# Monoclonal Antibodies to Migraine: Witnesses to modern biomedicine, an A-Z

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# MONOCLONAL ANTIBODIES TO MIGRAINE:

## WITNESSES TO MODERN BIOMEDICINE, AN A–Z

Edited by **E M Jones** and **E M Tansey**

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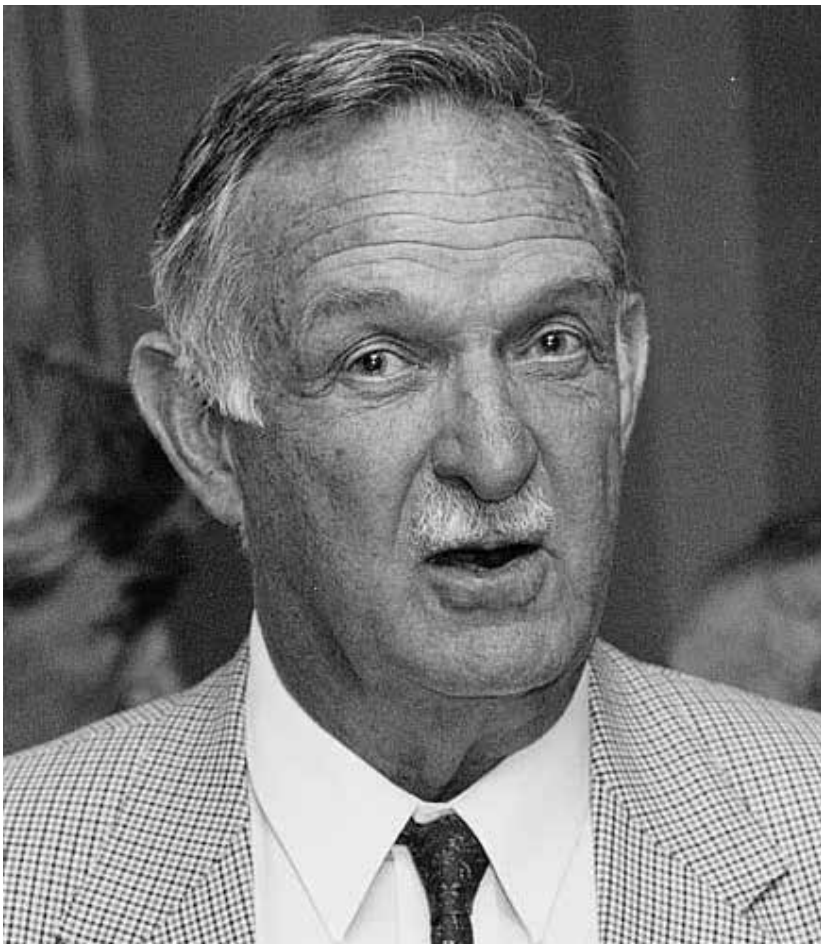

*This volume is dedicated to Dr Peter Williams CBE (1925–2014), first Director of the Wellcome Trust, 1965 to 1991.*

# ACKNOWLEDGEMENTS

Extracts from the Witness Seminar volumes have been suggested by many people in addition to the editors. In particular, we would like to thank Dr Julie Hartley, Ms Caroline Overy, Dr Tom Quick, Mrs Lois Reynolds, Mr Adam Wilkinson and Mr Alan Yabsley for their input. Additionally, Dr John Ford, Professor David Gordon, Professor Richard Himsworth and Mrs Lois Reynolds have advised and commented on the final selection.

This volume would also not have been possible without the work of the former members of the History of Modern Biomedicine Group over some twenty-one years: Professor Sir Christopher Booth (co-founder, with Tilli Tansey); Dr Daphne Christie; Ms Stephania Crowther; Mrs Wendy Kutner and Ms Sonia Willhoft.

For the photographic portraits, we are most grateful to the Wellcome Trust's photographers over the years, and to the staff at Wellcome Images. We also thank the contributors who have provided additional illustrative material for our volumes.

Thanks are also due to Mr Akio Morishima for the design of this volume; the indexer Ms Liza Furnival; and Mrs Sarah Beanland and Ms Fiona Plowman for proof reading.

As ever, we are most grateful to the Wellcome Trust for financially supporting this programme. The first Director of the Wellcome Trust, Dr Peter Williams, was closely associated with the creation of the History of Modern Biomedicine Research Group, and attended and contributed to several early Witness Seminars. Sir Mark Walport, Director 2003 to 2013, was equally enthusiastic and often contributed directly, as his generous foreword makes clear.

Finally, we thank all those who have participated in our meetings over the years, whether or not their words are included in this volume.

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*Emma M Jones*

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# FOREWORD

Governments around the world obsess about how they can ensure that basic research is turned into human benefit. And governments do what governments can do, which is to provide catalysis through funding, tax breaks and a policy environment that facilitates rather than hinders innovation. But if you really want to discover how to innovate, read this volume, published in the 21st anniversary year of the first Witness Seminar on monoclonal antibodies.

This is a master class on how to innovate in medicine. It is people who innovate and it is the people who scintillate in this extraordinary anthology. Their values and personalities come to the fore: humane, free-thinking, always wanting to try new things, to innovate. Their personality traits are also apparent, a cast of individualists and eccentrics, stubborn and cussedly single-minded, accompanied by a strong common denominator of caring and humane compassion. The vignette on cystic fibrosis reminded me of six months as John Batten's SHO in the adult cystic fibrosis unit at the Brompton – an extraordinary clinician leading an equally extraordinary team. The Witness Seminar on cystic fibrosis reminds us that the substantially increased survival of people with cystic fibrosis is due to the dedication of John Batten and his counterparts around the world. The innate curiosity of clinical scientists shines through the vignettes; being both clinician scientist and naturalist is a common association, for example Cyril Clarke, Estlin Waters and Christopher Andrewes.

This volume also acts as a reminder of what it means to be professional – to be scholarly and rigorous in rooting out and applying evidence, to apply judgement in clinical decision making, to be prepared to innovate, and to be responsible and accountable for decisions. I was transported in an instant to the Royal Postgraduate Medical School of my youth – and to many of the characters who passed through its doors. It also reminds us how values, ethics and innovation are intertwined. There are examples from intensive care and leukaemia and from the deliberations of the London Medical Group and from innovators in public health and population studies.

I have always enjoyed the Witness Seminars – the witnesses are alive and their recollections vivid. They are always entertaining, not least because the participants sometimes disagree or have different recollections of the same events! Like all the best anthologies, this is full of gripping vignettes and stories. It should be read by all inquisitive doctors, which should give it a large circulation, since all doctors should be inquisitive.

*Sir Mark Walport, Government Chief Scientific Adviser, UK*

# INTRODUCTION*


Dr Georges Köhler, Sir Christopher Booth, Dr César Milstein (left to right) at the first Witness Seminar on *Monoclonal Antibodies,* 1993

In September 1993 the Wellcome Trust's History of 20th Twentieth Century Medicine Group held its first Witness Seminar on the topic of monoclonal antibodies, for which the main witnesses, César Milstein and Georges Köhler, had shared the 1984 Nobel Prize in Physiology or Medicine. Our intention was to use the occasion to examine the events behind the headlines and accolades; to explore what did or didn't happen; identify who were the influential players (not always synonymous with the best-known names); and to hear the voices and perspectives of a wide group of people who were 'there at the time' in different capacities. The success of that meeting, as assessed by the frankness of the participants on the day and their ready and enthusiastic engagement with the subsequent editorial and archival processes, compounded by several requests for copies of the edited transcript, encouraged us to develop a modest programme of four further meetings to record and reflect on recent biomedical history.

Fast forward 21 years and we have now organized in excess of 60 Witness Seminars attended by more than 1400 people, and have advised several other groups and individuals on developing similar programmes. We have edited and published 58 transcripts of those meetings, most, but not all, in the freely

* Page numbers refer to this volume; volume titles refer to the published Witness Seminars (see pages xvii–xx, 218–21 for full lists)

available series now entitled 'Wellcome Witnesses to Contemporary Medicine'. The 49th volume in that series, *Migraine: Diagnosis, treatment and understanding c.1960–2010,* appeared recently.

