



Effective Communication  
in Outbreak Management for Europe

## **Standard questionnaire on risk perception of an infectious disease outbreak**

*This tool contains example questions  
for public surveys on risk perception of  
(an outbreak of) an infectious disease*

This questionnaire was developed by the Municipal Public Health Service Rotterdam-Rijnmond (GGD) together with the National Institute for Public Health and the Environment (RIVM) in the Netherlands.

It has been modified for use in the project "Effective Communication in Outbreak Management; development of an evidence-based tool for Europe" ('E-com@eu'), which is funded by the EU Seventh Framework Programme, Theme Health.2011.2.3.3.3-3, Grant Agreement no 278763).

Version November 2015

Contact: Helene Voeten, GGD Rotterdam-Rijnmond,  
the Netherlands ([h.voeten@rotterdam.nl](mailto:h.voeten@rotterdam.nl))





## **Preface**

It is essential that authorities communicate well with the public in case of an infectious disease outbreak. Not only because the public is entitled to be informed about the risks in their area, but also because research shows that people who are well informed feel safer, are less distressed, and respond better to an outbreak of an infectious disease. The public has an important role in the prevention and control of infectious diseases. On the one hand the public must be prepared to follow measures aimed at, for example, hygiene, prophylaxis or vaccination. On the other hand it may be the case that measures are not possible or necessary. The public will then have to cope with feelings of uncertainty and anxiety.

Communication must be tailored to the public as much as possible. In case of a newly emerging infectious disease, authorities may not know exactly what the general public thinks, feels, and fears. It is then sensible to hold a survey to measure knowledge gaps, perceived severity and susceptibility, fear, perceived efficacy of measures, and information needs. This will enable targeted communication, addressing specific needs of the audience.

This tool provides a standard questionnaire that can be used to measure risk perception among the general population in case of an outbreak of an infectious disease. It gives example questions that can be used in a risk perception survey. The Appendix of the tool also provides guidance how to organise a survey, analyse results, and translate findings into communication messages.

## Standard risk perception questionnaire

A questionnaire to study risk perception in case of an outbreak of an infectious disease should contain the following sections:

- a) Introduction
- b) Knowledge
- c) Disease background information
- d) Perception of seriousness of the disease
- e) Extent of anxiety and perception of susceptibility to the disease
- f) Perceived efficacy and self-efficacy of preventive measures
- g) Intention to carry out the measures
- h) Motivating/hindering factors
- i) Information needs

Below you find standard formulations of items/questions that can be adapted to the specific disease/outbreak you want to study. You also find instructions how to adapt the questions.

### a) Introduction

The purpose of the Introduction is to inform respondents about the objective of the survey and provide instructions for completing and returning the questionnaire. Example:

*Dear Sir/Madam,*

*You may be aware that there is an outbreak of [disease X] in your [area, province, country]. We would like to know how you feel about [disease X], what your opinion is about the preventive measures, and what information you wish to receive at this moment. We would therefore be very grateful if you could complete the enclosed short questionnaire and return it to us in the return envelope supplied. Completing the questionnaire will take you about 10 minutes and the return envelope does not require a stamp. The results are processed anonymously and are only used for the survey.*

*If you have any questions please contact [name contact person], [position, organisation]. [e-mail address].*

*We thank you in advance for your cooperation.*

### b) Knowledge items

The purpose of the knowledge items is to measure the level of knowledge of the respondents about the various aspects of the disease (such as infectiousness, fatality, transmission route or preventive/control measures). Questions about knowledge can be formulated as statements.

