Εκτίμηση Κινδύνου Απειλών για τη Δημόσια Υγεία

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Risk
Safety

Ορισμοί (Ι)

Hazard: anything with the potential to cause harm.

Threat: a potentially damaging event, incident etc

Risk: combination of the consequences (***impact***) of an event or incident and the associated likelihood (***probability***) of a harmful effect to an individual or a population

Difference between a hazard and a risk

A ***hazard*** is anything that may cause harm such as chemicals, electricity, working from height or machinery.

A ***risk*** is the chance, high or low that someone could be harmed by a hazard together with an indication of how serious the harm could be.

Ορισμοί (ΙΙ)

- ***Risk identification***: finding, recognizing and describing a risk
- ***Risk Assessment***: the process of risk identification, analysis and evaluation.
- ***Risk management***: identify, select and implement measures to reduce the level of risk
- ***Risk communication***: interactive exchange of information concerning risks and perceptions among managers, experts, the general public and other stakeholders

Ορισμοί (ΙΙΙ)

Εκτίμηση κινδύνου είναι η διαδικασία μέσω της οποίας γίνεται:

- Αναγνώριση κινδύνου/ απειλής
- Ανάλυση ή αξιολόγηση του κινδύνου που συνδέεται με αυτή την απειλή
- Καθορισμός μέτρων και παρεμβάσεων για περιορισμό ή έλεγχο της απειλής

Εκτίμηση κινδύνου

Χρησιμοποιείται:

- στη Δημόσια Υγεία
- στη Διαχείριση Κρίσεων
- στην Υγιεινή και Ασφάλεια στους χώρους εργασίας
- στην Ιατρική της Εργασίας
- στο Management και τη Διοίκηση επιχειρήσεων

Εκτίμηση κινδύνου για την υγεία και ασφάλεια των εργαζομένων

Η εκτίμηση κινδύνου είναι η διαδικασία αξιολόγησης των κινδύνων για την ασφάλεια και την υγεία των εργαζομένων, που προκύπτουν από υπαρκτούς κινδύνους (πηγές κινδύνου). Πρόκειται για μια συστηματική εξέταση όλων των πτυχών της εργασίας, η οποία μελετά:

- τι θα μπορούσε να προκαλέσει τραυματισμό ή βλάβη
- κατά πόσον θα μπορούσαν να εξαλειφθούν οι πηγές κινδύνου ή όχι,
- ποια προληπτικά ή προστατευτικά μέτρα έχουν θεσπιστεί ή πρέπει να θεσπιστούν για τον έλεγχο των κινδύνων

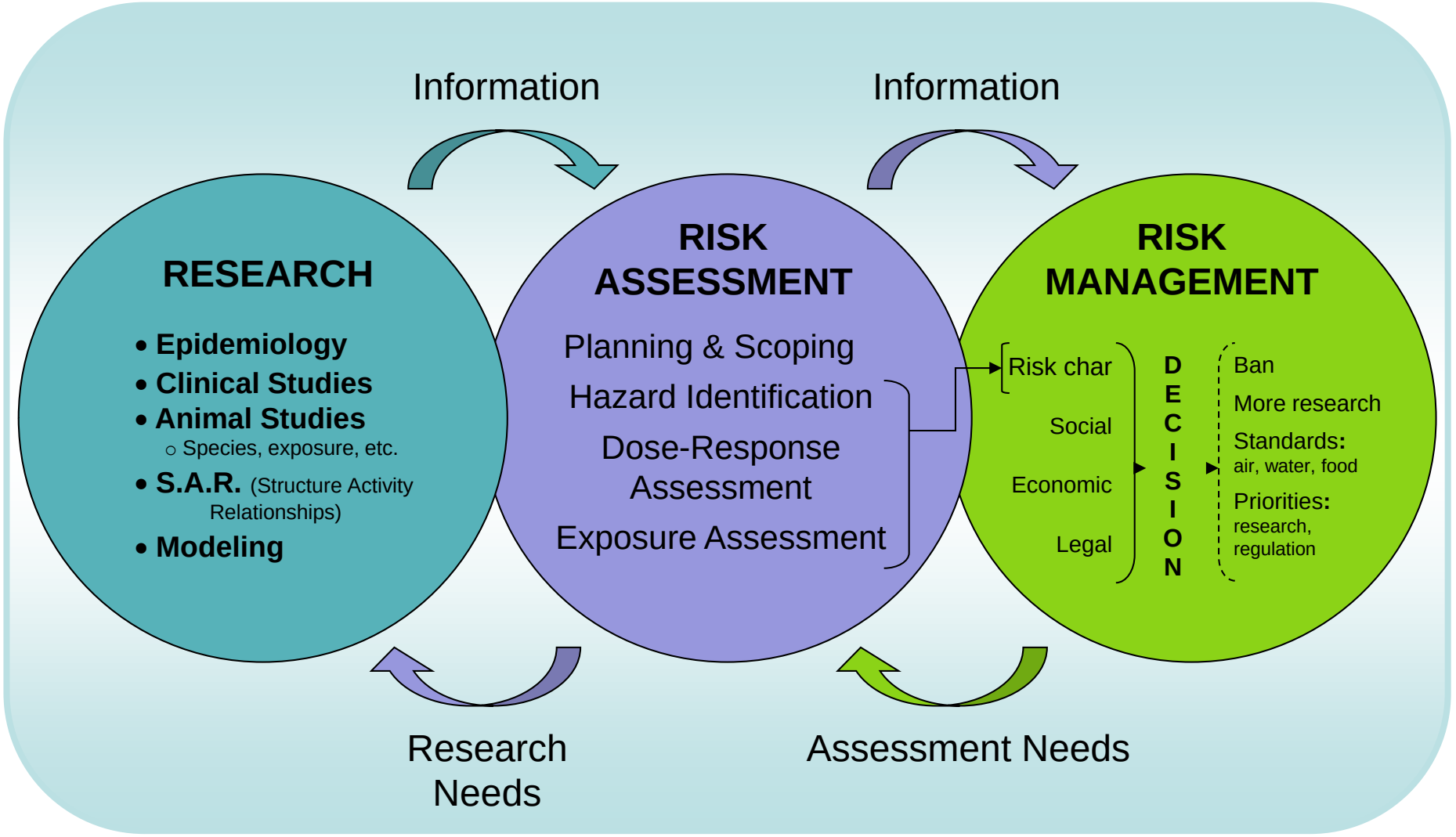
https://oiraproject.eu/el/what-risk-assessment

EPA DEFINITION OF RISK ASSESSMENT

Qualitative and quantitative evaluation of the risk posed to human health and/or the environment by the actual or potential presence and/or use of specific pollutants

