Centre for Biosecurity and Biopreparedness

Denmark

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Government

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Ministry of Health and Prevention

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State Serum Institute

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Centre for Biosecurity and Biopreparedness

Centre for Biosecurity and Biopreparedness (CBB)

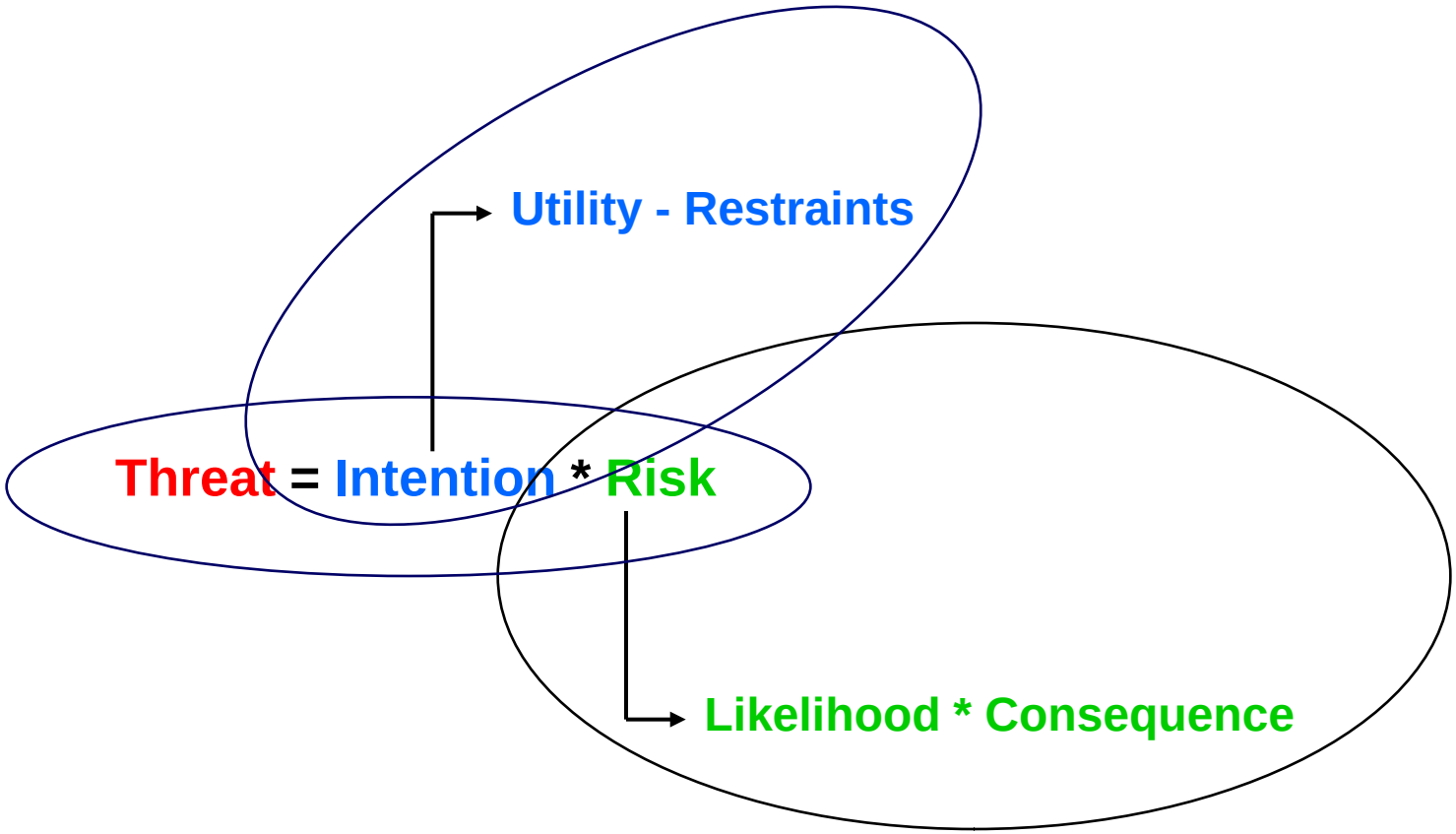
- **Biopreparedness and Biosecurity**

- Diagnostics
- Medical counter-measures
- Early warning
- Threat assessment
- Expertise