Some volume titles may seem obscure, even off-putting, to the non-specialist reader. For example, *The Discovery, Use and Impact of Platinum Salts as Chemotherapy Agents for Cancer* and *Population-based Research in South Wales: The MRC Pneumoconiosis Research Unit and the MRC Epidemiology Unit* do not immediately suggest the range and depth of human interest stories they actually contain. Thus, as we approached our 50th volume we decided to collect together edited 'highlights' taken from all the volumes, to illustrate the diversity and richness of many individual experiences of, and contributions to, recent biomedicine. The main objective of the Witness Seminar programme has always been to hear and record the authentic voices of our contributors; for this anniversary volume we want to introduce some of those less well-known voices to fresh audiences.

**Selection and editing**

Several people listed in the acknowledgements were involved in selecting suitable extracts. Some selectors read only one or two volumes; others read rather more; and between us the two editors have read, or re-read, all the volumes. There were no restrictive criteria – all were invited to select extracts that intrigued or amused them; that seemed representative of a theme, specialty, or period; or conversely, something that was unique. Consequently, these stories and snippets vary widely – some quirky, some moving, some amusing, some thought-provoking. We have not imposed a word length – some are short and pithy, one or two are rather more expansive.

Our first selection of extracts was over 500 pages long, and we have gradually refined, reduced, and edited our choices to produce a more manageable volume. For each extract, repetitions and discursive material have been removed, and sometimes sentences have been run together from adjacent paragraphs or pages to provide a continuous narrative. Dates or other explanatory material have been added where appropriate. Strictly speaking therefore, few of these extracts are verbatim quotes, and in the interests of readability we have intentionally avoided the large-scale use of ellipses, parentheses, and footnotes to identify our editorial work. For those who do want to read the unexpurgated text, each extract is carefully referenced to the original publication. Where absolutely necessary, editorial introductions have been added to a few extracts.

We hope that enough introductory or editorial material has been provided to make each extract understandable, even if some of the precise technical

details may not be clear. For example, the reader does not need to know the detailed pharmacology of 5-HT to be able to grasp the significance of research programmes into anti-vomiting drugs or migraine therapies, or to appreciate the powerful stories told by the drug discoverers, the clinicians, and the patients.

We have organized the extracts under key words rather than themes, although occasionally some extracts read better if grouped together (e.g. '*cystic fibrosis*', '*dialysis*'). However, such a grouping is not exclusive. A reader particularly interested in, say, asthma may wish to read not only the entries identified under that heading but also entries on drug treatments, such as Intal and Salbutamol. The comprehensive index will guide the selective reader. For those with a more magpie approach, we believe that this is a book to dip into, hopefully with surprise and pleasure.

**Voices and people**

For each Witness Seminar we try to recruit a range of appropriate participants. Given the primary focus of our programme on contemporary biomedical sciences, it is not surprising that clinicians and biomedical scientists frequently predominate. However, these are not homogeneous groups. We have had clinicians of practically every medical and surgical specialty, and research scientists representing an equally diverse range of disciplines, attend our meetings. We have also tracked down nurses, technicians, physiotherapists, and patients, and when apposite have sought out, *inter alia*, engineers, industrialists, journalists, and representatives from funding and government bodies. Consequently, many different voices are represented in the current volume, as in the series as a whole.

The personal stories and influences are often unexpected and frequently moving, such as the profound and lasting impact of a maternal death or an untreatable patient (*p. 106*, *p. 3*). Emotional responses often influenced specific career choices, such as fury at contemporary palliative care failures; astonishment at the power of new cancer drugs; or joy at new life (*'career influences*'). Sometimes a career decision was influenced by something more mundane, such as a time-consuming hobby. Sometimes hobbies not only influenced career choices, but also the direction of those careers, and in this volume bird-watching and butterfly collecting are just two that come to the fore as seminal influences.

Some towering figures in late twentieth-century medicine who are no longer with us, such as Sir Christopher Booth, Sir Richard Doll, and Sir David Jack, have contributed to several of our meetings (e.g. *Clinical Research; Population-based Research; Asthma*, to name but a few), as have several Nobel Laureates (e.g. *NMR & MRI; Clinical Pharmacology 1; Monoclonal Antibodies*). But in keeping with our aim

to hear 'other voices', the testimonies in this book reflect the array of indispensable skills, expertise and experience contributing to contemporary biomedicine.

Patients have rarely been at the explicit heart of our meetings, but they and their needs are never far away, as emphasized, for example, by the robust remarks reported by Sir Michael Rawlins from the Committee for Safety of Medicines (*p. 29*). And the direct contributions of dialysis patients, haemophiliacs, MS sufferers and many, many others, have all extended and enhanced the perspectives offered here and throughout our volumes. Whilst some such views have been appreciative or complimentary, those attitudes have not been universal. Occasionally, the unexpected consequences of therapeutic advances can create appalling problems. A whole patient group was devastated when the blood products used for the successful treatment of haemophilia became contaminated with hepatitis and HIV (*pp. 31–2*); and patients, doctors, and nurses have recalled the 'nightmare' of early dialysis (*pp. 38–41*). Tracey Humberstone describes with dignity, but also some despair, the problems of long-term survival as a 'cystic', in the face of constant nihilism from medical personnel who expect CF patients to die in their youth *(p. 35*). A few witnesses also broach a rarely mentioned consequence of some treatments: patient suicide (*pp. 162–3*).

The stories behind other therapeutic strategies, including hip replacement surgery, dialysis, and heart transplant might speak of heroic doctors battling against technical problems or unsympathetic administrators, but they also speak of heroic patients. The first heart transplant donor; the desperate MS patients pushing for cannabis-based medication to relieve their pain; the early dialysis patients; and constantly vomiting cancer patients are all included here, although their stories are more fully recorded in the respective volumes.

**Places**

Almost inevitably, particular research units, hospitals, hospices, or companies achieve a number of mentions, reflecting the specific institutional or thematic emphasis of many of our meetings. But, as with our attention to the hidden voices of individuals, so too are we made aware of the importance of some of the less prominent institutions. Take, for example, the prime role of district general hospitals, rather than major teaching hospitals, in the development of replacement hip surgery, and in fostering intensive care (*p. 163, p. 86*). Some lesser known, to the wider public at least, MRC research units are also highlighted. Especially noteworthy are the contributions from the MRC Epidemiology Unit in south Wales and some of its pioneering and influential long-term studies on disease in miners, environmental lead, iron absorption, and aspirin.

While predominantly reflecting British experience, this volume is not restricted to the UK. African medical education, research, and politics (*pp. 95, 109*); chemotherapy trials in India (*p. 43*); Sub-Saharan nomads (*pp. 126–7*), and international visitors and exchanges, including the highly desirable BTA ('Been to America') (*pp. 12, 117*) are all represented. Even Swiss transport systems appear unexpectedly (*p. 68*).

**Technology**

Technology, technical advances, equipment, materials, and design all figure in many of our witnesses' memories. Several of our contributors to meetings, including those on *Haemophilia*, *Maternal Care*, and *Intensive Care* spoke of the impact that disposable plastics had made in their lives, and we could have produced a small volume on that one topic alone. Plastics for syringes, bloodlines, and indwelling catheters revolutionized clinical practice, in both diagnosis and therapeutics (*p. 140*) – as did disposable needles that did away with the need for the often insufficient re-sharpening of re-usable 'sharps'. Plastics made no lesser an impact in the research lab – Ethel Bidwell's account of wobbling along an Oxford road on her Vespa scooter with a glass Winchester of blood strapped to its pillion seat provides a lasting image ('*Haemophilia*'). The development and impact of large-scale equipment, including imaging machines, ultrasound scanners, and dialysis machines have all been the subjects of dedicated meetings (*NMR and MRI*; *Ultrasound, and Dialysis*). Several unexpected stories have emerged, including the intriguing relationship of the obstetric ultrasound scanner to industrial metal flaw detectors used in shipyards (*pp. 128–9*); the question of who paid for the National Heart Hospital's first NMR scanners (*pp. 63–4*); and the critical role of technicians in installing and maintaining medical equipment (*pp. 167–8*).