From EPA's "Terms of Environment" Glossary

Overview of Human Health Risk Assessment

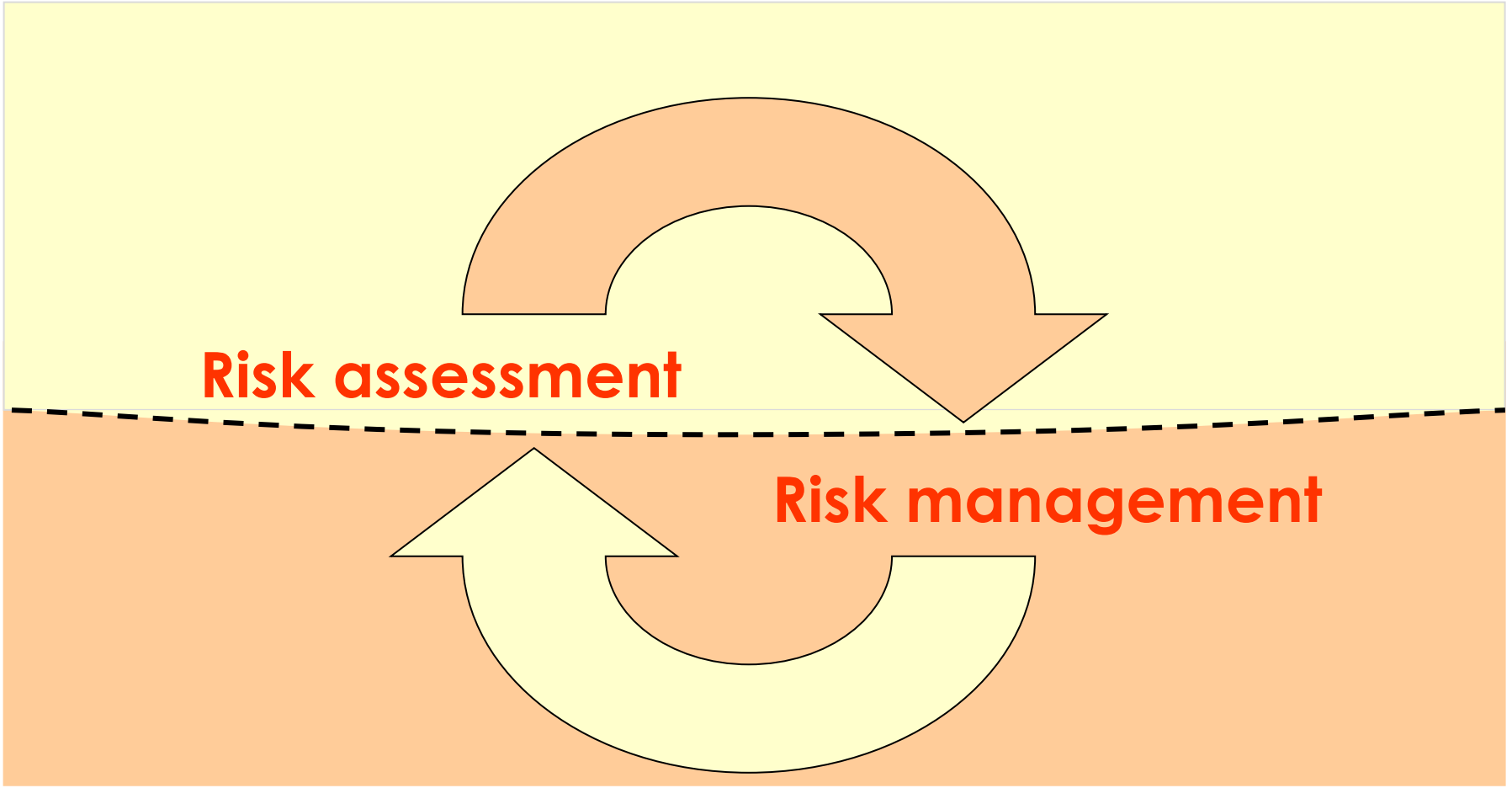



Research and
Data Collection
Risk
Assessment
Risk
Management

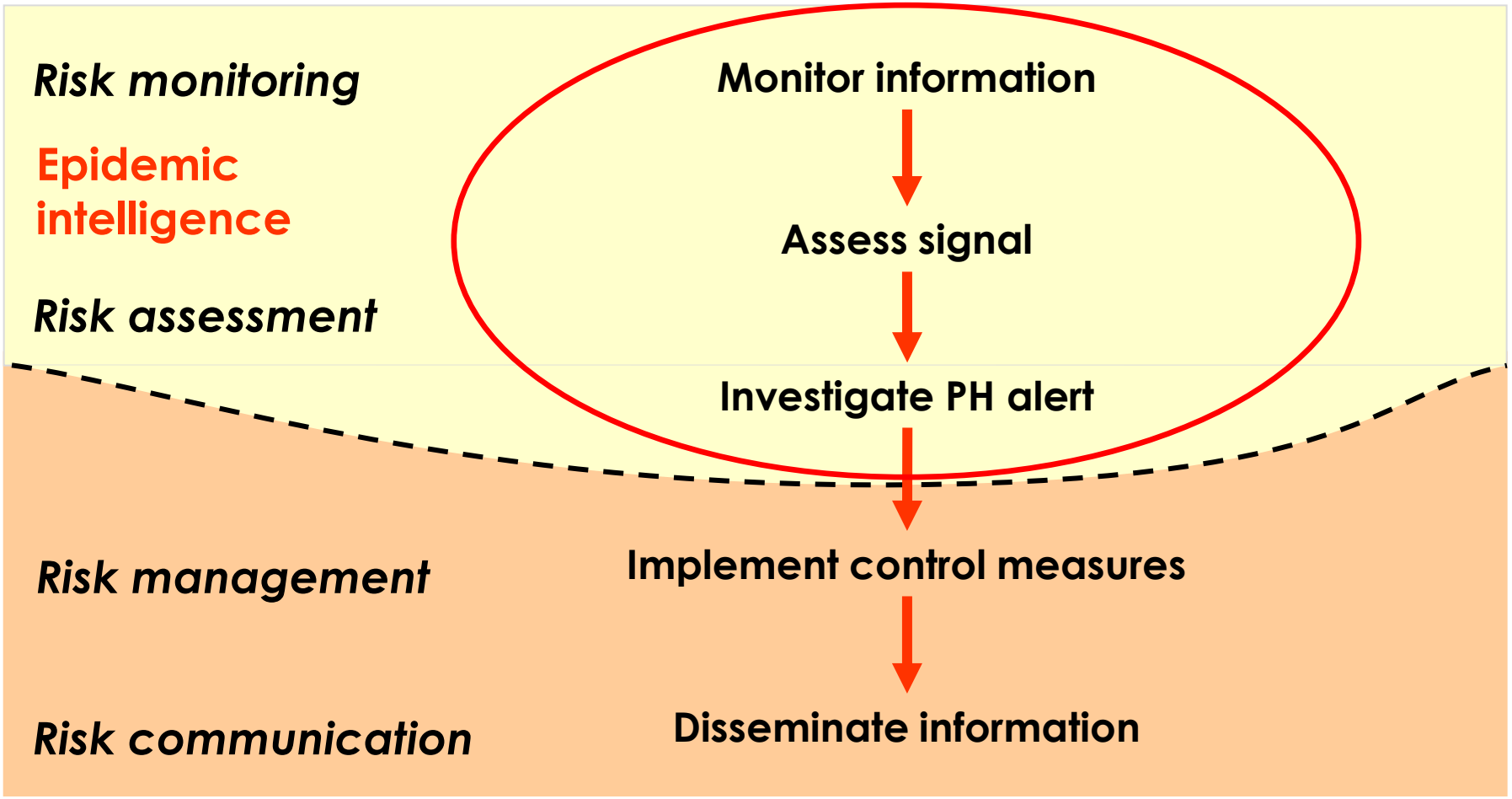
Risk Assessment vs. Risk Management
The grey zone…

ΕΟΔΥ
ECDC
WHO

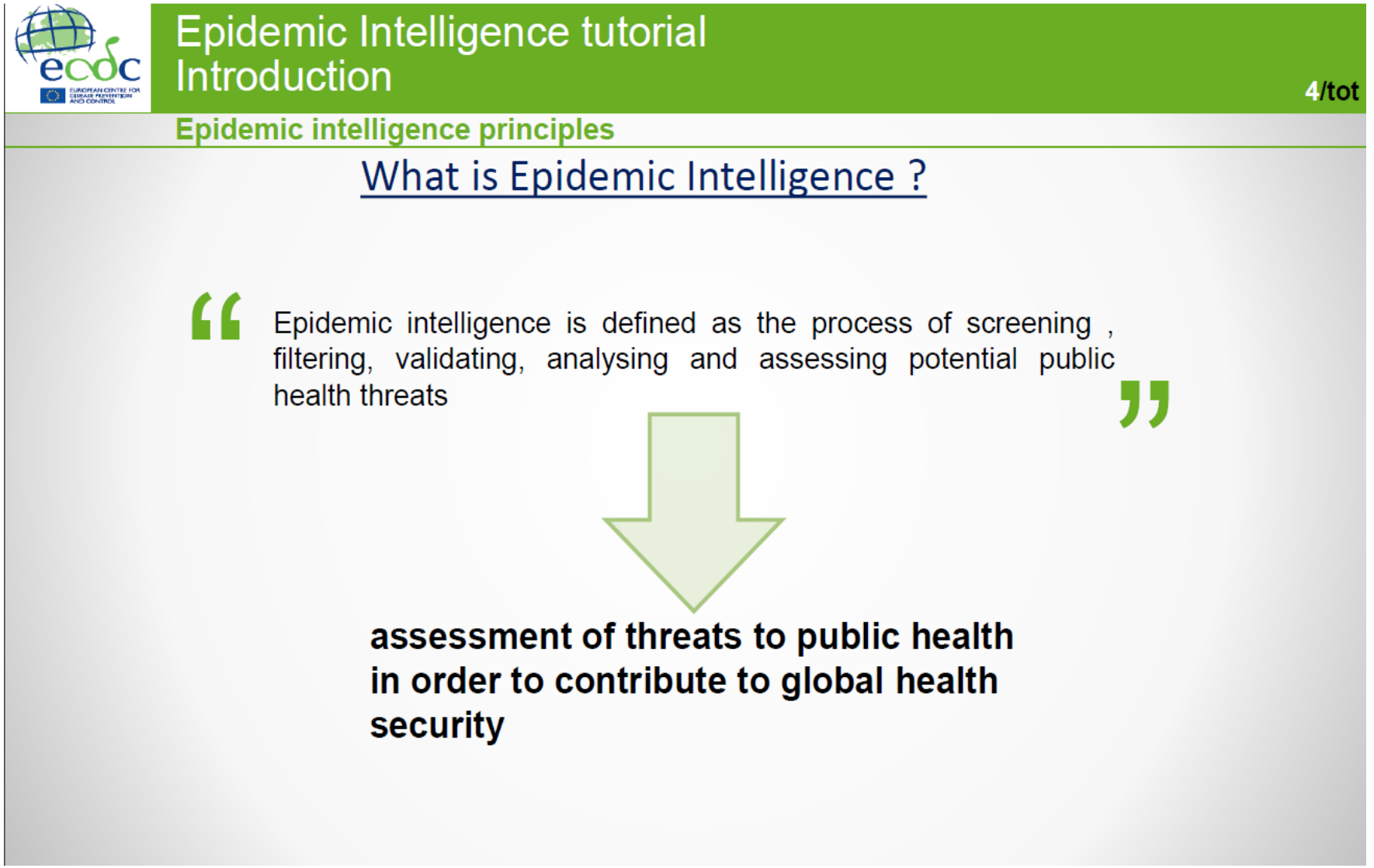
ΕΚΕΠΥ-ΥΥ
Άλλα Υπουργεία
European Commission



