Eher ja Ja

... sich das Ebola-Virus in Deutschland in den nächsten 6 Monaten in der allgemeinen Bevölkerung so verbreitet wie jetzt in den betroffenen Ländern in West-Afrika?

Persönliches Verhalten und Schutzmaßnahmen

14. Wenn Sie für die nächste Woche eine Urlaubsreise in die betroffenen Gebiete in West-Afrika gebucht hätten, was würden Sie tun?

- Die Reise antreten.
- Die Reise stornieren, aber nur, wenn die Kosten erstattet werden würden.
- Die Reise stornieren, auch wenn 100% des gezahlten Reisepreises verfallen würden.
- Die Reise stornieren, aber nur bis zu einem Verlust von % des Reisepreises.

15. Wenn Sie für die nächste Woche eine Urlaubsreise in nicht betroffene Teile von Afrika gebucht hätten, was würden Sie tun?

- Die Reise antreten.
- Die Reise stornieren, aber nur, wenn die Kosten erstattet werden würden.
- Die Reise stornieren, auch wenn 100% des gezahlten Reisepreises verfallen würden.
- Die Reise stornieren, aber nur bis zu einem Verlust von % des Reisepreises.

16. Haben Sie Ihr Verhalten seit dem Bekanntwerden des Ebola-Ausbruchs in West-Afrika verändert?

- | | <input type="checkbox"/> Ja | <input type="checkbox"/> Nein |
|--|-----------------------------|-------------------------------|
| Ich habe Lebensmittel auf Vorrat eingekauft. | <input type="checkbox"/> | <input type="checkbox"/> |
| Ich meide <u>in meinem Bekanntenkreis</u> den Kontakt zu Personen, die aus Afrika stammen. | <input type="checkbox"/> | <input type="checkbox"/> |
| Ich meide <u>an öffentlichen Plätzen</u> den Kontakt zu Personen, die aus Afrika stammen. | <input type="checkbox"/> | <input type="checkbox"/> |
| Ich gehe nicht mehr zu öffentlichen Veranstaltungen (Fußballspiele, Theater, ...). | <input type="checkbox"/> | <input type="checkbox"/> |

17. Würden Sie Ihr Verhalten ändern, wenn in einem Krankenhaus in Ihrer Nähe auf der Isolierstation ein aus Afrika eingeflogener Ebola-Patient liegen würde?

	Nein	Eher nein	Eher ja	Ja
Ich würde öffentliche Plätze/Veranstaltungen oder Menschenansammlungen meiden.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ich würde öffentliche Verkehrsmittel meiden.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ich würde Körperkontakt meiden (anderen Personen nicht die Hand geben etc.).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ich würde stärker auf Hygiene achten (häufigeres Händewaschen o.Ä.).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ich würde außerhalb meiner Wohnung eine Atemschutzmaske tragen.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ich würde nicht in dasselbe Krankenhaus eingewiesen werden wollen.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ich würde Freunde/Angehörige, die im selben Krankenhaus liegen, nicht besuchen.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

18. Sollten folgende Maßnahmen eingesetzt werden, um eine Ausbreitung der Ebola-Epidemie nach Europa zu vermeiden?

	Nein, auf keinen Fall	Eher nein	Eher ja	Ja, unbedingt
Verteilen von speziellen Informationen am Flughafen an alle Einreisenden aus den betroffenen afrikanischen Ländern, auf welche Krankheitszeichen sie bei sich achten sollen und wohin sie sich bei Auftreten von Symptomen wenden sollen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Namentliche Erfassung aller einreisenden Flugpassagiere aus betroffenen afrikanischen Ländern und 3-wöchige Gesundheitskontrolle durch Gesundheitsämter in Deutschland	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Verbot des Rücktransports für in Afrika hilfeleistende Deutsche, die dort an Ebola erkrankt sind	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Einreiseverbot für Bürger aus betroffenen afrikanischen Ländern, die zur Behandlung einreisen würden	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

19. Sollten folgende Maßnahmen eingesetzt werden, um eine Ausbreitung der Ebola-Epidemie nach Europa zu vermeiden?

	Nein, auf keinen Fall	Eher nein	Eher ja	Ja, unbedingt
Messung der Körper-Temperatur bei allen einreisenden Flugpassagieren aus betroffenen afrikanischen Ländern <u>bei Ankunft in Europa</u> mit anschließender 3-wöchiger Isolierung für Personen mit erhöhter Temperatur	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Messung der Körper-Temperatur bei allen ausreisenden Flugpassagieren aus betroffenen afrikanischen Ländern <u>beim Abflug in Afrika</u> mit anschließender 3-wöchiger Isolierung im Abflugland und Einreiseverbot für Personen mit erhöhter Temperatur	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3-wöchige Isolierung nach Einreise in Deutschland für alle Personen, die in Afrika Hilfe geleistet haben und dann nach Deutschland zurückkehren, auch wenn kein Verdacht auf Ebola besteht				

20. Sollten folgende Maßnahmen eingesetzt werden, um eine Ausbreitung der Ebola-Epidemie nach Europa zu vermeiden?

	Nein, auf keinen Fall	Eher nein	Eher ja	Ja, unbedingt
Verbot der <u>Einreise</u> aus betroffenen afrikanischen Ländern (keine Vergabe von Visa), auch wenn kein Verdacht auf Ebola besteht	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Verbot der <u>Ausreise aus Deutschland</u> in betroffene afrikanische Gebiete	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Impfpflicht für alle Bewohner der betroffenen afrikanischen Gebiete, sobald ein Impfstoff verfügbar ist	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Persönlicher Einsatz

21. Angenommen, Ihre Erfahrung und Ihr Wissen würden gebraucht, um in Afrika vor Ort Hilfeleistungen zu erbringen: Würden Sie sich zur Verfügung stellen, wenn Ihre persönliche Situation es zuließe?

