

BSSb1194

# Introduction to security, threats, risk, and unintended consequences

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# Studying “security”

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- traditional Cold War era
- after the end of Cold War movement towards including other types of security
  - economic, energy, political, etc.
- subjective/objective interpretations
- primarily concerned with organized violence, intentional threats and nation-states

# Intentionality

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- intentional threats
- threats lacking intention
  
- threats as unintentional consequences of intended actions

# Equations?

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$$\textit{int.risk} = \frac{\textit{capability} * \textit{motivation} * \textit{value} * \textit{vulnerability}}{\textit{countermeasures}}$$

$$\textit{unint.risk} = \frac{\textit{severity} * \textit{probability} * \textit{value} * \textit{vulnerability}}{\textit{countermeasures}}$$

# Perceptions of “security”

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Which type is most dangerous?

Which do/should we pay most attention to?

Which should we try to prevent?

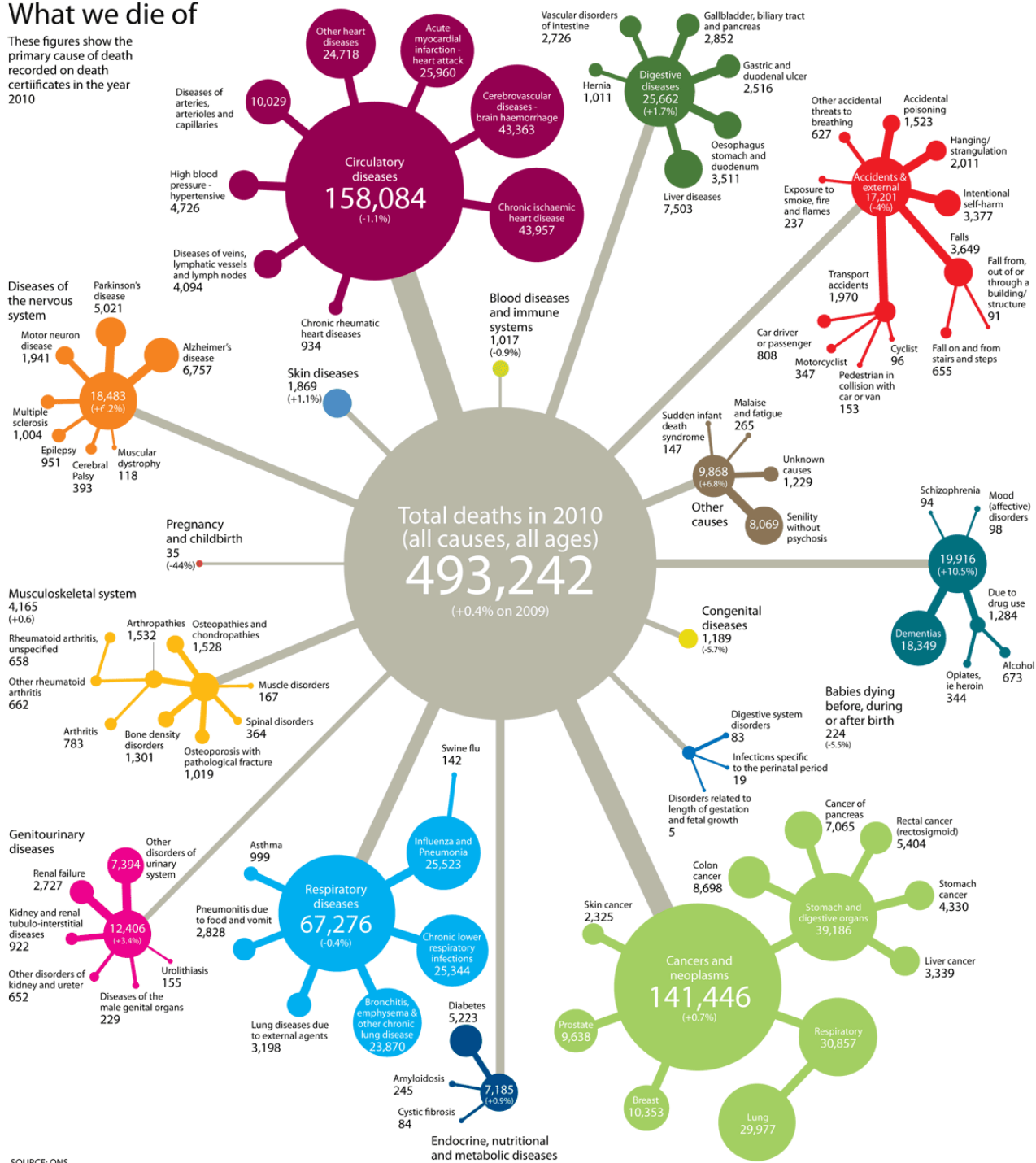
Is perception more important than reality?

Do we know how dangerous some threats are?

How should we compare them?

# What we die of

These figures show the primary cause of death recorded on death certificates in the year 2010



# How to measure risk?

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- micromorts: one in million chance of sudden death
- examples: 11km on a motorbike, walking 32km, biking 42km, driving 483km, 12070km on a plane or train
- hobbies: scuba diving 5 micromorts, parachuting 10 micromorts, skiing or horseriding 0.5 micromort
- one day as soldier in Afghanistan: 47 micromorts
- bomber missions during WW2: 25 000 micromorts
- terrorism in France: 0.1 micromorts/week

# How to measure risk?

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- microlives: loss of one millionth of your lifespan
- examples: 2 hours watching TV, smoking 2 cigarettes, 2 beers, a day of being 5kg overweight
- we “use up” 48 microlives every day just by living
- but we can recover some by diet, exercise etc.
  
- activities can impact both microlives and micromorts



# Perception of risk

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- we are very bad at estimating and understanding risks
- we fear more what is: new, hard to understand, outside of our control, violent, intentional
- we fear less when we: get used to it, feel in control, understand how it works, consider it rare
- perceptions are **easily** distorted

# Perception of risk

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Do we care about micromorts? Should we?

What are impacts of wrong perceptions of risk?

If perceptions are wrong, how do we fix them?