Risk Assessment vs. Risk Management

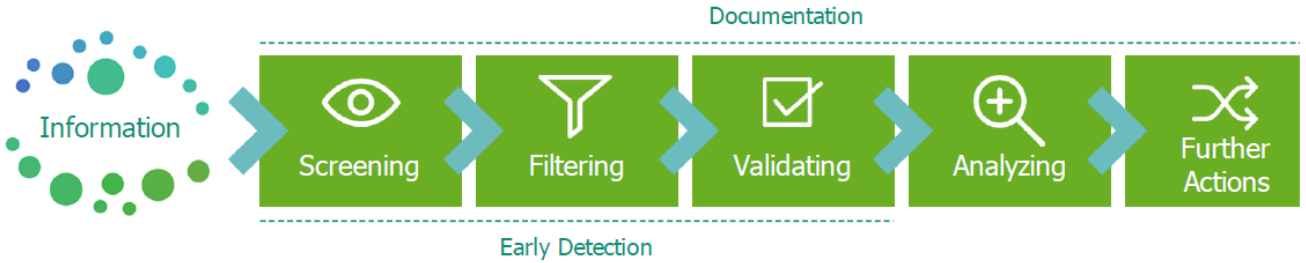


Epidemic Intelligence (EI)-I

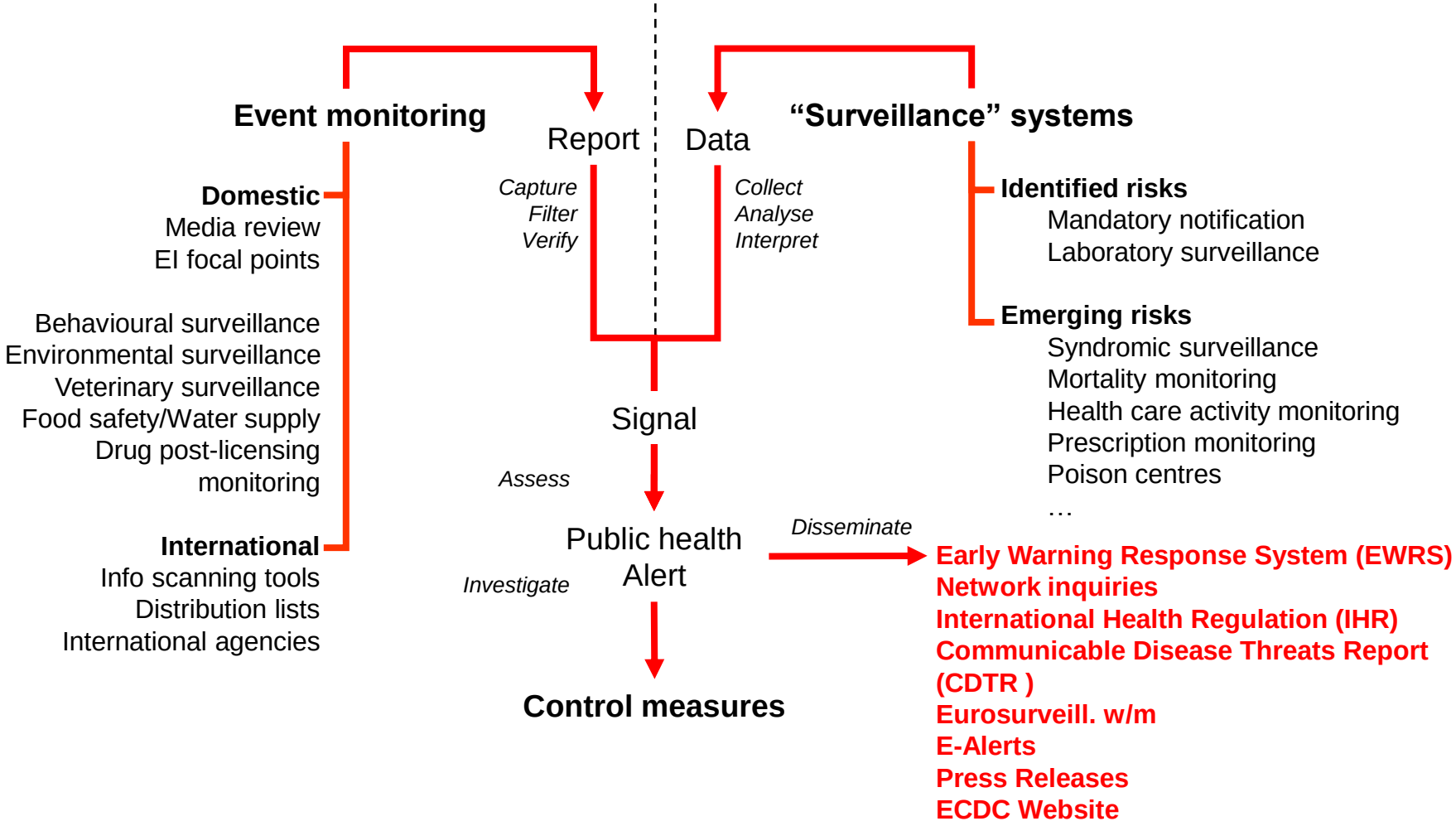


Epidemic Intelligence (EI)-II

EI in the Public Health Cycle



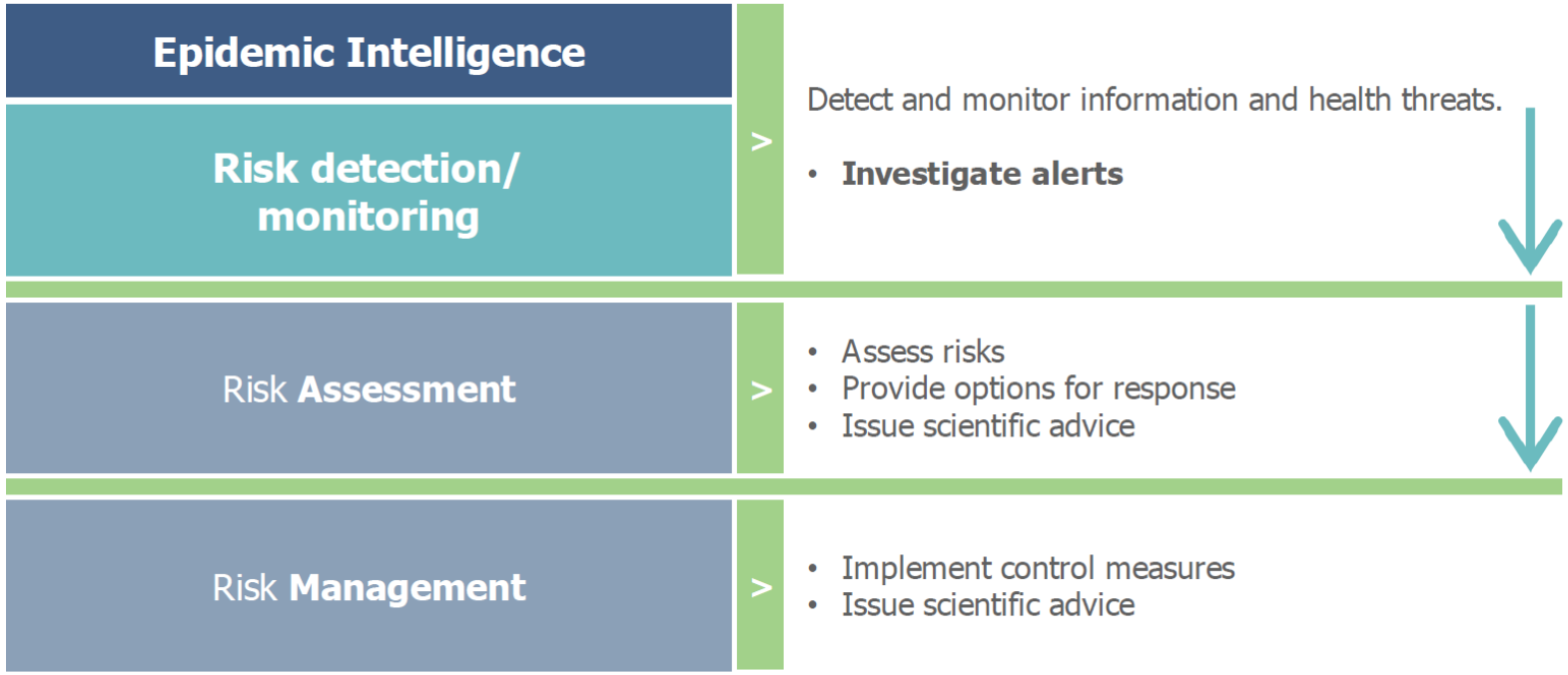
Epidemic Intelligence Framework



From Risk Detection to Risk Management

See module "**EI at EU level**" for more de

Click on the ***green arrows*** to learn more.



