

## World of viruses - contents

Preface by Marion Koopmans (Dutch virologist, part of WHO-team that wrote the Wuhan report)

### 1 Pleased to meet you - not! (Introduction to viruses)

*Virus story: One year of corona*

- Don't be scared (Viruses are everywhere; most are harmless)
- It's a small world (The size of viruses)
- Zooming in (Discovery of viruses; the electron microscope)
- Spot the differences (Features of viruses and how they are different from bacteria)
- Dead or alive (Whether viruses are living creatures or not)
- Copying errors (Evolution, mutations and the story of the arctic hare)
- From animal to man (How viruses mutate and jump species (spillover))

### 2 Runny noses and superspreaders (How viruses spread)

*Virus story: Room 911 (The case of SARS as an example of virus transmission)*

- Virus paradise (How agriculture, population growth, megacities and mass travel have turned the world into a virus paradise)
- The doubler (Exponential growth illustrated by social media virals)
- Invisible clouds (Airborne transmission)
- Wild animals (Transmission by animals)
- Typhoid Mary (Superspreading)
- Intruders (Infection, illustrated by museum robbery)

### 3 Your body at war (How viruses make you ill and how your body responds)

*Virus story: Pills against death (The case of HIV as an example of illness and medicines)*

- Respect the runny nose (How symptoms develop)
- Virus fighters part 1 (Innate immune system)
- Virus fighters part 2 (Adaptive immune system)
- At the hospital (Triage, treatment, intensive care, cure)
- Ancient mummies as a medicine (Pharmaceuticals, alternative medicines, research)
- Goodbye through glass (Three children talk about losing their granddad to covid-19)

### 4 Virus blockers (Measures to fight a virus)

*Virus story: doing time for a sneeze (The case of the Spanish flu as an example of measures to fight a virus)*

- Interview with a virus (Lockdown, social distance etc from the perspective of a virus)
- The lily dilemma (Exponential growth and when to take measures)
- The obstacle run (Seven ways to protect yourself from being infected)
- Science against diarrhea (John Snow fighting cholera as an example of the scientific method)
- Testing, testing, testing (Testing and monitoring diseases to cope with pandemics)
- Quarantine then and now (Quarantining during the pest pandemic and corona)

### 5 Vaccinating (How vaccines protect us)

*Virus story: the tamed virus (The case of smallpox as an example of the importance of vaccines)*

- The first vaccine (Discovery of smallpox vaccine by Edward Jenner)
- Getting ill to stay healthy (How vaccines work)
- A shot for everyone (Group immunity)
- Dangerous nonsense (Anti vax)
- True or false (Vaccine myths debunked)
- Guinea pigs (Development of vaccines by Louis Pasteur and in modern day)
- Running with the Red Queen (Adapting vaccines to keep up with viruses)

### 6 Looking for the source

*Virus story: the bat tree (The case of ebola as an example of the search for the origin of the virus)*

- Patient zero (Patients zero and the tricky naming of viruses)
- On the edge of the forest (Many virus outbreaks are caused by deforestation)
- Theme park Chock-a-Block (Animal markets and battery cages are breeding grounds for viruses)
- Caught Red Handed: Virus spreads fake news! (Fake news and conspiracy theories)
- And now for some good news (Lessons learned from the corona pandemic)
- Weeeeooweeeooweeeo (Corona is a wakeup-call, more pandemics are coming. Modern science and adjusting our lifestyle can help us cope with viruses)