Biosecurity Act

- Biosecurity Act 17th of June 2008
  - Biological agents
    - Genetic elements and genetically modified organisms
  - Means of dissemination
  - Related material
    - Equipment and technology

Threat assessment for specific biological agents



Y-axis = Relative likelihood that someone will obtain an agent in DK and the relative likelihood that someone can produce a biological weapon

Historic use

+

Availability

+

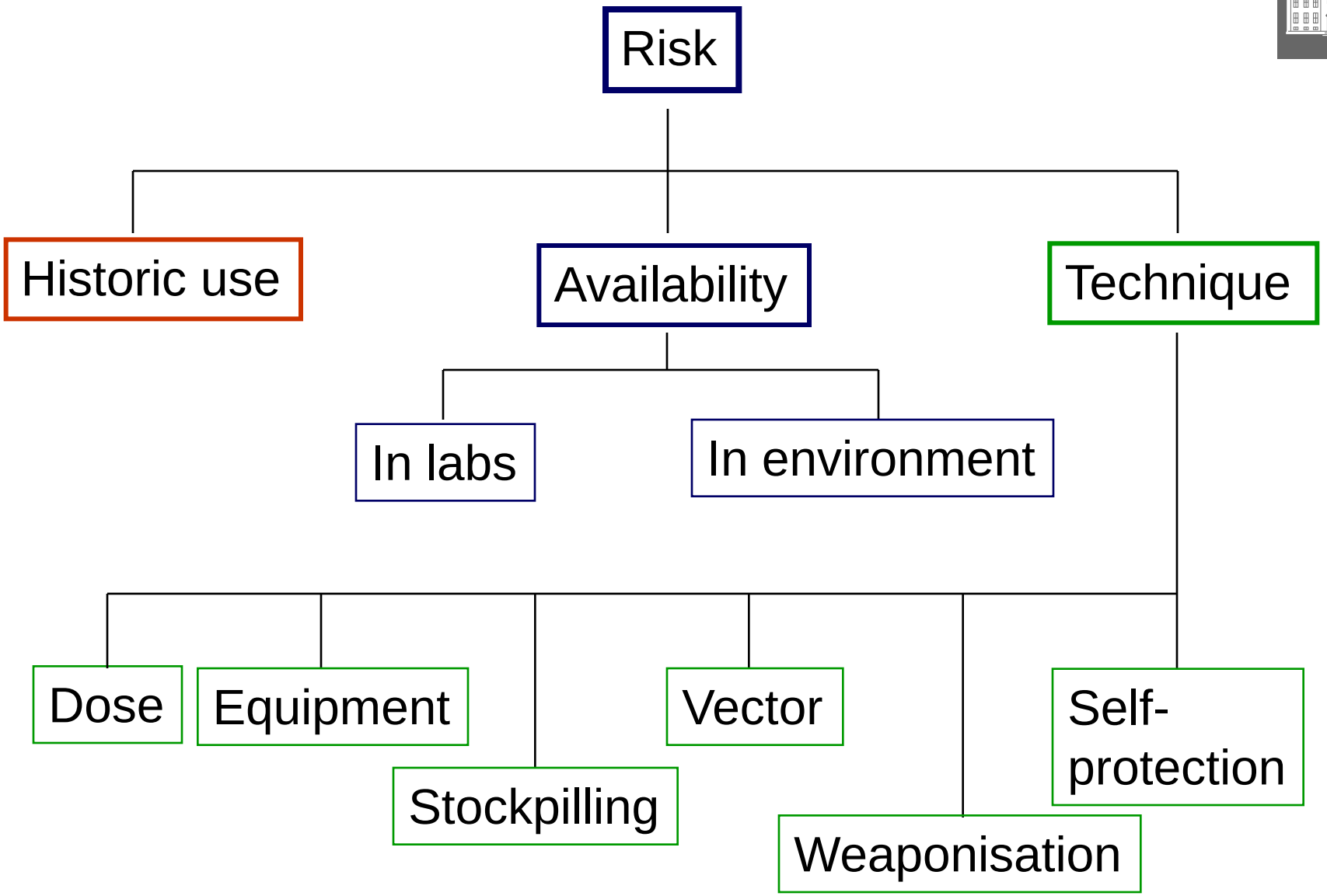
Technique