Surveillance-
Communicable Disease Threats Report

Εκτίμηση κινδύνου

Εκτίμηση κινδύνου: βασίζεται στην δημοσιευμένη βιβλιογραφία και σε συστηματικές μεθόδους τεκμηρίωσης (evidence-based recommendations)

Ταχεία Εκτίμηση Κινδύνου (Rapid Risk Assessment-RRA)

- βασικό τμήμα της απόκρισης του τομέα Δημόσιας Υγείας
- λόγω έλλειψης δεδομένων και ανάγκης ταχείας εκτίμησης, μπορεί να βασίζεται σε δεδομένα παρατήρησης (observational) ή ακόμη και σε συμβουλές (expert opinion) ή τη συναίνεση (consensus) εμπειρογνωμόνων
- Αρχές: διαφάνεια (transparency), αλήθεια (explicitness) και αναπαραγωγιμότητα/ επαναληψιμότητα (reproducibility)
- Re-assessment

Διαδικασία

- Συλλογή και κριτική ανασκόπηση των διαθέσιμων δεδομένων
- Συνήθως όχι άριστης ποιότητας (όχι RCTs etc)
- Ταυτοποίηση των κενών και των ερωτήσεων/ερωτηματικών
- Επικαιροποίηση
- Εκτίμηση της ανάγκης για απόκριση (είδος, πόροι, προτεραιότητες κλπ)
- Πληροφορίες για την επικοινωνία με κοινό και άλλους

Φάσεις ταχείας εκτίμησης κινδύνου

Φάση 0: Προετοιμασία

Φάση 1: Συλλογή πληροφορίας για το συμβάν, απειλή κλπ

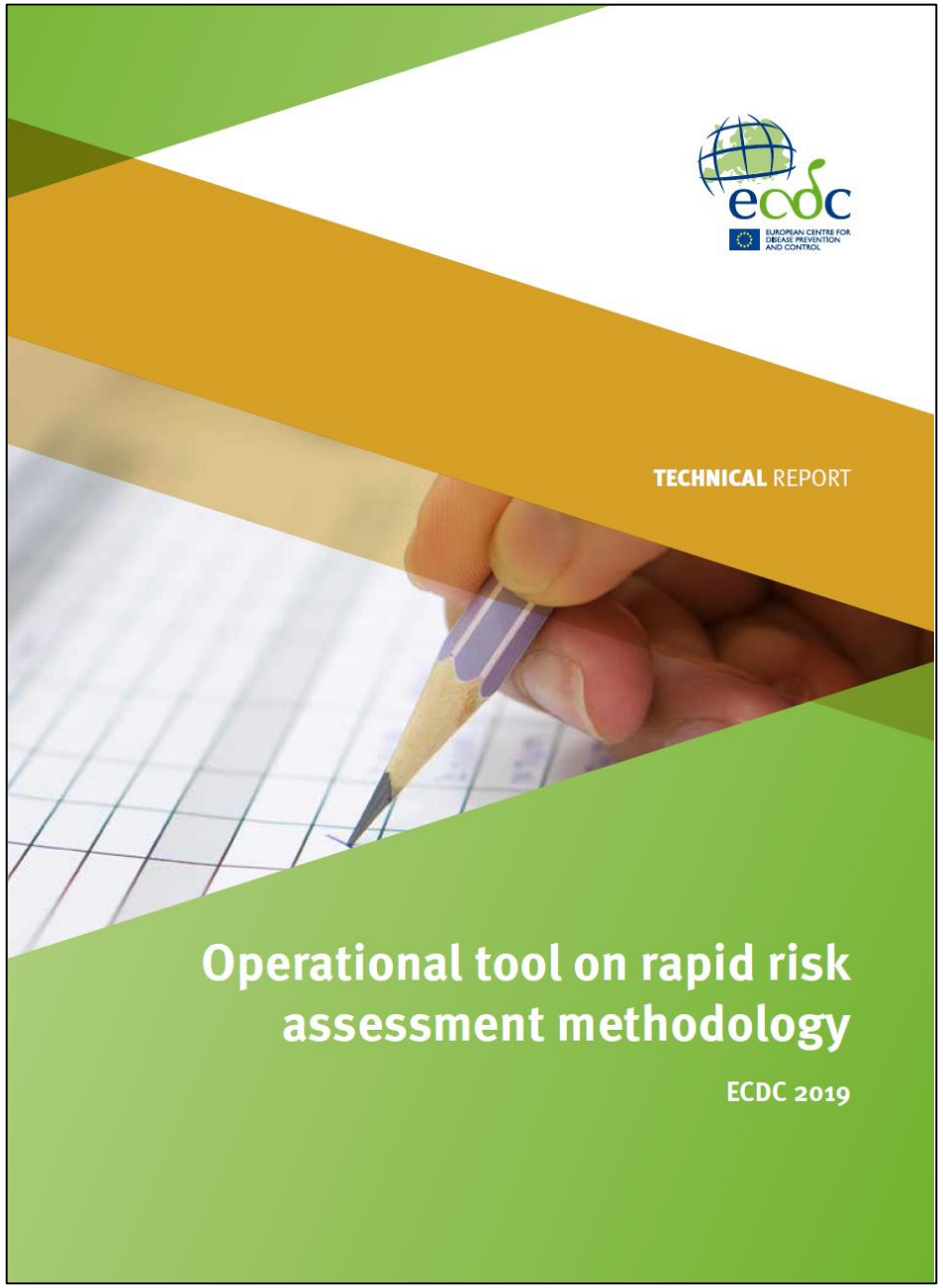
Φάση 2: Βιβλιογραφία και άλλη πληροφορία για τον αιτιολογικό παράγοντα

Φάση 3: Εξαγωγή δεδομένων

Φάση 4: Αξιολόγηση των δεδομένων

Φάση 5: Εκτίμηση κινδύνου


ecdc
Low
Moderate
High
TECHNICAL DOCUMENT
Operational guidance on rapid risk assessment methodology
www.ecdc.europa.eu


ecdc
EUROPEAN CENTRE FOR DISEASE PREVENTION AND CONTROL
TECHNICAL REPORT
Operational tool on rapid risk assessment methodology
ECDC 2019

Checklist 1: Incident/event information

- Who reported the incident/event?
  - Name
  - Organisation
  - Contact details
- How has the incident/event come to light?
- What is the primary diagnosis?
- Has the aetiologic agent been confirmed?
- Is this illness endemic in this country?
- What is known about the exposure (means/mode of transmission)?
- Where have cases occurred? Are the cases clustered in time and/or space?
- Over what time period have cases been detected?
- Who are the cases? Are they from a particular social group or setting?
- How many cases are recognised at the moment?
- What are the symptoms experienced by the cases?
- Have any of the cases been seen by a specialist clinician? What is their working diagnosis findings? Case definition?
- Have specimens been taken and where have they gone for analysis? Which tests have be which tests are planned? When will results be available? What are the limitations of the te need to be considered?
- Have there been any deaths? Autopsy results?
- Have the ambulance service, local hospitals, and doctors (including private practice) been
- Where are the cases being managed?
- What is being done to manage cases at the moment?
  - What treatment, if any, has been instituted?
- Who else has possibly been exposed and might be at risk of developing this illness? Has a been made?
- Are there any conditions occurring which might increase the risks to others, e.g. healthcar exposed, ongoing incident, weather forecasts? What is being done to prevent the develop cases at the moment? For example:
  - Protection of emergency and healthcare staff
  - Quarantine
  - Prophylactic treatment
- What agencies are involved at the moment? Get contact details. Has any agency declared incident? Who else has been informed?