**Recurring themes**

Some comments and themes recur frequently, but are here represented by few extracts, such as the aforementioned 'plastics'. Support groups and research charities established by patients were also mentioned at several meetings, but in this volume are characterized by a small selection. These include the Foundation for Sudden Infant Death set up by a bereaved parent, and the National Asthma Campaign (*pp. 161, 119*). Both, like many such organizations, combined welfare support with education for patients, carers, and relatives, and then also started funding focused research projects, often well before these areas attracted financial support from any of the major medical research funding bodies.

Similarly important are the professional societies, often started by early pioneers anxious to find others with whom to exchange knowledge and expertise. Specialists in intensive care, haemophilia, palliative medicine, and atherosclerosis all initiated small discussion meetings that became larger academic societies; nurses too, in intensive care and genetic counselling here recall the importance of finding like-minded people. The clinical and academic exchanges and challenges, and the social importance of these networks, including two very different organizations – the International Narcotics Research Club and the Balint Society, are also emphasized (*pp. 89, 41*).

Other recurrent themes include drug development difficulties that are mentioned by several participants – stories of sumatriptan, Intal, and ondanestron all highlight the tensions that can occur between management and research; one participant recalled Sir James Black's stricture that management wanting to stop a project was a sure sign of good drug development (*p. 85*).

A frequent phrase we heard was 'it couldn't happen now' – sometimes uttered with regretful nostalgia, sometimes with genuine relief. The antibiotic methicillin took only 18 months to market in the late 1950s, an enviable but impossibly fast time today ('*time to market*'); although recollections of rudimentary clinical trials and the somewhat casual, even cavalier, care of volunteers at the time ('*antibiotics*'; '*Salbutamol*') and the regular habit of self-experimentation ('*volunteers', 'clinical trials*') give much food for thought. The figure of Roger Altounyan in developing asthma therapies stands out in particular ('*Intal*') but worthy too of recognition are, amongst others, the prisoners involved in rhesus factor experiments, and the volunteers in the Common Cold Unit, the Applied Psychology Unit, and the Epidemiology Unit (*e.g. 'prisoners';* '*Common Cold Unit'; 'alcohol'; 'X-ray*').

Whilst 'it couldn't happen now' has been a regular refrain, there has also been an occasional sense of 'how could we have let that happen?' Contemporary readers might be astonished to learn of the view in the early 1980s that not much more needed to be done to counter air pollution ('*air pollution*'); and that by 1995 MRSA was 'no longer a problem' according to some health authorities, and hospital isolation procedures were relaxed ('*isolation wards', pp. 93–4*).

Inevitably, we have been unable to include many favourite, illuminating or challenging stories in this volume. The story of the MRC's bag of shiny half crowns on a night train to Wales; the *Sunday Times'* journalist who scooped Mrs Thatcher halting the 'sex survey' in 1989, and the role of the Wellcome Trust in rescuing that survey, are just some of the casualties (although they can be read

in full in *Population-based Research* and *NATSAL*). Absent, too, are the young women doctors, 'Derrick's dolls', who collected the evidence that connected contraceptive pill use with thrombotic deaths *(Committee on Safety of Drugs*); the tragic leukaemia patients who died of iatrogenic heart failure (*Leukaemia*); and the astonishing story of how corticosteroids, used to treat mothers at risk of delivering a preterm infant with respiratory distress, were developed almost accidentally in New Zealand (*Corticosteroids*).

Indeed, there are so many more voices and stories to hear that we can only urge those who are intrigued, interested, or irritated by our selections for this volume, to read the original volumes, and to choose your own highlights. They are all freely available at www.histmodbiomed.org.

*E M Tansey*

*Queen Mary, University of London*


*Dr Tilli Tansey at the Witness Seminar on the MRC's Common Cold Unit, 1997*

# WITNESS SEMINAR VOLUME TITLES

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*ALSPAC* Witness Seminar,
Wellcome Trust,
London, 2011

# DRAMATIS PERSONAE

Very brief biographical descriptions are given of all those featured in this volume. The page references provided are for fuller biographies in the most relevant publication (see pages xvii–xx, 218–21), and entries have been updated where possible. Many of our participants have had varied careers, so the few key words indicate the principal reason for their attendance at the Witness Seminars.

**Professor Sir Donald Acheson** (1926–2010), Chief Medical Officer of England 1984 to 1991: *Public Health* p. 81.

**Ms Sheila Adam** (b. 1957), intensive care sister: *Intensive Care* p. 135.

**Dr Roger Altounyan** (1922–1987), consultant chest physician: *Asthma* p. 26.

**Professor Paul Andrews** (b. 1953), academic pharmacologist, comparative physiologist: *5-HT* p. 141.

**Dr Jeffrey Aronson** (b. 1947), clinical pharmacologist: *Migraine* p. 99.

**Professor John Ashton** (b. 1947), Regional Director of Public Health: *Public Health* p. 81.

**Professor Alan Baddeley** (b. 1934), Director of MRC Applied Psychology Unit (1974–1995): *Applied Psychology* p. 81.

**Professor Kenneth Bagshawe** (b. 1925), medical oncologist: *Platinum Salts* p. 98.

**Dr Rosemarie Baillod** (b. 1936), home haemodialysis manager: *Dialysis* p. 103.

**Dr Mary Baines** (b. 1932), physician, hospice pioneer: *Palliative Medicine* p. 111.

**Sir Roger Bannister** (b. 1929), neurologist, former Chairman of the British Sports Council and runner of the world's first sub-four-minute mile: *Sports Medicine* pp. 113–4.

**Dr Philip Barnard** (b. 1948), psychologist of technology design: *Applied Psychology* p. 81.

**Mrs Greta Barnes** (b. 1940), specialist nurse: *Asthma* p. 53.

**Dr Wallace Barr** (b. 1919), consultant obstetrician and gynaecologist: *Ultrasound* p. 58.

**Dr Herbert Barrie** (b. 1927), consultant paediatrician: *Neonatal Intensive Care* p. 18.

**Dr Ralph Batchelor** (b. 1931), former Director of Beechams Pharmaceuticals: *Post Penicillin* p. 23.

**Professor George Beaumont** (b. 1932), pharmaceutical physician: *Psychiatric Drugs* p. 158.

**Ms Beverley Beech** (b. 1944), Honorary Chair of the Association for Improvements in the Maternity Services: *Maternal Care* p. 45.

**Mr John Bell** (b. 1934), industrial pharmaceutical development manager: *Asthma* p. 26.

**Dr Ethel Bidwell** (1919–2003), research scientist in blood coagulation: *Haemophilia* p. 12.

**Miss Karen Birmingham** (b. 1955), Secretary of Ethics and Law Committee: *ALSPAC* p. 103.

**Sir James Black** (1924–2010), pharmacologist, Nobel Laureate (1988): *5-HT* pp. 142–3.

**Dr Tom Blackburn** (b. 1949), industrial pharmacologist: *Migraine* p. 100.

**Professor Christopher Blagg** (b. 1931), nephrologist and medical director: *Dialysis* p. 103.

**Professor Sir Michael Bond** (b. 1936), consultant psychiatrist: *Pain* p. 103.

**Sir Christopher Booth** (1924–2012), gastroenterologist, research director and medical historian: *Dialysis* pp. 103–4.

**Professor Ronald Bradley** (b. 1929), intensive therapy medicine specialist: *Intensive Care* p.137.

**Miss Mary Brancker** (1914–2010), President of the British Veterinary Association – 1967/8 foot and mouth disease outbreak: *Foot and Mouth* p. 85.

