



Regional Public Health Service West-Brabant



National Institute for Public Health
and the Environment
Ministry of Health, Welfare and Sport

Risk assessment tool to prioritize actions in communicable disease control



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Interactive workshop

- **Presentation of the tool (20 min.)**
- **Answering questions**
- **Discussion on how to use the tool in different settings and countries**



Goal of the tool

- To enable public health authorities to prioritize infectious disease for control in their policy and actions plans



Project group:

- project leader
- doctors infectious disease control
- doctor/business administrator
- nurse infectious disease control
- health promoter
- epidemiologist
- policy worker



Process of developing the tool

- Apply for grants from the National Institute for Public Health and the Environment
- Choose the criteria
- Ask experts to grade the importance of the criteria
- Assign for each criterion a weighting factor





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Risk assessment tool

- **Phases of the risk assessment tool:**
 - Phase A: assessment of infectious diseases
 - Phase B: assessment of groups at risk
 - Phase C: assessment of interventions



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Criteria Phase A (infectious diseases)

- A1. Severity of the disease
(a. CFR and b. Degree of illness)**
- A2. Incidence**
- A3. Risk of outbreak**
- A4. Consequences for daily life**
- A5. Cost of the infectious disease**
- A6. Change of public anxiety**



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Criteria Phase A (infectious diseases)

- A7. Possibility of primary prevention
- A8. Possibility of actions to prevent further contamination
- A9. Vaccination coverage

Higher weighting score for the following criteria:

- Severity of the disease
- Incidence
->maximum score 20



- Risk of outbreak
- Consequences for daily life
- Possibility of primary prevention
- Vaccination coverage
->maximum score of 10

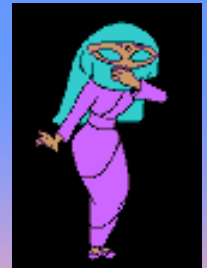
Lower weighting score for the following criteria:

- Possibility of actions to prevent further contamination
->maximum score 5
- Cost of the disease
- Change of public anxiety
->maximum score of 3



Criteria phase B (groups at risk)

- B1. Size of the group at risk
- B2. Chance of contamination
- B3a. The ability to influence
- B3b. Accessibility
- B4. Community acceptance





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Criteria phase B (groups at risk)

- B5. Clustering of risk**
- B6. Need for information**
- B7. Existing quid lines**
- B8. Available interventions**

Higher weighting score for the following criterion:

- Existing guidelines
->maximum score 10

Lower weighting scores:

- Community acceptance
- Clustering of risks
- Need for information
- Available interventions
->maximum score of 3





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Criteria phase C (interventions)

- C1. Proven effectiveness (max.score 5)
- C2. Potential health benefits (score 5)
- C3. Feasibility (score 5)
- C4. Fitting with policy (score 3)

Excel file ([link to excel](#))