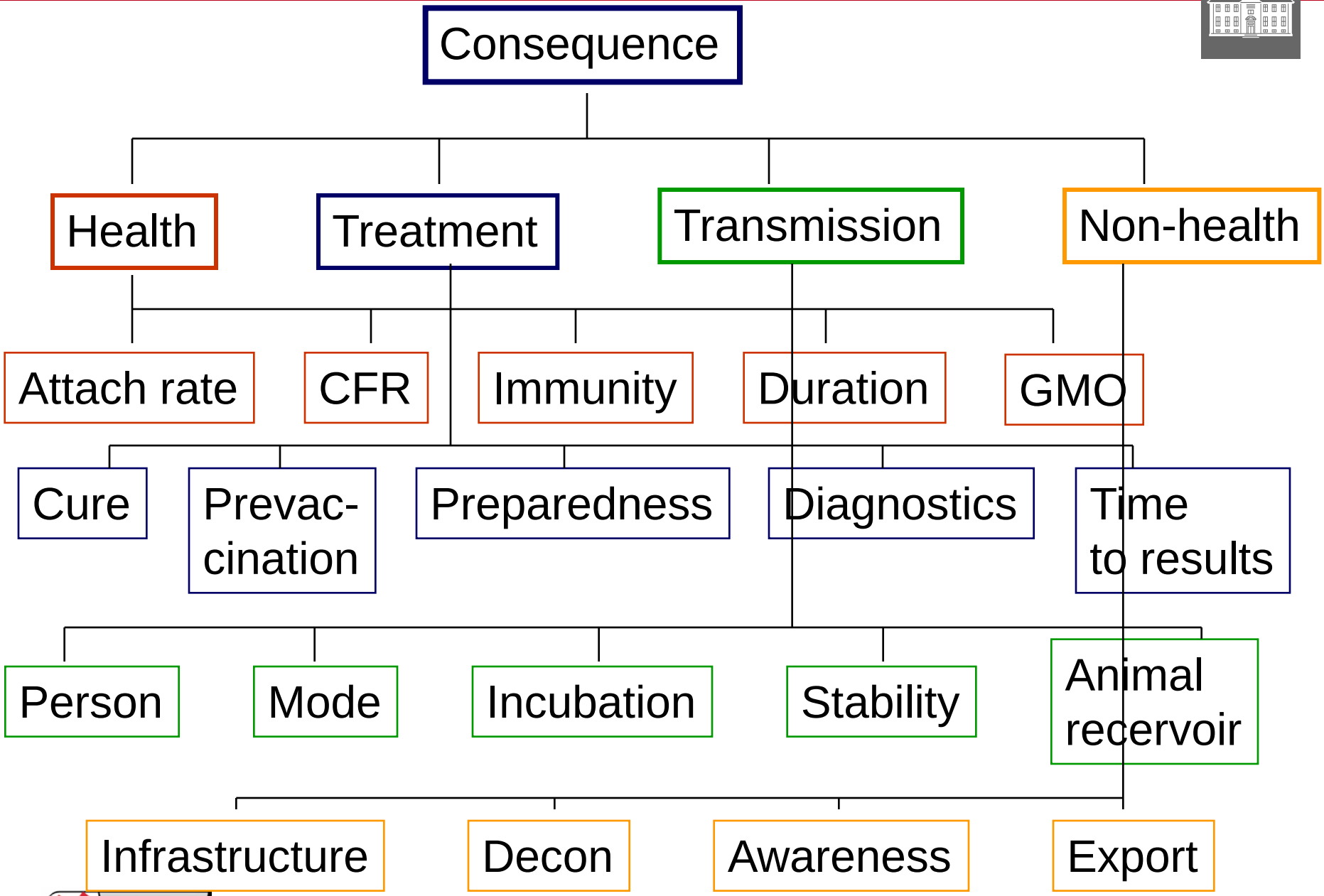
Likelihood

X-axis = Relative maximal consequence of the weapon in DK

Consequence

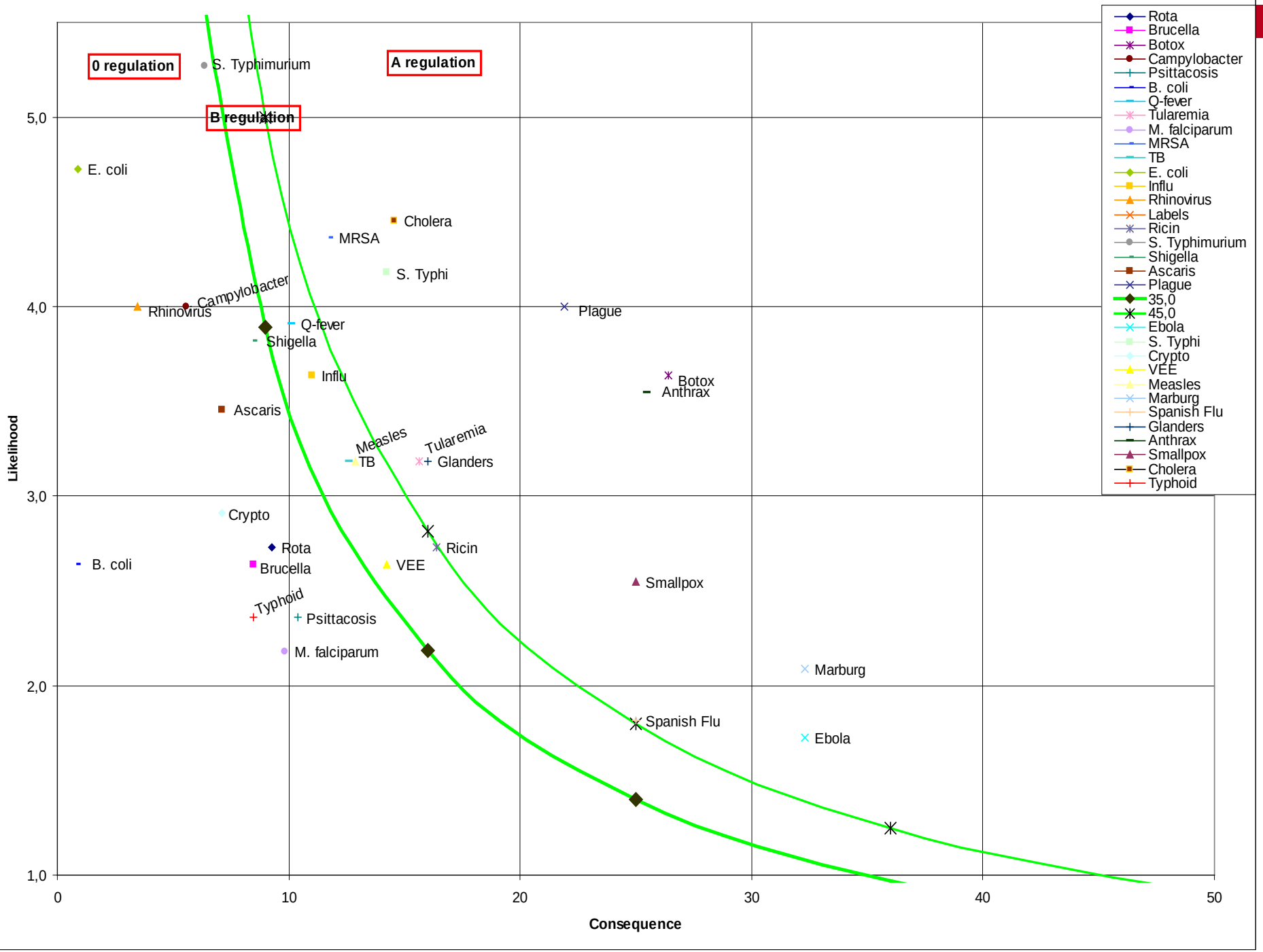
Morbidity/ mortality + Treat- ment + Trans- mission + Non health aspects