**Dr Margaret Branthwaite** (b. 1935), consultant anaesthetist: *Intensive Care* p. 137.

**Dr Penelope Brock** (b. 1954), consultant paediatric oncologist: *Platinum Salts* p. 98.

**Dr Ivan Brown** (b. 1927), psychologist: *Applied Psychology* p. 82.

**Mr Thomas Brown** (b. 1933), engineer: *Ultrasound* p. 5.

**Dr Doreen Browne** (b. 1934), consultant anaesthetist: *Intensive Care* p. 138.

**Mrs Phyll Buchanan** (b. 1957), founder member and trustee of the National Childcare Trust Breastfeeding Network: *Breastfeeding* p. 112.

**Dr Michael Bull** (b. 1926), hospital practitioner in obstetrics: *Maternal Care* p. 23.

**Professor Sir John Burn** (b. 1952), clinical geneticist: *Clinical Cancer Genetics* pp. 106–7.

**Dr Sheila Callender** (1914–2014), haematologist: *Intestinal Absorption* p. 56.

**Sir Kenneth Calman** (b. 1941), oncologist/Chief Medical Officer (England/Scotland), *Palliative Medicine* p. 112.

**Professor Hilary Calvert** (b. 1947), medical oncologist: *Platinum Salts* p. 99.

**Professor Dugald Cameron** (b. 1939), industrial designer: *Ultrasound* p. 21.

**Professor Stewart Cameron** (b. 1934), nephrologist: *Dialysis* p. 104.

**Dr William Cattell** (b. 1928), nephrologist: *Dialysis* p. 104.

**Professor Mark Caulfield** (b. 1960), pharmacologist: *Clinical Pharmacology 1* p. 104.

**Sir Iain Chalmers** (b. 1943), Director – UK Cochrane Centre (1992–2002)/National Perinatal Epidemiology Unit (1978–1992): *Public Health* p. 82.

**Professor Sir John Charnley** (1911–1982), orthopaedic surgeon, pioneer of hip replacement surgery: *Hip Replacement* p. 134.

**Dr Kenneth Citron** (b. 1925), respiratory physician, Chairman of British Thoracic Society's Tuberculosis Clinical Trials Committee: *TB Chemotherapy* p. 100.

**Professor David Clarke** (b. 1936) pharmacologist: *5-HT* p. 144.

**Professor Archie Cochrane** (1909–1988), epidemiologist: *Population-based Research* p. 131.

**Professor Dulcie Coleman** (b. 1932), consultant cytopathologist: *Cervical Cancer* p. 130.

**Professor Joe Collier** (b. 1942), clinical pharmacologist, President of the International Society of Drug Bulletins: *Clinical Pharmacology 2* p. 90.

**Mr Eric Collins** (b. 1936), pharmaceutical sales engineer: *Dialysis* p. 104.

**Mr Neil Collishaw** (b. 1946), lead tobacco control expert for WHO's 'Tobacco or Health' programme: *Tobacco Control* pp. 110–11.

**Dr Jim Cox** (1931–2001), director of research and development in the pharmaceutical industry: *Asthma* p. 31.

**Mr Michael Cox** (b. 1929), volunteer at the MRC Common Cold Unit: *Common Cold Unit* p. 261.

**Professor Tony Coxon** (1938–2012), Co-director of the Institute for Behavioural Research on AIDS (Wales): *NATSAL* pp. 76–7.

**Mr Harry Craven** (1928–2007), industrial and bio-engineer: *Hip Replacement* pp. 134–5.

**Sir John Crofton** (1912–2009), Professor of Respiratory Diseases and Tuberculosis: *TB Chemotherapy* p. 100.

**Mrs Mary Cronk** (b. 1932), midwife: *Maternal Care* p. 19.

**Dr Patricia Crowley** (b. 1951), consultant obstetrician and gynaecologist: *Corticosteroids* p. 130.

**Professor Gerald Curzon** (b. 1928), neurochemist: *5-HT* p. 145.

**Dr Ann Dally** (1926–2007), psychiatrist, medical historian: *Maternal Care* p. 17.

**Professor George Davey Smith** (b. 1959), clinical epidemiologist: *ALSPAC* pp. 104–5.

**Mr Gareth Davies** (b. 1935), veterinary epidemiologist: *Foot and Mouth* p. 86.

**Dr Pamela Davies** (1924–2009), consultant paediatrician: *Neonatal Intensive Care* p. 34.

**Dr Hewan Dewar** (1913–2012), consultant in physiology and cardiology: *Platelets* p. 147.

**Mr Ross Dike** (b. 1932), laboratory research worker: *Haemophlia* p. 62.

**Professor John Dodge** (b. 1933) paediatrician: *Cystic Fibrosis* p. 93.

**Professor Sir Richard Doll** (1912–2005), statistician and epidemiologist: *Peptic Ulcer* p. 114–15.

**Dr Peter Down** (b. 1939), gastroenterologist: *Peptic Ulcer* p. 115.

**Professor Duncan Dowson** (b. 1928), mechanical and bio-engineer: *Hip Replacement* p. 135.

**Dr Peter Doyle** (b. 1921), industrial pharmaceutical chemist: *Post Penicillin* p. 25.

**Professor James Drife** (b. 1947), obstetrician and gynaecologist: *Maternal Care* p. 3.

**Professor Peter Dunn** (b. 1929), paediatrician: *Maternal Care* p. 49.

**Professor Paul Durrington** (b. 1947), researcher in lipoprotein metabolism: *Cholesterol* p. 126.

**Dr Peter Elwood** (b. 1930), Director – MRC Epidemiological Research Unit in south Wales: *Population-based Research* p. 131.

**Professor Alan Emond** (b. 1953), paediatrician: *ALSPAC* p. 105.

**Mr Bob Erens** (b. 1953), director of social science research programmes: *NATSAL* p. 78.

**Dr David Evans** (b. 1930), paediatrician: *Haemophilia* p. 22.

**Professor Douglas Eveleigh** (b. 1933), microbiologist: *Post Penicillin* p. 6.

**Professor Denys Fairweather** (b. 1927), obstetrician and gynaecologist: *Neonatal Intensive Care* p. 26.

**Dr Philip Farrell** (b. 1943), paediatric pathologist, epidemiologist: *Cystic Fibrosis* p. 94.

**Professor Malcolm Ferguson-Smith** (b. 1931), molecular geneticist: *Clinical Molecular Genetics* p. 103.

**Mrs Caroline Flint** (b. 1941), midwife and former President of the Royal Colleges of Midwives: *Maternal Care* p. 11.

**Professor Rod Flower** (b. 1945), pharmacologist: *5-HT* p. 146.

**Dr Arthur Fowle** (b. 1929), clinical pharmacologist: *Clinical Pharmacology 2* p. 92.

**Professor Renée Fox** (b. 1928), social scientist: *Heart Transplant* p. 42.

**Dr Bill Frankland** (b. 1912), consultant allergist: *Asthma* p. 6.

**Professor Gary French** (b. 1945), microbiologist: *MRSA* p. 114.

**Professor Bill Fulford** (b. 1942), philosopher and psychiatrist: *Medical Ethics* p. 177.

**Mrs Jean Gaffin** (b. 1936), Chief Executive of National Council for Hospice and Palliative Care Services: *Palliative Medicine* p. 114.