Scoring infectious diseases phase A

Criterion + Infectious disease	A1a severity of the disease: CFR	A1b severity of the disease; degree of illness	A2 incidence	A3 risk of outbreak	A4 consequences for daily life	A5 cost of the infectious disease	A6 chance of public anxiety	A7 possibility of primary prevention	A8 possibility of actions to prevent further contamination	A9 vaccination coverage	Total score	Ranking order
mumps	1	1	5	5	1	0	1	5	5	5	19	
erythema inf.	1	1	10	10	1	0	2	0	0	5	30	20
gastroenteritis	1	1	20	10	1	0	1	5	3	5	47	6
hantavirus	5	5	5	1	5	1	2	5	3	5	32	
hepatitis A	1	5	5	5	5	1	2	10	5	5	39	
hepatitis B	5	5	5	5	5	3	1	10	5	5	39	
hepatitis C	10	10	5	1	5	3	1	5	3	5	43	
invasive streptococcal inf.	10	10	5	1	10	3	1	0	3	5	48	4
influenza	5	5	20	10	5	1	1	5	3	5	55	
impetigo	1	1	20	10	1	0	1	0	3	5	42	10
whooping cough	1	5	20	10	5	0	1	5	3	5	50	
legionellosis	10	10	5	5	10	3	3	5	3	5	59	1
lyme disease	5	5	5	1	5	0	1	5	0	5	27	
malaria	5	5	0	1	5	1	1	10	0	5	33	16
measles	5	10	5	1	0	0	10	3	5	5	29	
meningococcal disease	10	10	5	1	10	3	2	0	3	5	44	
MRSA (staphylococcus aureus)	5	5	5	5	5	1	1	0	3	5	35	15
psittacosis	5	5	5	1	5	1	1	0	3	5	31	18
Q fever	5	10	5	5	5	1	5	5	3	5	39	
RS-virus	1	5	20	10	1	0	1	0	0	5	43	8
rabies	10	10	0	1	10	3	1	10	3	5	48	
rubella	1	1	5	1	0	0	10	3	5	5	16	
scabies	1	1	5	5	5	0	2	0	5	5	24	
shigellosis	1	5	5	5	5	1	1	5	3	5	31	
chickenpox	1	1	20	10	1	0	1	5	0	5	39	

- A1a severity of the disease: CFR
- A1b severity of the disease; degree of illness
- A2 incidence
- A3 risk of outbreak
- A4 consequences for daily life
- A5 cost of the infectious disease
- A6 chance of public anxiety
- A7 possibility of primary prevention
- A8 possibility of actions to prevent further contamination
- A9 vaccination coverage of Community Vaccination Programs diseases
- A9 vaccination coverage of not Community Vaccination Programs diseases

Risk assessment tool

Each criterion:

- Explanation of the criterion
- Information sources for assessment
- Questions to determine the score



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Risk assessment tool

What is the yearly incidence of the disease per 100.000 inhabitants?

score 0 = For your country/regional situation not relevant (<1)

score 5 = Rare disease (between 1 and 10)

score 10 = High incidence (10-50)

score 20 = Very high incidence (>50)

Ranking order of all assessed infectious diseases in phase A

Ranking order fase A	Total score	Infectious disease	Go to fase B
1	65	influenza	
2	59	legionellosis	
2	59	hepatitis B	
4	51	whooping cough	
5	49	rabies	
5	49	hepatitis A	
7	48	Invasive streptococcal infect.	
7	48	hepatitis C	
9	47	gastroenteritis	
10	45	meningococcol disease	
11	43	RS-virus	
12	42	impetigo	
13	40	Q fever	
13	40	chicken pox	
15	38	measles	
16	37	hantavirus	
16	37	Lyme disease	
18	36	shigellosis	
19	35	MRSA (staphylococcus aureus)	
20	34	scabies	
21	33	malaria	
22	31	psittacosis	
23	30	erythema inf.	
24	25	mumps	
24	25	rubella	
101	0	0	



Evaluation first editions

- No epidemiological evaluation
- Instrument is a tool for:
 - stimulating discussion within the organization
 - systematical checking of requirements for control
 - positive impulse for thinking about groups at risk
 - critical look on interventions/policy plans
 - tools for collective prevention
 - can lead to innovative interventions
- Few literature available on prioritizing infectious diseases
- No other assessment tools available for our goal





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Third edition

- Standard scores assigned
- No book, only excel file
- Pre criterion before entering phase B:
Is the disease relevant for public health?
- 60 % of the Dutch Regional Public Health Services used the risk assessment tool
- Used for local, regional and provincial policy





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**English version of the
Risk assessment tool is available:
www.rivm.nl (choose English,
search for Risk assessment tool)**

Or contact:

f.konings@ggdwestbrabant.nl



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What's next?

- Validation of the criteria (with rising amount of users)?
- More research on effectiveness of interventions?
- Developing national interventions/toolkits?
- Involving health insurance companies or the public?
- Can the risk assessment tool be used in other countries?



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Questions?