Risk
Historic use
Availability
Technique
In labs
In environment
Dose
Equipment
Stockpilling
Vector
Weaponisation
Self-protection


Consequence
Health
Treatment
Transmission
Non-health
Attach rate
CFR
Immunity
Duration
GMO
Cure
Prevac-cination
Preparedness
Diagnostics
Time to results
Person
Mode
Incubation
Stability
Animal recervoir
Infrastructure
Decon
Awareness
Export

Balantidium coli	1	**Coxiella burnetti**	17
Non pathogen E. coli	2	**Mycobacterium tuberculosis**	18
Rhinovirus	3	**Orthomyxoviridae**	19
Rickettsia prowazekii	4	**Morbillivirus**	20
Cryptosporidium parvum	5	**Ricin toxin**	21
Malaria falciparum	6	**1918 Influenza**	22
Brucella spp	7	**Franciella tularensis**	23
Campylobacter jejuni	8	**Burgholderia mallei**	24
Clostridium perfringens	9	**MRSA**	25
Ascaris suum/lumbricoides	10	**Filovirus ebola**	26
Chlamydia psittaci	11	**Salmonella Typhi**	27
Rotavirus	12	**Variola major**	28
Staphylococcus enterotoxin B	13	**Vibrio cholera**	29
Shigella sonei	14	**Filovirus marburg**	30
Salmonella Typhimurium	15	**Yersinia pestis**	31
Venezuelan equine encephalitis	16	**Bacillus anthracis**	32
		Butulinum toxin	33

CBB


0 regulation
A regulation
B regulation
S. Typhimurium
E. coli
Cholera
MRSA
S. Typhi
Campylobacter
Rhinovirus
Q-fever
Shigella
Plague
Influ
Botox
Anthrax
Ascaris
Measles
Tularemia
TB
Glanders
Crypto
Rota
Ricin
B. coli
Brucella
VEE
Smallpox
Typhoid
Psittacosis
M. falciparum
Marburg
Spanish Flu
Ebola
Likelihood
Consequence
5,0
4,0
3,0
2,0
1,0
0
10
20
30
40
50
Rota
Brucella
Botox
Campylobacter
Psittacosis
B. coli
Q-fever
Tularemia
M. falciparum
MRSA
TB
E. coli
Influ
Rhinovirus
Labels
Ricin
S. Typhimurium
Shigella
Ascaris
Plague
35,0
45,0
Ebola
S. Typhi
Crypto
VEE
Measles
Marburg
Spanish Flu
Glanders
Anthrax
Smallpox
Cholera
Typhoid

Risk Algorithm

- Semi-quantitative estimate of the potential to obtain and use a given pathogen offensively in DK and the **maximum consequence** of an attack in DK

- R = L x C
- R = L (H+A+T/3) x C (M+T+T+N/4)

Use of Risk Algorithm

- In- and exclusion of new agents to the list
- Catch all
- Evaluation of risk effective intervention strategies
- Feed (database) for the intention model