

Contents

List of figures — XI

List of graphs — XIII

Chapter 1

Introduction — 1

Chapter 2

Viruses, antivirals and vaccines — 3

So ... What is a virus? — 3

A bit of nomenclature — 5

Previous pandemics — 8

Present pandemic: coronaviruses, viral replication and SARS-CoV-2 variants — 12

SARS-CoV-2 detection — 18

COVID-19, the disease — 19

Treating COVID-19 infections: drug development — 22

Treating COVID-19 infections: antiviral drugs — 25

Treating COVID-19 infections: biologic therapies — 28

A word on COVID-19 clinical trials — 30

Preventing COVID-19 infections: vaccines — 31

Conclusions — 37

Chapter 3

Conceptualizing the four phases of a state's public policy responses during a pandemic: anticipating, containing, controlling and opening-up — 38

Introduction — 38

Modern states, the WHO, and need for policy guidance — 39

The typology: conceptualizing public policy responses in a pandemic — 42

Phase 1: Anticipating and early virus detection — 44

Phase 2: Policies to contain the virus — 48

Phase 3: Policies to control and mitigate the spread of the virus — 54

Phase 4: Policies aimed at opening up society and eradicating the virus — 60

Synthesizing the phases – the typology — 67

Limitations of the typology — 69

Conclusions — 70

Chapter 4

Demonstrating the strength of the typology: examining key countries globally — 72

Justifying the countries examined — 72

Methods of analysis — 76

Presentation of findings and visualization of an ideal scenario — 77

New Zealand: keeping the virus at bay — 79

Europe: comparing Ireland and Germany — 84

Canada and the US: very different neighbours — 94

India, South Africa, and Chile: the large waves — 101

Comparatively analyzing the vaccination rollout — 108

Conclusions — 111

Chapter 5

Conclusions — 113

Appendix A

Supplemental information on methods of analysis — 117

Phase 1: Anticipating and early detection — 117

Phase 2: Strategies to contain the virus — 118

Phase 3: Policies to control and mitigate the virus — 118

Phase 4: Opening up and eradicating the virus — 119

Bibliography — 120