	Correct	Incorrect	Unknown
<i>[Disease X] is an inflammation of the lungs.</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<i>[Disease X] always gives symptoms.</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<i>[Disease X] can only be contracted once in a lifetime.</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<i>There is a vaccine against [disease X].</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<i>[Disease X] can be prevented by good hygiene.</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

### c) Disease background information

The purpose of the background information is to give respondents an idea of how the disease is caused (i.e. virus or bacteria) and how infection occurs (e.g. via air, food or stools). All respondents will then have a certain basic knowledge necessary to be able to complete the rest of the questionnaire. Do not describe any specific information about the seriousness of the disease or the chance of contracting the disease. This information could influence the answers to how the seriousness and susceptibility is perceived. Example:

*This questionnaire is about jaundice caused by the Hepatitis A virus. Jaundice is transmitted through the stools of someone who is infected with the Hepatitis A virus, which contains viruses that in some way end up in the mouth (usually via a person's own hands). Via the hands the viruses can also end up on food.*

### d) Perception of seriousness of the disease

Items regarding perception of seriousness are mainly aimed at the physical seriousness of the disease, but also at medical and clinical consequences (i.e. death, restriction, pain) and possible psychosocial consequences (i.e. effects on work, family life and social contacts). It is advisable to compare the perception of seriousness of Disease X with other diseases, to get a sense of the relative seriousness.

- How serious do you think [disease X] is??  
*not at all serious / not serious / not serious-slightly serious / serious / very serious*

- How would you feel if you were to contract the following diseases in the coming year?  
*Flu: not at all serious / not serious / not serious - slightly serious / serious / very serious*  
*Heart attack: not at all serious / not serious / not serious - slightly serious / serious / very serious*  
*Bladder infection: not at all serious / not serious / not serious - slightly serious / serious / very serious*  
*Diabetes: not at all serious / not serious / not serious - slightly serious / serious / very serious*  
*Disease X: not at all serious / not serious / not serious - slightly serious / serious / very serious*

### e) Perception of susceptibility to the disease and extent of anxiety

The items regarding perception of susceptibility focus on the individual chances of contracting the disease during a certain period in the near future. When asking about susceptibility, it is important to add "if you do not take any preventive measures". Susceptibility to Disease X can again be compared to susceptibility to other diseases.

In order to gain more insight into feelings of anxiety and distress, people can be asked how worried they are about contracting the disease.

- Do you think that you can contract [disease X] in the coming year if you do not take any preventive measures?  
*certainly not / probably not / perhaps not - perhaps yes / probably yes / most certainly*

- Suppose you have not been vaccinated against [disease X]. What do you think your chance of contracting [disease X] in the coming year is?  
*very small chance / small chance / not small - not large / large chance / very large chance*

- Suppose you have been vaccinated against [disease X]. What do you think your chance of contracting [disease X] in the coming year is?  
*very small chance / small chance / not small - not large / large chance / very large chance*

- How large do you think the chance is that you will contract the following diseases in the coming year?  
*Flu: very small chance / small chance / not small - not large / large chance / very large chance*  
*Heart attack: very small chance / small chance / not small - not large / large chance / very large chance*  
*Bladder infection: very small chance / small chance / not small - not large / large chance / very large chance*

*Diabetes: very small chance / small chance / not small - not large / large chance / very large chance*  
*Disease X: very small chance / small chance / not small - not large / large chance / very large chance*

- How concerned are you about contracting [disease X]?  
*not at all concerned / not concerned / slightly concerned / concerned / very concerned*

**f) Perception of efficacy and self-efficacy**

The items on perceived efficacy provide insight into the extent to which respondents believe that the available preventive measure(s) is/are effective. Please first explain or describe the preventive measure(s).

Self efficacy is an estimate of whether the respondent thinks he/she is able to carry out the preventive measure(s).

*Example description [measure X], for example in the case of Hepatitis A:  
 People who carry the virus may transfer this virus to others even if they are not ill themselves. It may, therefore, be that you carry the virus without being ill and then infect others. You are therefore advised to improve hygiene for 1 week by washing hands more often and cleaning the toilet every day.*

- Do you think that [measure X] helps to prevent [disease X]?  
*certainly not / probably not / perhaps not - perhaps yes / probably yes / most certainly*

- Do you think that you will manage to carry out [measure X], if this is advised?  
*certainly not / probably not / perhaps not - perhaps yes / probably yes / most certainly*

**g) Intention to carry out the measure(s)**

Items regarding intention provide insight into the willingness of the respondents to carry out the measure(s).