**Ms Janet Gahegan** (b. 1939), Macmillan nurse: *Palliative Medicine* p. 114.

**Professor David Galton** (1922–2006), physician, Secretary of the MRC Working Party on Leukaemia: *Leukaemia* p. 66.

**Dr Tony Garland** (b. 1938), veterinary vaccinologist: *Foot and Mouth* p. 86.

**Mrs Diana Garratt** (b. 1960), childhood dialysis patient: *Dialysis* pp. 105–6.

**Professor Duncan Geddes** (b. 1942), respiratory physician: *Cystic Fibrosis* p. 94.

**Professor Rob George** (b. 1953), palliative care specialist: *Palliative Medicine* p. 115.

**Sir Roger Gibbs** (b. 1934) Chairman of the Wellcome Trust's Board of Governors (1989–1999): *NATSAL* p. 79.

**Dr Tony Gilbertson** (b. 1932), consultant anaesthetist/Director of intensive therapy units: *Intensive Care* p. 138.

**Dr Alan Gilston** (1928–2005), consultant anaesthetist: *Heart Transplant* p. 11.

**Professor Jean Golding** (b. 1939), Director of ALSPAC: *ALSPAC* pp. 105–6.

**Professor John Goldman** (1938–2013), leukaemia specialist: *Leukaemia* p. 66.

**Dr John Goldsmith** (b. 1924), nephrologist: *Dialysis* p. 106.

**Dr Len Goodwin** (1915–2008), researcher in the chemotherapy of tropical diseases: *Africa* p. 77.

**Professor David Gordon** (b. 1947), physician, Programme Director – Wellcome Trust: *NATSAL* p. 79.

**Professor David Grahame-Smith** (1933–2011), clinical pharmacologist: *Clinical Pharmacology 1* pp. 107–8.

**Professor Richard Gralla** (b. 1948), medical oncologist: *Platinum Salts* p. 100–1.

**Professor Jane Green** (b. 1943), medical geneticist: *Clinical Cancer Genetics* p. 109.

**Professor Richard Gregory,** (1923–2010), neuropsychologist: *Applied Psychology* p. 83.

**Professor John Griffin** (b. 1938), medical assessor to the Committee on Safety of Medicines: *Clinical Pharmacology 2* p. 93.

**Dr Geoffrey Guy** (b. 1954), industrial pharmacologist: *Cannabis* p. 91.

**Professor Abe Guz** (1929–2014), physician: *Clinical Research* p. 21.

**Dr Angus Hall** (b. 1939), electronics engineer: *Ultrasound* p. 3

**Mrs Phyllis Hampson** (b. 1927), orthopaedic equipment sales manager: *Hip Replacement* pp. 136–7.

**Professor Alan Handyside** (b. 1951), developmental biologist, reproductive specialist: *Genetic Testing* p. 95.

**Professor David Harnden** (b. 1932), cancer geneticist: *Clinical Cancer Genetics* pp. 109–10.

**Professor Peter Harper** (b. 1939), medical geneticist, policy adviser, and historian of genetics: *Clinical Molecular Genetics* pp. 103–4.

**Professor Kenneth Harrap** (b. 1931), biochemical pharmacologist: *Platinum Salts* p. 101.

**Dr Philip Harrison-Read** (b. 1947), consultant psychiatrist: *Psychiatric Drugs* p. 160.

**Dr Philip D'Arcy Hart** (1900–2006), physician, Director of the MRC Tuberculosis Research Unit: *Population-based Research* p. 132.

**Dr Julian Tudor Hart** (b. 1927), epidemiologist, general practitioner: *Population-based Research* p. 132.

**Dr Andrew Herxheimer** (b. 1925), pharmacologist, first Chairman of the International Society of Drug Bulletins: *Clinical Pharmacology 2* pp. 93–4.

**Professor Roger Higgs** (b. 1943), former President of the London Medical Group: *Medical Ethics* p. 179.

**Mr Gordon Higson** (b. 1932), former Director of the Scientific and Technical Branch of the Department of Health and Social Security: *NMR and MRI* p. 26.

**Professor Graham Hitch** (b. 1946), psychologist: *Applied Psychology* p. 83.

**Dr Clare Hodges** (1957–2011), pseudonym of Mrs Elizabeth (Liz) Brice, founding member of the Alliance for Cannabis Therapeutics: *Cannabis* p. 91.

**Sir Raymond Hoffenberg** (1923–2007), physician: *Clinical Research* p. 8.

**Dr Anita Holdcroft** (b. 1947), anaesthetist, pain researcher: *Cannabis* pp. 91–2.

**Professor Sir Godfrey Hounsfield** (1919–2004), engineer, Nobel Laureate (1979): *NMR and MRI* p. 10.

**Dr Sheila Howarth** (1920–2000), Principal Medical Officer – Medical Research Council: *Clinical Research* p. 9.

**Professor Jack Howell** (b. 1926), consultant physician: *Asthma* p. 12.

**Dr Andrew Hoy** (b. 1949): clinical oncologist, consultant in palliative medicine: *Palliative Medicine* p. 116–17.

**Dr Philip Hugh-Jones** (b. 1917), respiratory physician, member of the MRC Pneumoconiosis Research Unit: *Population-based Research* p. 133.

**Mrs Janie Hughes** (b. 1944), interviewer and fieldworker: *Population-based Research* p. 133.

**Professor John Hughes,** pharmacologist: *Endogenous Opiates* p. 72.

**Professor Sir David Hull** (b. 1932), consultant paediatrician: *Neonatal Intensive Care* p. 31.

**Miss Tracy Humberstone** (b. 1964), cystic fibrosis patient and healthcare consultant: *Cystic Fibrosis* p. 95.

**Dr Patrick Humphrey** (b. 1946), industrial pharmacologist: *Migraine* p. 102.

**Dr Jackie Hunter,** pharmacologist: *5-HT* p. 150.

**Dr Peter Hunter** (b. 1938), consultant physician, endocrinologist: *Environmental Toxicology* p. 91.

**Ms Victoria Hutchins** (b. 1977), multiple sclerosis patient: *Cannabis* p. 92.

**Sir David Jack** (1924–2011), industrial pharmacologist: *Asthma* p. 21.

**Dr Amina Jindani** (b. 1936), coordinator of clinical trials in TB therapeutics: *TB Chemotherapy* pp. 102–3.

**Professor Dame Anne Johnson** (b. 1954), Principal Investigator on the 1990, 2000 and 2010 National Surveys of Sexual Attitudes and Lifestyles: *NATSAL* pp. 80–1.

**Mr Stanley Johnson** (b. 1940), former MEP, Head of the European Commission's Prevention of Pollution and Nuisances division: *Environmental Toxicology* p. 91.

**Dr Peter Jones** (b. 1937), consultant paediatrician, director of haemophilia centre: *Haemophilia* p. 15.

**Professor Trevor Jones** (b. 1942): pharmacology research director: *Migraine* pp. 103–4.

**Dr Georges Köhler** (b. 1946), immunologist, Nobel Laureate (1984): *Monoclonal Antibodies* passim.

**Mr Geoff King** (b. 1947), orthopaedic technician: *Hip Replacement* p. 137.

**Professor Sir Peter Lachmann** (b. 1931), immunologist: *Autoimmunity* p. 48.

**Dr Donald Lane** (b. 1935), consultant chest physician: *Asthma* p. 49.

**Professor Christine Lee** (b. 1943), consultant haematologist: *Haemophilia* p. 3.

**Mr Alan Lettin** (b. 1931), orthopaedic surgeon: *Hip Replacement* p. 139.

**Dr Roy Levin** (b. 1935), physiologist: *Intestinal Absorption* p. 6.

**Dr Peter Lewis** (b. 1944), industrial pharmacologist: *Clinical Pharmacology 2* p. 96.

**Dr Owen Lidwell** (b. 1914), external scientific staff member for Medical Research Council at Common Cold Unit: *Common Cold Unit* p. 218. Professor Sir John Lilleyman (b. 1945), consultant haematologist: *Leukaemia* p. 68.

**Dr Ian Lister Cheese** (b. 1936), senior civil servant in the (UK) Department of Health: *Clinical Molecular Genetics* pp. 105–6.

**Dr James Littlewood** (b. 1932), consultant paediatrician, former Chairman of the UK Cystic Fibrosis Trust: *Cystic Fibrosis* p. 96.

**Dr Stephen Lock** (b. 1929), editor of the *British Medical Journal* (1975–1991): *Medical Ethics* p. 182.

**Professor Donald Longmore** (b. 1928), consultant surgeon and clinical physiologist: *Heart Transplant* p. 5.

**Professor Monty Losowsky** (b. 1931), Emeritus Professor of Medicine, University of Leeds: *Dialysis* p. 108.

**Professor James Lovelock** (b. 1919), member of scientific staff at the National Institute for Medical Research: *Environmental Toxicology* p. 91.