Source: ECDC

Checklist 2: Basic disease information/determinants

- Occurrence: time, place and person
  - Geographical distribution: is disease endemic in country?
  - If not, what are routes of introduction, e.g. food/bird/animal/human?
  - Seasonal/temporal trends
- Reservoir (if zoonotic, which species affected – will animals be symptomatic?)
- Susceptibility: are specific risk groups at increased risk of exposure/infection, e.g.:
  - specific age groups (e.g. children, elderly);
  - occupational groups;
  - travellers;
  - those with impaired immunity, e.g. immunosupression/chronic disease; pregnant women;
  - others, e.g. as a result of specific recreational or other activities.
- Infectiousness
  - Mode of transmission
  - Incubation period
  - Period of communicability
  - Length of asymptomatic infection
  - Reproductive rate
- Clinical presentation and outcome
  - Disease severity: morbidity; mortality; case fatality
  - Complications/sequelae
  - Are specific risk groups at increased risk of severe disease/complications (consider children, elderly, those with immunosupression/chronic disease, pregnant women, occupational/recreational risks)
- Laboratory investigation and diagnosis
  - Laboratory tests available
  - Test specifications (sensitivity, specificity, PPV, quality assurance) and limitations (cross-reactivity, biosafety concern)
- Treatment and control measures
  - Treatment (efficacy?)
  - Prophylaxis (vaccination/other)
  - Other control measures (e.g. quarantine, withdrawal of food product, culling animals)
- Previous outbreaks/incidents
  - Novel transmission routes

Source: ECDC

Grading of evidence and level of confidence

Quality of evidence = confidence in information; design, quality and other factors assessed and judged on consistency, relevance and validity. **Grade:** good, satisfactory, unsatisfactory	**Examples of types of information/evidence**
Good Further research unlikely to change confidence in information.	• Peer-reviewed published studies where design and analysis reduce bias, e.g. systematic reviews, randomised control trials, outbreak reports using analytical epidemiology • Textbooks regarded as definitive sources • Expert group risk assessments, or specialised expert knowledge, or consensus opinion of experts
Satisfactory Further research likely to have impact on confidence of information and may change assessment.	• Non-peer-reviewed published studies/reports • Observational studies/surveillance reports/outbreak reports • Individual (expert) opinion
Unsatisfactory Further research very likely to have impact on confidence of information and likely to change assessment.	• Individual case reports • Grey literature • Individual (non-expert) opinion

Grading of evidence and level of confidence

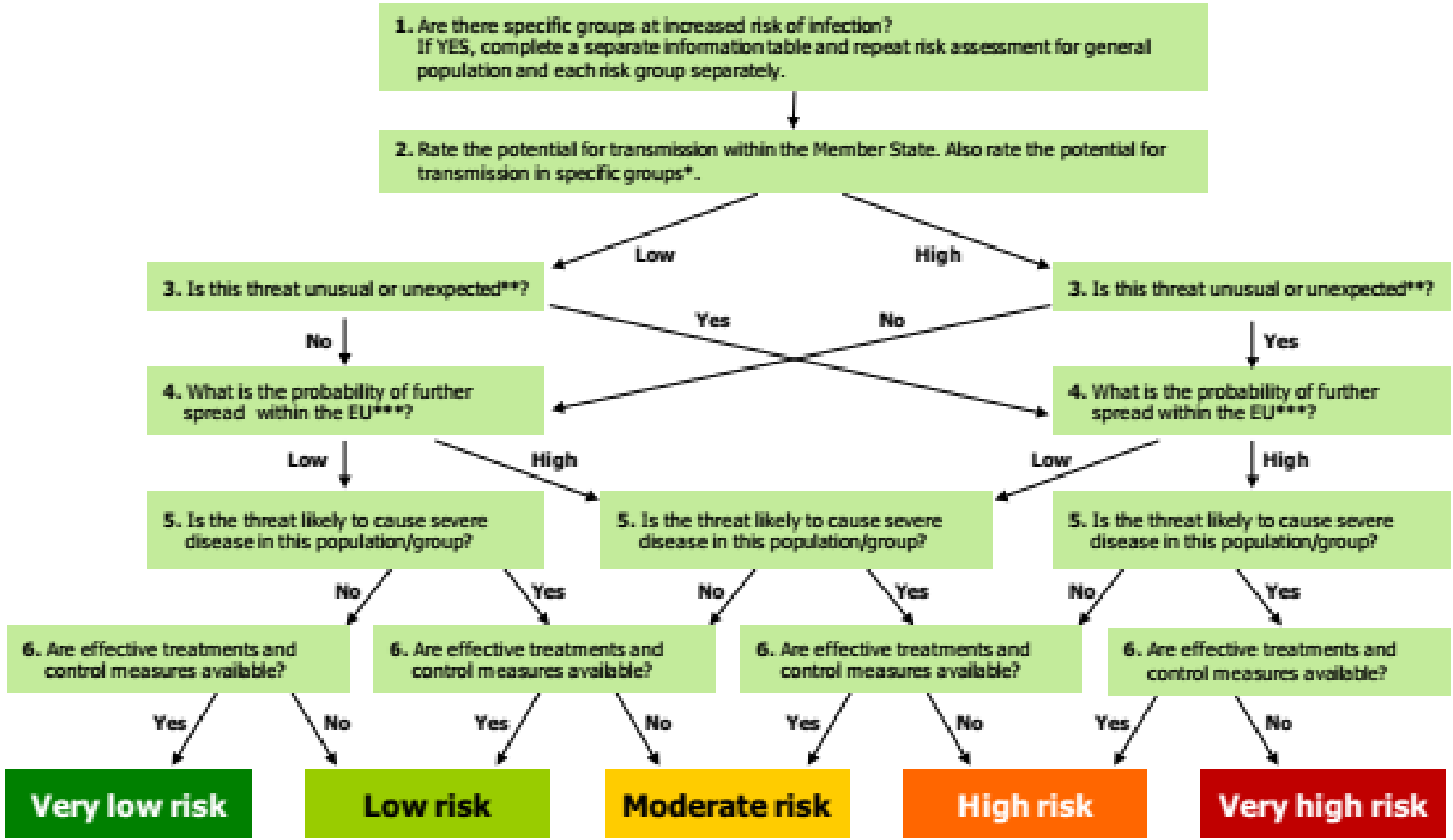
Box 2: Level of confidence

Quality of evidence	Confidence
Mostly 'unsatisfactory'	Unsatisfactory (little poor quality evidence, uncertainty/ conflicting views amongst experts, no experience with previous similar incidents)
Mostly 'satisfactory'	Satisfactory (adequate quality evidence, including consistent results published only in grey literature; reliable source(s); assumptions made on analogy; and agreement between experts or opinion of two trusted experts)
Mostly 'good'	Good (good quality evidence, multiple reliable sources, verified, expert opinion concurs, experience of previous similar incidents)

Combined quantitative approach

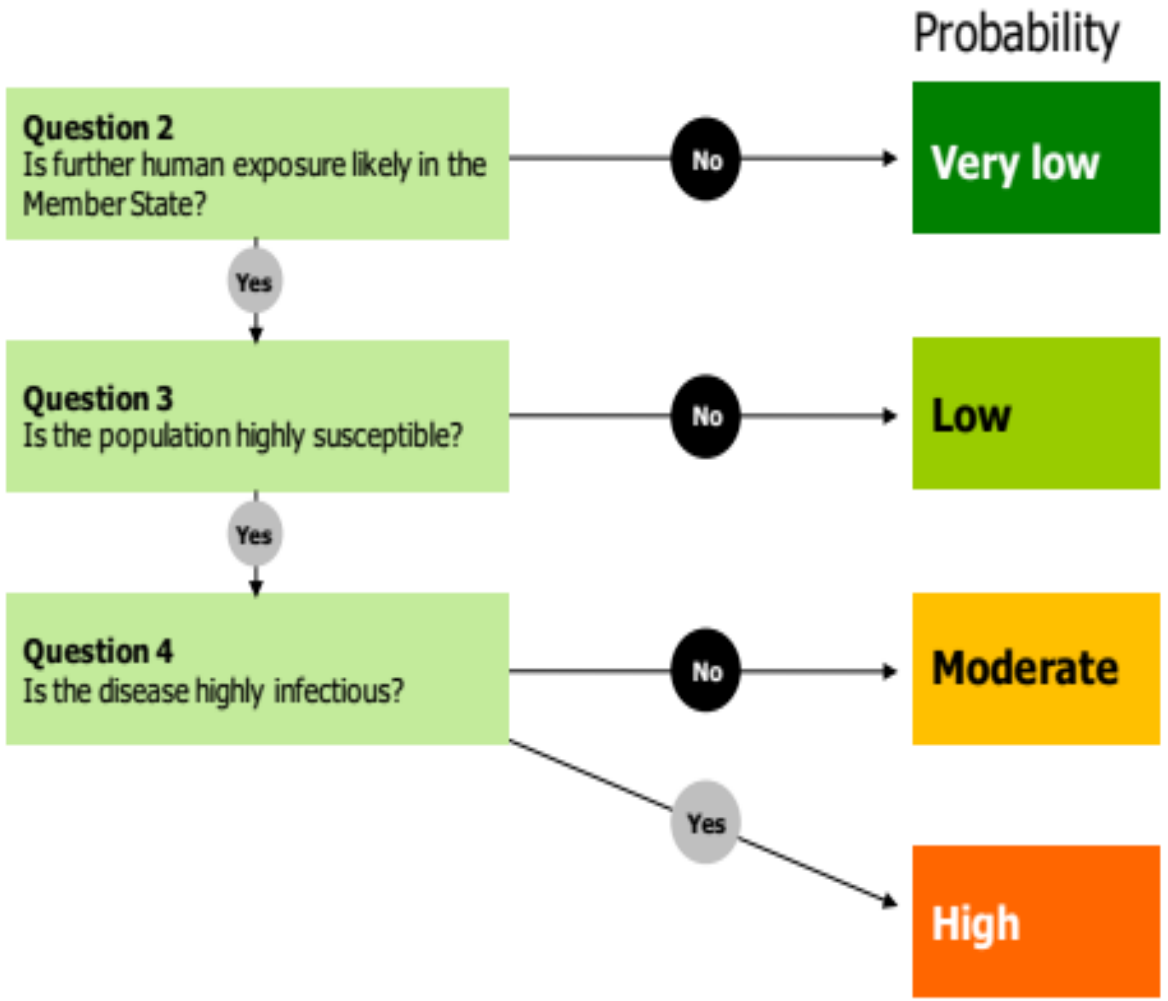
Figure 1: Single algorithm combining probability and impact resulting in single overall risk level (option 1)

If in doubt (e.g. due to insufficient evidence), select the higher-risk option.

