

# Contents

<i>Chapter 1</i>	
<b>The Elusive Magic Bullet: Introduction</b>	<b>1</b>
<i>Chapter 2</i>	
<b>Fighting Bacteria</b>	<b>11</b>
The Black Death	11
Miasmata, Animalcules and Mal aria	14
Antiseptics	18
From Dyes to Sulfonamides: The First Antibacterials	27
Penicillins: Early Ideas of Antibiosis	33
Penicillins: Fleming's Serendipitous Discovery	35
Chain and Florey and the Penicillin Production Line	42
Semi-Synthetic Penicillins and the Growing Problem of Resistance	48
The Mould that Grew on Sewage: Evolution of the Cephalosporins	53
The Mode of Action of the Penicillins and Cephalosporins	56
The White Plague and its Treatment	61
More 'Treasures' from the <i>Streptomyces</i>	70
The Rise of the 'Superbugs'	77
<i>Chapter 3</i>	
<b>Antiviral Treatments</b>	<b>85</b>
Introduction	85
What is a Virus?	86
Antibodies: Nature's Magic Bullets	89
Smallpox	89
Rabies	99
Polio	101
Gene Technology	102
Coughs and Colds and Influenza	105
Influenza: The Disease	105

Influenza: The Treatments	111
The Common Cold	114
Herpes: Colds Sores and Chicken Pox	116
Aids: History of the Disease	120
Aids: Prevention and Treatment	126
Haemorrhagic Fever Viruses	135
<i>Chapter 4</i>	
<b>Cancer: The Disease and its Treatment</b>	<b>141</b>
Aetiology	143
Cancer Chemotherapy	156
From Poison Gas to Platinum Drugs	157
Beating Leukaemia	167
Other Anti-metabolites	172
Periwinkles, Mayapples and Yew Trees: Anti-Cancer Drugs from Plants	175
Microorganisms also Produce Anti-Tumour Agents	189
Anti-Tumour Drugs from the Sea	195
Turning off Hormonal Influences	201
Breast Cancer	205
Prostate Cancer	209
Biological Warfare Against Cancer Cells	211
Prevention is Better Than Cure	221
<i>Chapter 5</i>	
<b>Magic Bullets: Still Elusive After all These Years</b>	<b>223</b>
<b>Further Reading</b>	<b>233</b>
<b>Subject Index</b>	<b>241</b>