- Ja Eher ja Weiß nicht
 Eher nein Nein

22. Was wäre für Sie der wichtigste Grund, sich nicht zur Verfügung zu stellen?

- Ich hätte Angst vor Ansteckung.
 Ich glaube, dass die Hilfe nicht sinnvoll ist.
 Ich hätte Angst, im Falle einer Erkrankung nicht nach Deutschland zurückgebracht werden zu können.
 Ich hätte Angst, nicht nach Deutschland zurückkehren zu dürfen (in dem Fall, dass die Grenzen vollständig geschlossen werden würden).
 Ich glaube, jedes Land sollte seine Probleme selbst lösen ohne Helfer aus dem Ausland.

23. Angenommen, in Deutschland solle eine einmalige, verpflichtende, einkommensabhängige Abgabe zur Bekämpfung von Ebola in Afrika erhoben werden: Würden Sie dies befürworten?

- Ja Eher ja Weiß nicht
 Eher nein Nein

24. [falls nicht nein] Welchen Betrag wären Sie bereit, in diesem Rahmen zur Verfügung zu stellen?

- Bis zu 10 €
 11 bis 20 €
 21 bis 50 €
 51 bis 100 €
 101 bis 200 €
 Mehr als 200 €

Impfung

25. Wenn es eine zugelassene Impfung gegen Ebola gäbe, würden Sie sich vorbeugend impfen lassen (auch wenn Sie nicht vorhaben, in betroffene Gebiete in West-Afrika zu reisen, und keine beruflichen Kontakte mit Ebola-Patienten haben)?

- Ja Nein Weiß nicht

26. [falls nicht nein] Würden Sie dies auch machen, wenn bekannt wäre, dass die Impfung gelegentlich Komplikationen auslöst?

- Ja Nein Weiß nicht

27. [falls nicht nein] Würden Sie dies auch machen, wenn bekannt wäre, dass die Impfung extrem selten schwere Komplikationen auslöst?

Ja Nein Weiß nicht

28. Sollte Ihrer Meinung nach das medizinische Personal in Deutschland verpflichtend gegen Ebola geimpft werden (wenn es einen zugelassenen Impfstoff gäbe)?

Ja Nein Weiß nicht

29. Sollte es Ihrer Meinung nach im Falle steigender Erkrankungszahlen in Deutschland eine Impfpflicht für die deutsche Bevölkerung geben (wenn es einen zugelassenen Impfstoff gäbe)?

Ja Nein Weiß nicht

30. Damit ein Impfstoff zugelassen werden kann, muss er zuvor auf Verträglichkeit und Wirksamkeit getestet werden. Wo sollte Ihrer Meinung nach ein Ebola-Impfstoff getestet werden?

In dem Land, in dem die Impfung entwickelt wird	<input type="checkbox"/> Ja	<input type="checkbox"/> Nein	<input type="checkbox"/> Weiß nicht
In den betroffenen Ländern in West-Afrika	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Aktivitäten zu Ebola

31. Hat sich Ihr Medien-Verhalten seit dem Bekanntwerden des Ebola-Ausbruchs verändert?

- | | <input type="checkbox"/> Ja | <input type="checkbox"/> Nein |
|--|-----------------------------|-------------------------------|
| Ich nutze zusätzlich/vermehrt das <u>Internet</u> , um mich über Ebola zu informieren. | <input type="checkbox"/> | <input type="checkbox"/> |
| Ich nutze zusätzlich/vermehrt das <u>Fernsehen</u> , um mich über Ebola zu informieren. | <input type="checkbox"/> | <input type="checkbox"/> |
| Ich nutze zusätzlich/vermehrt das <u>Radio</u> , um mich über Ebola zu informieren. | <input type="checkbox"/> | <input type="checkbox"/> |
| Ich nutze zusätzlich/vermehrt <u>Printmedien</u> (Zeitungen, Magazine o.Ä.), um mich über Ebola zu informieren. | <input type="checkbox"/> | <input type="checkbox"/> |
| Ich nutze zusätzlich/vermehrt <u>Informationsangebote öffentlicher Einrichtungen</u> (Bundeszentrale für gesundheitliche Aufklärung, Robert Koch-Institut, Weltgesundheitsorganisation etc.), um mich über Ebola zu informieren. | <input type="checkbox"/> | <input type="checkbox"/> |

32. Haben Sie im Zusammenhang mit Ebola etwas aus der folgenden Liste gemacht?

Mehrfachantworten möglich

- Schreiben von Leserbriefen/Blog zu dem Thema in Zeitungen oder Internet
- Online-Kommentare zu Artikeln im Internet (z.B. bei Spiegel online, Tagesschau.de)
- Diskussion im persönlichen Umfeld
- Krisen/Notfall/Sicherheitsmaßnahmen am Arbeitsplatz
- Spenden
- Teilnahme an Informationsveranstaltungen (Vorträge o.Ä.)
- Organisation von Informationsveranstaltungen
- Angebot, in Afrika persönlich zu helfen
- Angebot, von Deutschland aus durch persönlichen Einsatz zu helfen

33. Haben Sie in Beruf oder Freizeit regelmäßig Kontakt zu...?

... Patienten oder pflegebedürftigen Menschen?

 Ja Nein

... mehr als 10 Personen pro Tag, z.B. Schüler, Kunden, Kollegen etc.?

Absenden

Vielen Dank für Ihre Antworten!

Informationen zum Thema Ebola finden Sie hier:

- <http://www.bzga.de/?sid=1295>
- www.rki.de/ebola
- http://www.auswaertiges-amt.de/cae/servlet/contentblob/675054/publicationFile/196334/Ebola_Westafrika.pdf