**Dr Judith Mackay** (b. 1943), physician, senior policy adviser to the WHO: *Tobacco Control* pp. 112–13.

**Professor Allan Maclean** (b. 1947), obstetrician and gynaecologist: *Maternal Care* p. 11.

**Professor Donald Macleod** (b. 1941), former President of the British Association of Sports and Exercise Medicine: *Sports Medicine* pp. 122–3.

**Professor John MacVicar** (b. 1927), obstetrician and gynaecologist: *Ultrasound* p. 19.

**Professor Sir Peter Mansfield** (b. 1933), physicist, Nobel Laureate (2003): *NMR and MRI* pp. 9–10.

**Professor Marshall Marinker** (b. 1930), general practitioner, medical educator: *General Practice* p. 96.

**Dr Frank Marsh** (b. 1936), nephrologist: *Dialysis* p. 109.

**Dr James Matthews** (b.1930), research scientist in blood coagulation: *Haemophilia* p. 33.

**Professor Robert Maynard** (b. 1951), physiologist, Head of the Air Pollution Team – UK Department of Health: *Environmental Toxicology* p. 92.

**Dr Paul McCarthy** (b. 1942), physician: *Asthma* p. 24.

**Professor Kenneth McColl** (b. 1950), consultant gastroenterologist: *Peptic Ulcer* p. 118–19.

**Professor Joe McKie** (b. 1925), clinical physicist: *Medical Physics p. 117.*

**Professor Tom Meade** (b. 1936), Director of the MRC Epidemiology and Medical Care Unit: *Platelets* p. 151.

**Professor Raphael Mechoulam** (b. 1930), pharmacologist: *Cannabis* p. 92.

**Dr Bill Miall** (1917– 2004), scientific staff member of MRC Pneumoconiosis Research Unit: *Population-based Research* p. 133.

**Dr César Milstein** (1927–2002), molecular biologist, immunologist, Nobel Laureate (1984): *Monoclonal Antibodies* passim.

**Mr Wesley Miner** (b. 1948), industrial pharmacologist: *5-HT* pp. 152–3.

**Professor Bernadette Modell** (b. 1935), geneticist, thalassaemia specialist: *Clinical Molecular Genetics* pp. 107–8.

**Professor Sir Salvador Moncada** (b. 1944), research pharmacologist *Platelets* p. 151.

**Professor Jerry Morris** (1910–2009), epidemiologist: *Cholesterol* p. 132.

**Dr Noel Mowat** (b. 1927), veterinary vaccinologist: *Foot and Mouth* pp. 88–9.

**Mrs Elizabeth Mumford** (b. 1958), lecturer in medical law: *ALSPAC* p. 107.

**Professor Robert Naylor** (b. 1943), pharmacologist: *Platinum Salts* p. 102.

**Ms Kay Neale** (1924), polyposis registry manager and research coordinator: *Clinical Cancer Genetics* p. 115.

**Professor George Nelson** (1923–2009), parasitologist: *Africa* p. 9.

**Dr Richard Nicholson,** founder, Chairman of the Association of Research Ethics Committees (UK): *Medical Ethics* p. 184.

**Dr Archie Norman** (b. 1912), paediatrician, Chairman of the Medical Advisory Committee of the Cystic Fibrosis Research Trust: *Cystic Fibrosis* p. 97.

**Dr Jean Northover** (b. 1928), scientist, parent of dialysis patient: *Dialysis* p. 109.

**Professor Andrew Nunn** (b. 1943), statistician: *TB Chemotherapy* p. 104.

**Dr Michael O'Brien** (b. 1938), neurologist: *Migraine* pp. 104–5.

**Dr Ahmed Ezra Ogwell** (b. 1969), Kenyan civil servant: *Tobacco Control* pp. 114–15.

**Professor Michael Oliver** (b. 1925), cardiologist: *Platelets* p. 152.

**Professor Tom Oppé** (1925–2008), paediatrician: *Neonatal Intensive Care* p. 6.

**Dr Colin Murray Parkes** (b. 1928), psychiatrist: *Palliative Medicine* pp. 118–9.

**Professor Sir Eldryd Parry** (b. 1930), physician and medical educator in Africa: *Africa* p. 47.

**Professor Sir Stanley Peart** (b. 1922), physician, Trustee of the Wellcome Trust: *NATSAL* p. 82.

**Professor Marcus Pembrey** (b. 1943), paediatrician and clinical geneticist: *ALSPAC* p. 108.

**Mr Elliot Philipp** (1915–2010), obstetrician and gynaecologist: *Maternal Care* p. 9.

**Dr Gordon Piller** (b. 1925), former Director of the Leukaemia Research Fund: *Leukaemia* p. 68.

**Dr Margaret Platts** (b. 1924), consultant nephrologist: *Dialysis* p. 110.

**Dr James Porterfield** (b. 1924), member of the scientific staff at the MRC Common Cold Unit: *Common Cold Unit* p. 234.

**Professor Sue Povey** (b. 1942), geneticist: *Genetic Testing* pp. 100–1.

**Professor Ray Powles** (b. 1938), haemato-oncologist: *Leukaemia* p. 68.

**Professor Laurie Prescott** (b. 1934), clinical pharmacologist: *Clinical Pharmacology 1* p. 112.

**Professor Brian Prichard** (b. 1932), Foundation Secretary of the British Pharmacological Society: *Clinical Pharmacology 1* pp. 112–13.

**Professor Sir George Radda** (b. 1936), radiologist, former President of the Society for Magnetic Resonance in Medicine: *NMR and MRI* p. 21.

**Professor Sandy Raeburn** (b. 1941), clinical geneticist, and former Chairman of the Scottish Council of the Cystic Fibrosis Research Trust: *Cystic Fibrosis* p. 97.

**Mrs Jennifer Raiman** (b. 1936), developer of London Hospital Pain Chart: *Pain* p. 109.

**Professor Sir Michael Rawlins** (b. 1941), clinical pharmacologist, member of National Committee on Pharmacology and Committee on Safety of Medicines: *Clinical Pharmacology 2* p. 98.

**Dr Malcolm Read** (b. 1941), medical officer to Commonwealth and Olympic Games: *Sports Medicine* p. 127.

**Mr Howard Rees** (b. 1928), veterinary officer: *Foot and Mouth* p. 90.

**Professor Osmund Reynolds** (b. 1933), perinatal and neonatal paediatrician: *NMR and MRI* p. 25.

**Professor Graham Richards** (b. 1941), historian of psychology: *Applied Psychology* p. 85.

**Professor Sir Mark Richmond** (b. 1931), biochemist, microbiologist: *MRSA* p. 119.

**Professor Povl Riis** (b. 1925), former Chairman of the Danish National Sciences Ethical Committee: *Medical Ethics* p. 187.

**Dr Charles Rizza** (b. 1930), consultant physician: *Haemophilia* p. 9.

**Professor Jean Robinson,** Honorary Research Officer for the Association for Improvements in the Maternity Services (UK): *Maternal Care* p. 8.