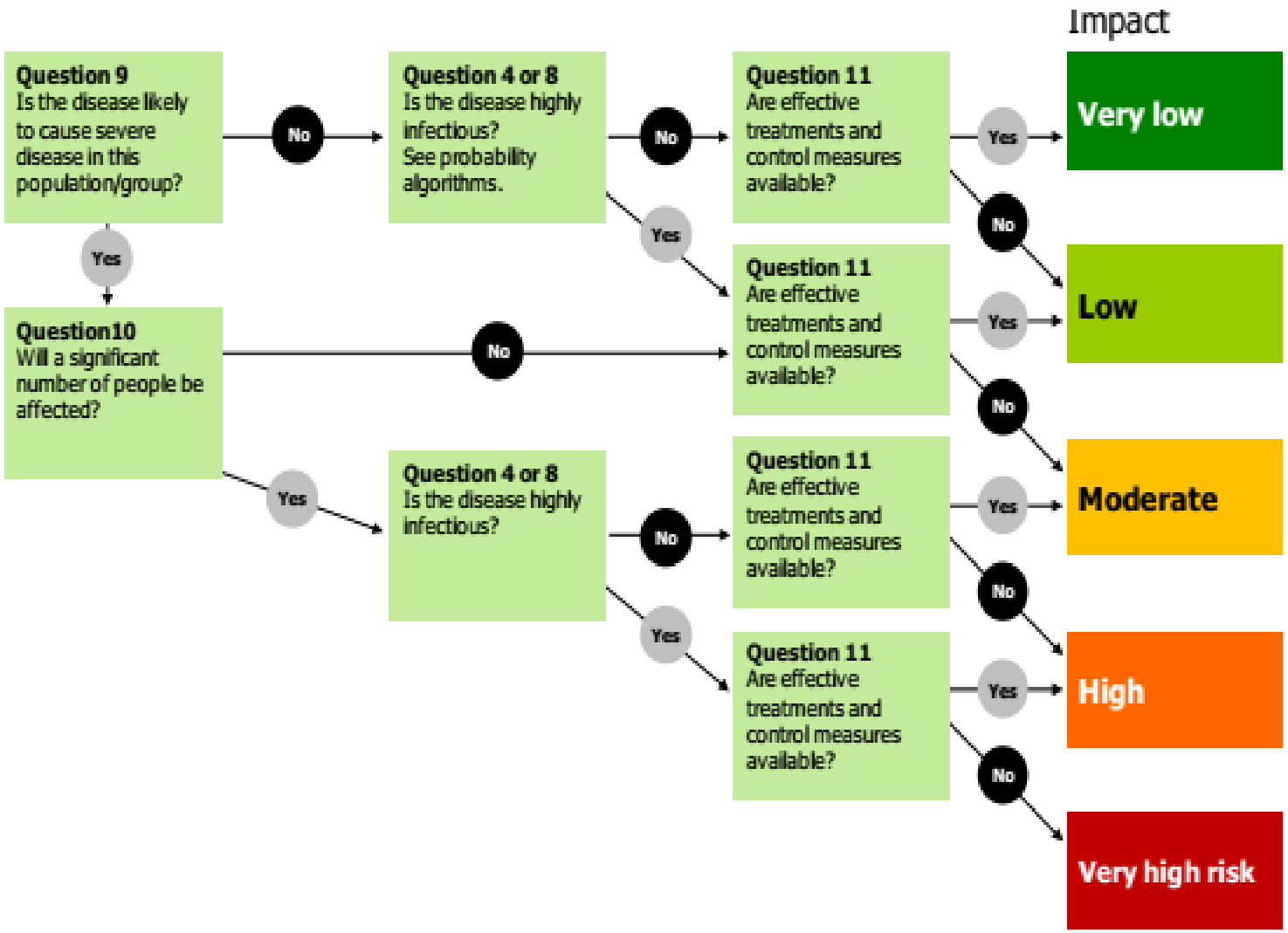


Source: ECDC

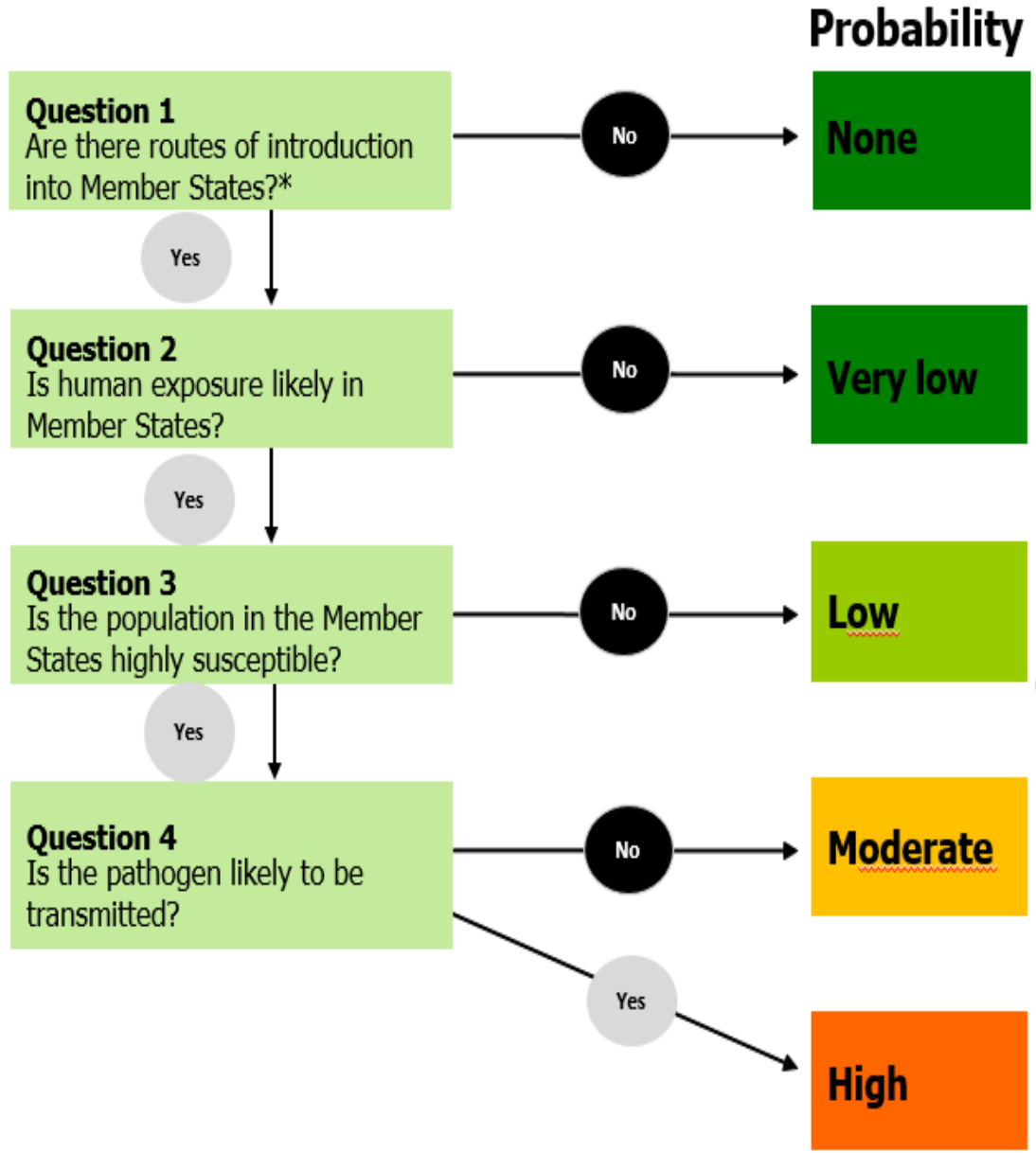
Question 1
If there are specific groups at increased risk of infection (question 1 in table 2 answered with YES), please conduct separate risk assessments: one for the general population and one for every risk group.