- Would you carry out [measure X] if this was advised?  
*certainly not / probably not / perhaps not - perhaps yes / probably yes / most certainly*

**h) Motivating/hindering factors**

Motivating factors determine the willingness to carry out preventive measures. Hindering factors obstruct the execution of measures. Example:

- Why would you be willing to carry out the measures mentioned? (up to 3 answers possible)

- I am often ill*
- [Disease X] can be serious*
- I feel responsible for my health*
- I think I am at risk of [disease X]*
- I want to prevent contracting [disease X]*
- I want to prevent that I transfer [disease X] to people around me*
- I trust that the measures help*
- The authorities advise it, so I will do it*
- If I do not take these measures, I may regret it later*
- Other people in my environment will also carry out the measures*
- Other, namely.....*

- Why would you not be willing to carry out the measures mentioned? (up to 3 answers possible)

- I am never ill*
- [Disease X] is not serious*
- I do not find it important*
- I am not worried about my health*
- I do not think I am at risk of contracting [disease X]*
- I do not think that I would transfer the bacterium/virus to others*
- I doubt whether the measures help*
- Takes too much effort (time, etc.)*
- People in my environment will also not carry out the measures*
- I feel that too little information is provided about the measures*
- For principle reasons (e.g. religion/anthroposophical conviction)*
- Other, namely.....*

**i) Information needs**

The items on information needs provide insight into the topics about which the respondents want to receive information, who they want to receive the information from, and in what manner.

- What are the most important topics about which you want to receive information at this time? (up to 3 answers possible)

- How [disease X] is transmitted*
- What the incubation time is (the time between infection and symptoms)*
- What the symptoms of [disease X] are*
- What can you do to prevent contracting [disease X]*
- The chance that you contract [disease X]*
- The chance that [disease X] is serious*
- How [disease X] can be treated*
- I do not need any information*
- Other, namely.....*

- Who would you like to provide you with this information? (more than one answer possible)

- General practitioner*
- Municipal Public Health Service*
- National authorities (for example, National Institute of Public Health or the Ministry of Health)*
- Unknown*
- Other, namely.....*

- How would you like to receive this information? (up to 3 answers possible)
- A letter from the general practitioner*
  - A letter from the local authority*
  - Information meeting by the Municipal Public Health Service*
  - Information during a talk with the general practitioner*
  - Leaflets in the general practitioner's waiting room*
  - Leaflets from the Municipal Public Health Service*
  - Leaflets from the local authority*
  - Information on the website from the Municipal Public Health Service*
  - Information on the local authority's website*
  - Information in local newspapers*
  - Adverts on the (regional) TV/radio*
  - Information on an internet search engine (e.g. Google)*
  - Other, namely.....*

Finally, you add an open question “do you have any remarks on this questionnaire?” and thank the respondents for their cooperation.

**Appendix:  
How to organise a public survey and translate findings into messages**

In order to gain more insight into the risk perception and experience of the public, a survey can be carried using the given standard questionnaire. Ideally, the survey would be carried out when an infectious disease outbreak is reported to a (local) authority and before communication with the public is initiated. This would provide the best response to the perception and information requirements of the public. However, this is mostly not feasible because communication is needed promptly as soon as an outbreak is reported/discovered. If the outbreak has a long duration, the survey can be carried out repeatedly over time during the outbreak/epidemic, to assess changes in risk perception. If the outbreak has a short duration, the survey can be carried out after the infectious disease is over. This can provide interesting information about the communication which may be useful in any subsequent outbreaks of the infectious disease.

You can arrange public surveys in various ways, with or without the assistance of an external agency. If you call in the assistance of an external agency, you can subcontract many activities. However, if you want to carry out the survey yourself, these are some steps you can take.