**Dr Philip Robson** (b. 1947), clinical and industrial pharmacologist, psychiatrist: *Cannabis* p. 94.

**Professor Charles Rodeck** (b. 1944), clinician, researcher in fetal medicine: *Genetic Testing* p. 101.

**Mr Donald Ross** (b. 1922), consultant cardiac surgeon: *Heart Transplant* p. 4.

**Sir Keith Ross** (1927–2003), consultant cardiac surgeon: *Heart Transplan*t p. 9.

**Mrs Sue Sadler** (b. 1943), clinical manager: *ALSPAC* pp. 109–10.

**Ms Ellena Salariya** (b. 1931), midwife/breastfeeding educator and researcher: *Breastfeeding* p. 119.

**Professor Merton Sandler** (b. 1926), pharmacologist: *Migraine* p. 107.

**Professor Gareth Sanger** (b. 1953): pharmacologist: *5-HT* p. 155.

**Dame Cicely Saunders** (1918–2005), physician, founder of modern hospice movement: *Medical Ethics* p. 188.

**Mrs Wendy Savage** (b. 1935), obstetrician and gynaecologist: *Maternal Care* p. 9.

**Dr Geoffrey Scott** (b. 1948), clinical microbiologist: *MRSA* pp. 119–20.

**Dr Joe Selkon** (b. 1928), consultant microbiologist: *MRSA* p. 120.

**Miss Mary Selsby** (b. 1934), renal nurse, dialysis services manager: *Dialysis* p. 111.

**Professor Stanley Shaldon** (1931–2013), nephrologist, home dialysis pioneer: *Dialysis* p. 111.

**Professor Roger Short** (b. 1930), reproductive biologist: *Breastfeeding* p. 120.

**Professor Mervyn Singer** (b. 1958), physician, intensive care consultant*: Intensive Care* p. 141.

**Professor Heather Skirton** (b. 1953), nurse consultant, genetic counsellor: *Clinical Genetics* p. 129.

**Dr Roger Smith** (b. 1945), cardiologist: *Platelets* p. 155.

**Dr Geoffrey Spencer** (b. 1929), consultant anaesthetist: *Intensive Care* p. 142.

**Professor Peter Sperryn** (b. 1937), sports medicine consultant: *Sports Medicine,* pp. 128–9.

**Dr David Stableforth** (b. 1942) consultant physician in adult cystic fibrosis care: *Cystic Fibrosis* p. 98.

**Professor Gordon Stirrat** (b. 1940), obstetrician and gynaecologist: *ALSPAC* p. 110.

**Dr Joseph Stoddart** (b. 1932), consultant anaesthetist: *Intensive Care* p. 142.

**Professor Leo Strunin** (b. 1937), anaesthetist: *Intensive Care* pp. 142–3.

**Dr Maurice Super** (b. 1936), consultant paediatric geneticist: *Cystic Fibrosis* pp. 98–9.

**Dr Robert Sutherland** (b. 1930), bacteriologist: *MRSA*, p. 122.

**Mr Malcolm Swann** (b. 1931), orthopaedic surgeon for juvenile chronic arthritis: *Hip Replacement* pp. 142–3.

**Sir Rodney Sweetnam** (1927–2013), orthopaedic surgeon: *Hip Replacement* p. 143.

**Dr Mark Swerdlow** (1918–2003), consultant anaesthetist: *Pain* p. 111.

**Professor Sir Keith Sykes** (b. 1925), consultant anaesthetist: *Intensive Care* p. 143.

**Mrs Marilyn Symonds** (b. 1947), cytologist: *Cervical Cancer* p. 141.

**Dr Ian Tait** (1926–2013), general practitioner and medical historian: *Maternal Care* p. 12.

**Professor Tilli Tansey** (b. 1953), neuroscientist, historian of modern medical sciences: *Migraine* pp. 107–8.

**Professor Harry Thomason** (b. 1940), sports scientist: *Sports Medicine* p. 129.

**Professor Andrew Thomson** (b. 1940), chemist: *Platinum Salts* p. 104.

**Mr Keith Tucker** (b. 1945), orthopaedic surgeon, founder member of the British Hip Society: *Hip Replacement* p. 143.

**Professor Ted Tuddenham** (b. 1944), co-director – haemophilia centre, director of haemophilia research: *Haemophilia* p. 35.

**Professor Hugh Tunstall-Pedoe** (b. 1939), cardiovascular epidemiologist: *Cholesterol* p. 136.

**Mr Wilfred Turner,** Secretary to the Committee on Safety of Drugs from 1963 to 1966: *Safety of Drugs* p. 107.

**Dr Robert Twycross** (b. 1941), clinician and researcher in palliative medicine: *Pain* p. 111.

**Dr Mike Tyers** (b. 1946), industrial pharmacologist: *5-HT* pp. 156–7.

**Dr David Tyrrell** (1925–2005), medical virologist: *Africa* p. 41.

**Professor Duncan Vere** (b. 1929), clinical pharmacologist: *Clinical Pharmacology 1* p. 117.

**Professor Owen Wade** (1921–2008), physician, clinical pharmacologist: *Clinical Pharmacology 2* p. 101.

**Professor John Walker-Smith** (b. 1936), paediatric gastroenterologist: *Intestinal Absorption* p. 42.

**Sir Mark Walport** (b.1953), UK Government Chief Scientific Adviser, former Director of the Wellcome Trust (2003–2013).

**Lord Walton** (b. 1922), neurologist: *Clinical Research* p. 3.

**Professor John Warner** (b. 1945), paediatrician: *Asthma* p. 10.

**Mrs Jenny Warren** (b. 1946), former National Breastfeeding Adviser for Scotland: *Breastfeeding* p. 121.

**Professor Estlin Waters** (b. 1934), Senior House Officer – MRC Pneumoconiosis Research Unit: *Population-based Research* p. 137.

**Professor Sir David Weatherall** (b. 1933), molecular geneticist: *Clinical Molecular Genetics* p. 111.

**Professor Kevin Webb** (b. 1946), clinician in cystic fibrosis adult care: *Cystic Fibrosis* p. 100.

**Dr Jean Weddell** (b. 1928), scientific staff member of the MRC Epidemiology Research Unit: *Population-based Research* p. 137.

**Mr Clifford Welch** (b. 1925), former Chairman of the Katharine Dormandy Trust: *Haemophilia* p. 40.

**Professor Kaye Wellings** (b. 1948), co-founder of NATSAL: *NATSAL* p. 83.

**Dr David Wheatley** (b. 1929), consultant psychiatrist: *Psychiatric Drugs* p. 161.

**Dr Roger Whitehead** (b. 1933), director of child nutrition research: *Africa* p. 56.

**Professor Charles Whitfield** (b. 1927), consultant obstetrician: *Rhesus Factor* pp. 82–3.

**Mrs Wendy Williams** (b. 1941), survey interviewer: *NATSAL* p. 83.

**Dr Eve Wiltshaw** (b. 1927), oncologist: *Platinum Salts* p. 105.

**Dr John Wood** (b. 1949), industrial pharmacologist: *Peptic Ulcer* p. 121.

**Professor Sir Martin Wood** (b. 1927), medical technology developer in industry: *NMR and MRI* p. 11.

**Professor John Woodrow** (b. 1924), consultant physician: *Rhesus Factor* p. 83.

**Professor Frank Woods** (b. 1937), pharmacologist: *Environmental Toxicology* p. 93.

**Mrs Elizabeth Young** (b. 1942), biochemist in paediatric pathology: *Genetic Testing* p. 103.

**Professor Maureen Young** (1915–2013), perinatal physiologist: *Corticosteroids* p. 137.

# ABBREVIATIONS

| | |
|---|---|
| **5-HT** | 5-hydroxytryptamine |
| **AIDS** | Acquired immunodeficiency syndrome |
| **ALSPAC** | Avon Longitudinal Study of Parents and Children |
| **CF** | Cystic fibrosis |
| **ECG** | Electrocardiogram |
| **FDA** | (US) Food and Drug Administration |
| **GP** | General practitioner |
| **GSK** | GlaxoSmithKline |
| **HIV** | Human immunodeficiency virus |
| **MRC** | Medical Research Council |
| **MRSA** | Methicillin-resistant *Staphylococcus aureus* |
| **NATSAL** | National Survey of Sexual Attitudes and Lifestyles |
| **NHS** | National Health Service |
| **NIH** | National Institutes of Health (US) |
| **NMR** | Nuclear magnetic resonance |
| **SHO** | Senior House Officer |
| **TB** | Tuberculosis |
| **UCH** | University College Hospital (London) |
| **WHO** | World Health Organization |



A

## Age discrimination

When I was a medical registrar in the 1980s the local cardiac centre would not take a patient for coronary artery bypass surgery if they were aged 60 years and one day, I remember doctoring the notes to make the patient younger.

**Professor Mervyn Singer:** ***Intensive Care*****, p. 81**

We always had totally inadequate physical facilities for the number of patients who were referred to us for dialysis and we had to have some form of selection. We tried to be totally unemotional about it. There were some people – not a good thing to say – who were obviously unsuitable. But we made it age-related, and anybody over 40 didn't have a chance.