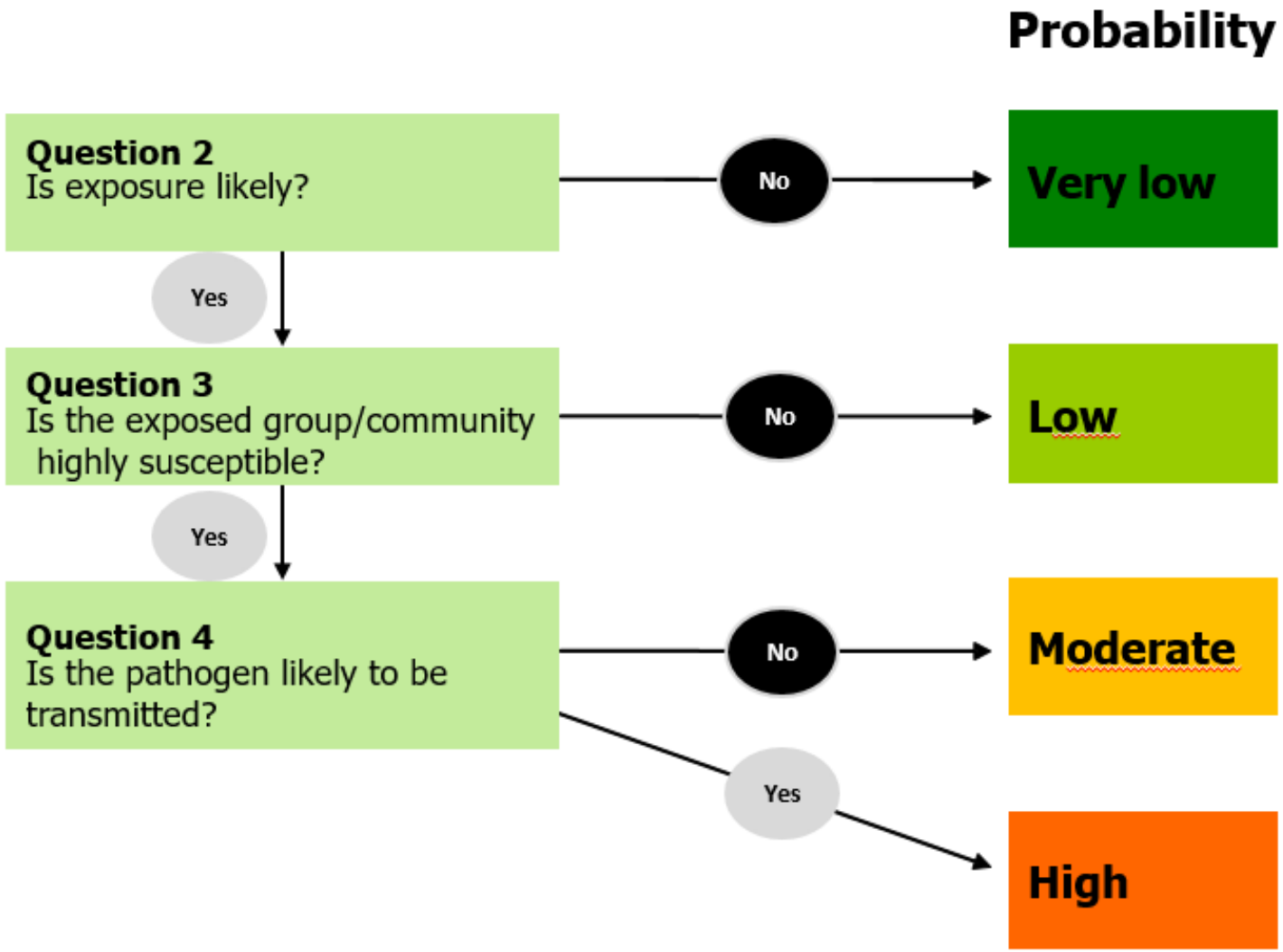


Source: ECDC


Impact
Question 9
Is the disease likely to cause severe disease in this population/group?
No
Yes
Question10
Will a significant number of people be affected?
No
Yes
Question 4 or 8
Is the disease highly infectious?
See probability algorithms.
No
Yes
Question 4 or 8
Is the disease highly infectious?
No
Yes
Question 11
Are effective treatments and control measures available?
Yes
No
Question 11
Are effective treatments and control measures available?
Yes
No
Question 11
Are effective treatments and control measures available?
Yes
No
Question 11
Are effective treatments and control measures available?
Yes
No
Very low
Low
Moderate
High
Very high risk

Source: ECDC


Probability
Question 1
Are there routes of introduction into Member States?*
No
None
Yes
Question 2
Is human exposure likely in Member States?
No
Very low
Yes
Question 3
Is the population in the Member States highly susceptible?
No
Low
Yes
Question 4
Is the pathogen likely to be transmitted?
No
Moderate
Yes
High


Probability
Question 2
Is exposure likely?
No
Very low
Yes
Question 3
Is the exposed group/community highly susceptible?
No
Low
Yes
Question 4
Is the pathogen likely to be transmitted?
No
Moderate
Yes
High

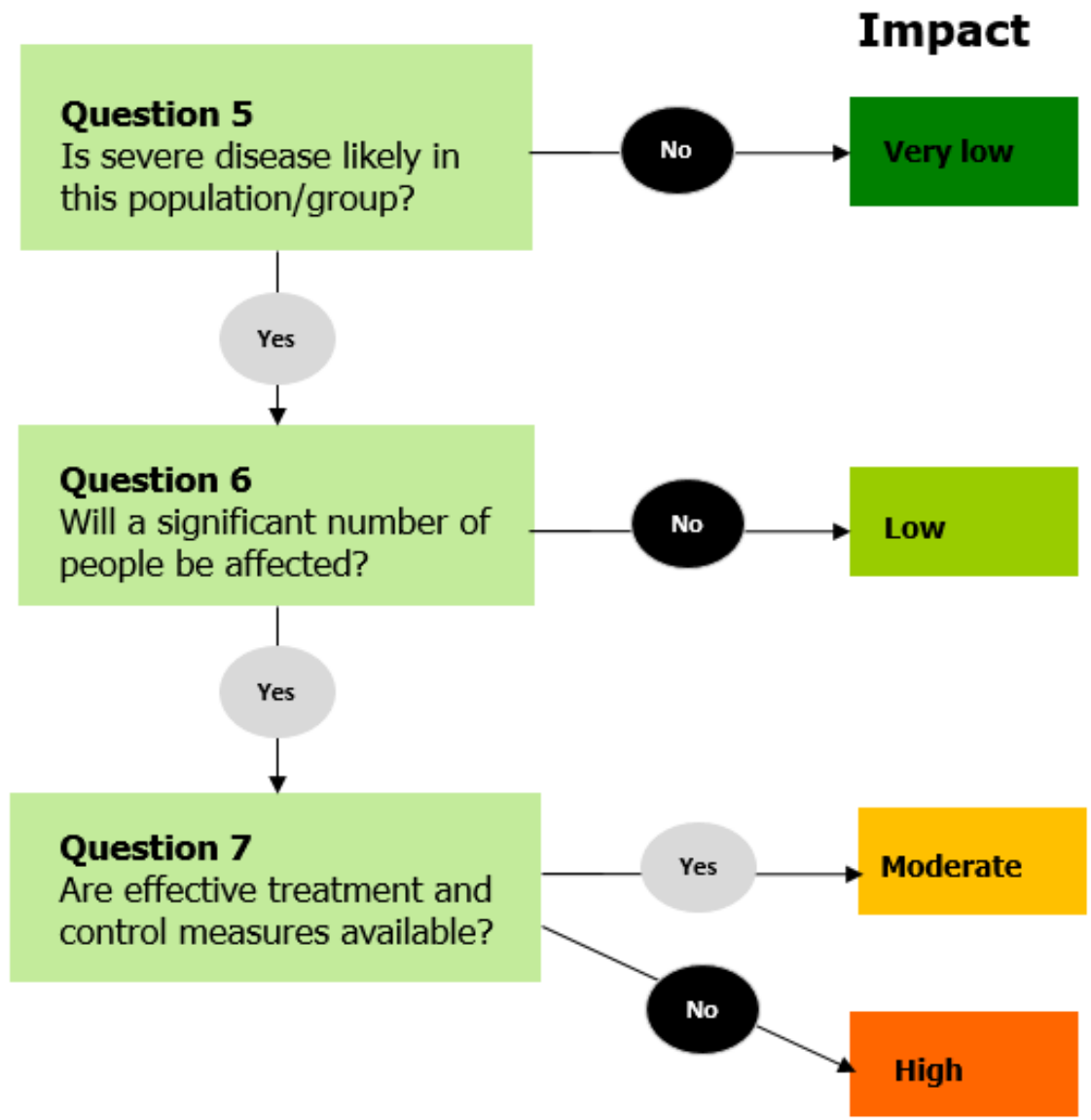

Impact
Question 5
Is severe disease likely in this population/group?
No
Very low
Yes
Question 6
Will a significant number of people be affected?
No
Low
Yes
Question 7
Are effective treatment and control measures available?
Yes
Moderate
No
High

Figure 2.3: Part C: risk matrix

Probability (part A) x impact (part B) = risk (part C)

Impact \ Probability	Very low	Low	Moderate	High
Very low	Very low risk	Low risk	Low risk	Moderate risk
Low	Low risk	Low risk	Moderate risk	Moderate risk
Moderate	Low risk	Moderate risk	Moderate risk	High risk
High	Moderate risk	Moderate risk	High risk	High risk
Very high	Moderate risk	High risk	High risk	Very high risk