1. Determine the scale of the public survey: national, one or more municipalities, or a specific setting. In the case of national and municipal surveys it is important to draw a random sample, e.g. from the population register. If the infectious disease occurs in a specific setting (e.g. school or nursing home), you can request an (e-mail) address file
2. Determine the manner of data collection: on paper via post, via an online questionnaire (the link can be sent in the post or by e-mail), or via the telephone (CATI, computer assisted telephone interviewing). For the latter you may opt for random digit dialing.
3. For processing the questionnaire results, it is best to use statistical software (such as SPSS), or a spreadsheet (such as Excel). In the case of CATI or online questionnaires, the answers are automatically entered in the system.
4. Analyse the answers and translate these into communication messages. The table below shows an example of how answers can be translated into communication messages.  
**Please note:** this table is only intended as illustration.

Questions	Fictitious answers	Fictitious translation into communication messages
Does the respondent have any knowledge of the disease (i.e. mode of transmission, symptoms, preventive measures and treatment)?	Most respondents have sufficient knowledge of the disease.	Urgency of risk communication is low.
	Most respondents are insufficiently aware of the way the disease is transmitted and of measures to prevent the disease.	Urgency of risk communication is high. Aim risk communication at knowledge transfer: how is the disease transmitted and what are the measures to prevent the disease.

Questions	Fictitious answers	Fictitious translation into communication messages
<p>How do respondents regard the disease in terms of how serious it is? Do they feel they are susceptible to contract the disease? How anxious are they?</p>	<p>Most respondents are aware of the seriousness of the disease and make a realistic estimate of the chance of contracting the disease.</p>	<p>Urgency of risk communication is low. Keep risk communication at a small scale. Inform the public via communication tools (letter, leaflet).</p>
	<p>Most respondents perceive the disease as very serious and overestimate the chance of contracting the disease. There is much anxiety and distress.</p>	<p>Urgency of risk communication is high. Possibly organise a meeting. Aim risk communication at removing insecurities and controlling distress. If necessary, respond to any incorrect information that is about to be published.</p>
<p>Do people think they are able and intend to carry out the advised measures? Are people convinced that the measures help to prevent the disease?</p>	<p>Most respondents intend to carry out the advised measures and think they are able to carry out these measures. People are convinced of the effectiveness of the measures.</p>	<p>Urgency of risk communication is low.</p>
	<p>Most respondents do not intend to carry out the advised measures. People doubt the effectiveness of the measures. Respondents state a number of hindering factors.</p>	<p>Urgency of risk communication is high. Aim risk communication at increasing willingness to carry out measures. Provide practical information about how people can carry out the measures. State proven effectiveness of measures. Respond to hindering factors.</p>
<p>What are the information requirements (what are the most important topics people want to receive information about)?</p>	<p>Most respondents indicate that they do not require any more information.</p>	<p>Urgency of risk communication is low.</p>
	<p>Most respondents indicate that they require information about what the symptoms of the disease are, what the preventative measures are, mode of transmission, and treatment.</p>	<p>Urgency of risk communication is high. Aim risk communication at knowledge transfer, give information about the topics that are mentioned.</p>

<b>Questions</b>	<b>Fictitious answers</b>	<b>Fictitious translation into communication messages</b>
Are authorities (such as Municipal Public Health Services, National Institute of Public Health, Ministry of Health) regarded as reliable?	Most respondents consider the authorities to be reliable.	Urgency of risk communication is low.
	Most respondents consider the authorities unreliable.	Try to ascertain in what areas these authorities are regarded as unreliable. Gain the trust of the public by explaining what authorities (such as Municipal Public Health Services, National Institute of Public Health, Ministry of Health) do to minimise risks.
What information searching behaviour do respondents have?	Most respondents do not actively seek information.	Check whether this a consequence being well informed already, then the urgency for risk communication is low.
	Most respondents actively seek information.	Facilitate the public via communication by referring them to reliable sources (such as websites of the National Institute of Public Health, Ministry of Health).