Probability x Impact = *Risk*

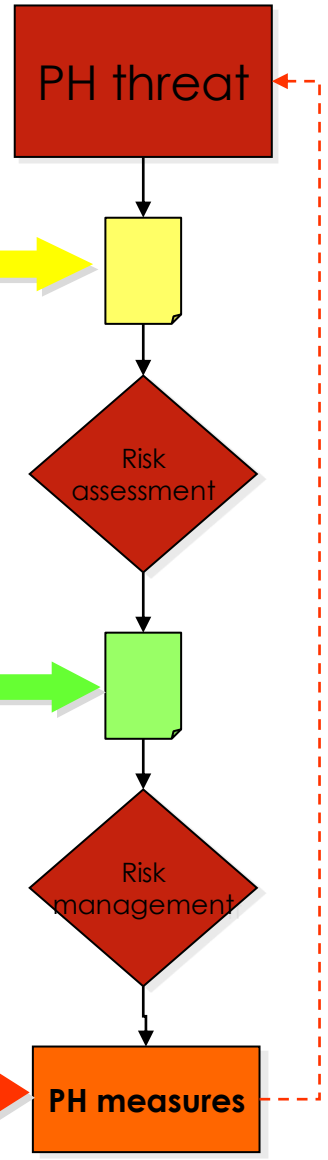
Source: ECDC

Crisis management enhanced functions

Epidemic intelligence
- Monitoring of PH situation
- Geostatistical analysis
- Publication of situation reports

Risk analysis
- Scientific knowledge base
- Discussion forum
- Agreed opinion on PH response

Political management
- Document management
- Collaborative on official documents
- Contact and Agenda management
- Decisions / recommendations



Source: ECDC

Main ECDC outputs

RAPID RISK ASSESSMENT

- ✓ Aim: support the countries and the EC in their preparedness and response to a public health threat
- ✓ It provides a timely summary and risk assessment of a public health threat for EU/EEA countries related to a specific event
- ✓ It includes potential options for response

ECDC- Rapid Risk Assessment- Παράδειγμα

Summary

In recent weeks, respiratory syncytial virus (RSV) circulation in the EU/EEA has intensified, with increasing transmission rates in all population groups and an earlier-than-usual start of the season. Several EU/EEA countries are experiencing high RSV circulation and the number of severe acute respiratory infections (SARI) due to RSV is increasing. At this time of the year RSV infections are not unusual, however this year there is more RSV activity and it began earlier than in pre-COVID-19 seasons.

RSV infection generally causes mild disease, but the severity of clinical manifestations varies considerably. Those most affected by RSV-associated severe disease are children below five years (particularly infants under six months), adults aged 65 years and above and individuals with specific comorbidities. Hospitalisations caused by RSV and other respiratory pathogens, such as influenza virus and SARS-CoV-2, are increasing in a number of Member States, and are already placing pressure on healthcare systems.

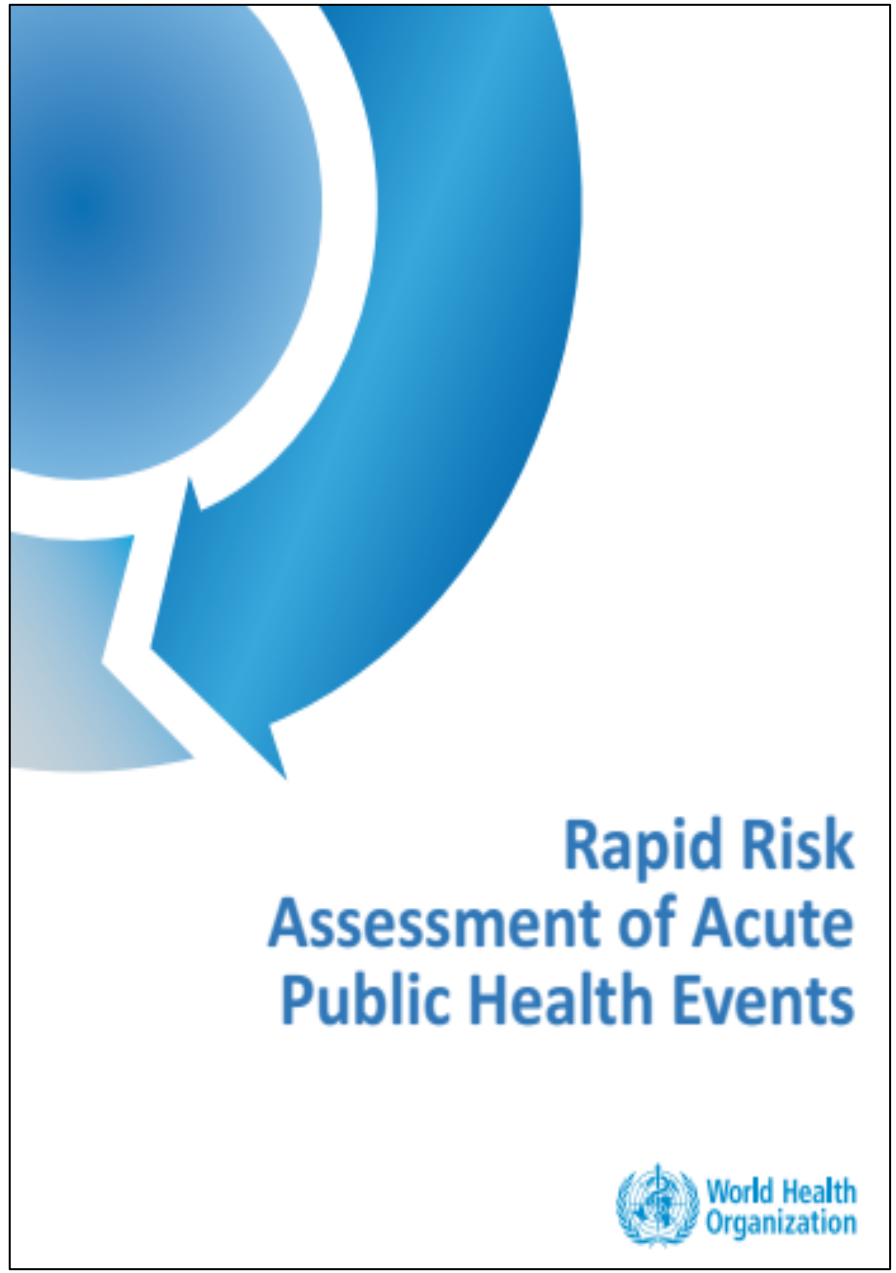
Although several vaccine candidates are in clinical development for infants, pregnant women and older adults, there are currently no licensed vaccines available to prevent RSV infection. Effective passive immune prophylaxis is available and this is recommended for high-risk infants. At present, there are no specific therapeutic options for RSV infection, and treatment of hospitalised patients is mainly supportive.

Combining the probability of infection and the impact of the associated disease, the risk from RSV infection is assessed as **low** for the general population, and **high** for infants under six months, adults 65 years and above and individuals with specific comorbidities.

The risk that co-circulating RSV, influenza virus and SARS-CoV-2 will place pressure on EU/EEA healthcare systems in the coming weeks is assessed as **high**.

Given the increased circulation of respiratory viruses, including RSV, the main options for response for EU/EEA national public health authorities are set out below.

- Implement risk communication activities for the public, including active promotion of vaccinations against seasonal influenza and COVID-19.
- Increase awareness among healthcare professionals to ensure timely diagnosis of cases and enhance hospital preparedness to manage increased patient load in outpatient and inpatient settings. This is particularly important for paediatric hospitals and intensive care units, but also for long-term care facilities (LTCF).
- Provide RSV prophylaxis for high-risk infants in accordance with national guidelines.
- Implement appropriate infection prevention and control (IPC) measures based on the local epidemiological situation, particularly for vulnerable groups within healthcare facilities, including LTCFs.
- Promote good hygienic practices in the community and consider appropriate non-pharmaceutical interventions (NPIs), including targeted guidance for risk groups and care-givers of vulnerable groups. This includes staying home when ill; good hand and respiratory hygiene, including appropriate use of face masks; appropriate ventilation of indoor spaces; use of teleworking where possible, and avoiding crowded public spaces, including public transportation, to reduce the spread of RSV and other respiratory viruses.
- Where possible, implement and improve surveillance of RSV and testing for respiratory pathogens. ECDC encourages Member States to continue reporting influenza, SARS-CoV-2, and RSV infection and hospitalisation data from sentinel and non-sentinel sources.


Rapid Risk
Assessment of Acute
Public Health Events
World Health
Organization

Πόσο έτοιμοι είμαστε;

Βιβλιογραφία

- ECDC. Operational Guidance on rapid risk assessment methodology. Stockholm: ECDC; 2011
- Emerging zoonoses: Early warning and surveillance in the Netherlands http://www.rivm.nl/bibliotheek/rapporten/330214002.html
- Mitigating Spatial Relevant Risks in European Regions and Towns" (MiSRaR). www.misrar.eu
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