**Dr Margaret Platts:** ***Dialysis*****, p. 71**

## Air pollution

In about 1956 the MRC established the Air Pollution Research Unit, under Professor Pat Lawther's direction, at St Bartholomew's Hospital, and it stayed there doing seminal work until about 1980. By then levels of air pollution had fallen to such an extent that it was beginning to be believed that not much more needed to be done.

**Professor Robert Maynard:** ***Environmental Toxicology*****, p. 46**

## Alcohol

In the 1970s we were looking at the effects of small amounts of alcohol on driving performance – this was before the breathalyser came in – and I set up an experiment around the streets of Cambridge. I was using the dual-task method for measuring peoples' performance, giving them a subsidiary task to do as they drove around, and I set this up with a local car club. All car clubs met at a pub somewhere in Cambridge and we would go along and the people who volunteered would be there and I would say, 'While I am telling you what I would like you to do, because we are developing this method of measuring drivers' performance, would you like a glass of sherry?' One of my colleagues, by the way, paid for the sherry, not the Medical Research Council, and I was able to do a proper experiment by treating the subjects, some of them to one glass of sherry, and some to two glasses of sherry. Naturally I had to join them, so it didn't look phoney, and then we went out and ran the experiment. They would show that even after one glass of sherry there are ways of measuring small changes in drivers' 'reserve capacity', as we called it at the time, but it was a bit naughty.

Dr Ivan Brown testing a subject in research on the use of subsidiary tasks to measure the effects of small amounts of alcohol on drivers' spare mental capacity: *Applied Psychology*

**Dr Ivan Brown:** ***Applied Psychology*****, pp. 67–8**

## Alliance for Cannabis Therapeutics

I started smoking cannabis in 1992, after I'd had MS for ten years. I found this helpful in all sorts of ways: relieving pain, stopping spasticity, helping me to sleep, helping me to eat. I wanted to find out if it did the same for other people as well. I brought this about via doctors, newspapers and TV, to find out if there was anyone else with this experience, and there was. Then I wanted some scientific evaluation of what happened, because before then it was just anecdotal evidence: people said it helped them with this or that, but I wanted some kind of scientific evaluation and some trials, to find out if this was recognized by anyone.

I asked all these people to tell their doctor what had happened to them and to tell their local politician, to put it about to people that cannabis helped them. I started the Alliance for Cannabis Therapeutics with a couple of other patients who found that cannabis was helpful.

**Dr Clare Hodges:** ***Cannabis*****, pp. 61–2**

## Aminopterin

In 1948 a well-known poet, who was also an amateur mountaineer and a school teacher, had been on holiday in Switzerland mountaineering and to his horror found that he was getting breathless when he got beyond a certain height. He was worried about this and on his return his wife persuaded him to seek medical advice. He was diagnosed as having acute leukaemia. He had a horrible form of leukaemia that would now be called M5 – acute monocytic leukaemia. A colleague had just received a supply of a new drug (aminopterin) which had come from America and that was doing unexpectedly good things in the treatment of childhood leukaemia; and I took over his aminopterin to give to this patient. This would be impossible today – you would have to fill in all kinds of forms and it just couldn't be done – but I took this stuff over. He went into a complete remission, something amazing. He had three months of good life and then he relapsed with multiple skin nodules, had more a, but it did no good and he died. The medical team were deeply apologetic for having inflicted what proved to be a useless treatment on her husband; but his wife said, 'On the contrary, these three months were almost the best three months of our lives. Every day of good health was appreciated and it was wonderful, thank you very much.'

*He went into a complete remission, something amazing.*

**Professor David Galton:** ***Leukaemia*****, p. 22**

## Anonymity

Midwives would bring me samples of urine, and I would put a number on them and take them back to ALSPAC. I wasn't quite sure what was happening to them but I gather they were analysed for, among other things, illicit drugs, and I think that cannabis came out quite high, higher than expected. The next thing I knew, as a very junior member of staff, was a consultant obstetrician ringing me up and saying he wanted the names of all these mothers. I said, "Well, they were collected anonymously so I'm afraid I can't give them. 'Don't give me that! I shall go to Jean Golding, the ALSPAC Director, and find them.' A lot of

pressure was put on me. They were anonymous, thank goodness, but he was quite threatening in order to get it, because he was responsible for these people's care; they were his patients and he needed to know who they were.

**Miss Karen Birmingham: *ALSPAC,* p. 47**

## Antenatal corticosteroids

I first heard about antenatal corticosteroids for mothers in an undergraduate lecture in 1974. The possibility of preventing RDS (respiratory distress syndrome) made an immense impact on me because the first baby I delivered as an undergraduate died in the neonatal period from RDS, despite weighing seven pounds and being born at 36 weeks. So the scene was set for a lifelong interest in this topic. Later, in 1977, as a senior house officer in neonatal paediatrics, I attended a lecture on fetal lung maturation given by Professor Mel Avery, at the Irish Perinatal Society. At a time when young female medical graduates had few role models, an innovative paper delivered by an attractive woman made an enormous impression, especially as I was continuing to see premature babies die on a regular basis from RDS. At that time I was working in the National Maternity Hospital, Dublin, which fostered a culture of nihilism towards most medical interventions, with the exception of those ordained by institutional policy. I encountered a woman whose previous baby had died from RDS, and, together with a paediatric colleague, I approached the Master (Clinical Director) of the hospital to obtain permission to prescribe antenatal corticosteroids for this patient. That was the first and only time in a two-year spell in obstetrics and paediatrics between 1976 and 1978 that I was allowed to prescribe antenatal steroids.

*…I was continuing to see premature babies die on a regular basis from RDS.*

**Dr Patricia Crowley: *Corticosteroids,* p. 23**

## Antibiotics

In reply to a plea for accelerated testing of antibiotics, I have great sympathy, but the early penicillins were in the pre-thalidomide period and toxicity was not really appreciated. I must say, when I look back at Brockham Park, the Beechams research facility, in the early 1960s, we were testing something like two new penicillins a week in human volunteers. Members of staff were paid three guineas [£3.15], plus a hearty breakfast, to give five or six samples of blood – no follow-up, no group medical attention afterwards.

**Dr Robert Sutherland: *MRSA*, pp. 56–7**

## Aspirin

I think the most rewarding thing of all that we have ever done is the aspirin studies. I know it took 20 years to convince consultants that this cheap little tablet could be beneficial, but it really was worth it. The first aspirin studies were hard, hard work, trying to recruit people by cold calling – I think because we didn't have a reputation as yet. We were visiting hospital wards and taking names of men who had been discharged after an MI (myocardial infarction). In those days if you had had a heart attack you were considered a real invalid by your family and it was hard to convince people that a simple little aspirin tablet could be of benefit to them. Whereas now I think people have been brainwashed and they know of the benefits. Lots of papers have been written, but those were real pioneering days then in the early 1970s.

*In those days if you had had a heart attack you were considered a real invalid…*

**Mrs Janie Hughes:** ***Population-based Research*****, p. 75**

There's also the problem now, in both primary and secondary prevention, that aspirin can be purchased over the counter, and I suspect that there are a lot of people taking aspirin who don't realise that, particularly in primary prevention, the balance between the benefit and the risk is not as obvious as most people assume it is. In other words, there's a fairly low benefit to be set against a not insubstantial risk.

**Professor Tom Meade:** ***Platelets*****, p. 65**

The two interventions that we had come up with for colorectal cancer from the epidemiologists were resistant starch and aspirin, and so we set up to study 1,000 people worldwide. In 2011 we reported that there was a 63 per cent reduction in colon cancer among the Lynch syndrome patients given aspirin. It did demonstrate that you could do these long-term intervention studies on people who were genetically motivated because of their own risk and the risk for their families. It changed the game quite a lot because we now have a real intervention to offer people.

**Professor Sir John Burn:** ***Clinical Cancer Genetics*****, p. 81**

Mrs Caroline Flint: *Maternal Care*

## Association of Radical Midwives

The Association of Radical Midwives, started in 1976, had a huge impact on midwifery and the visibility of midwifery. We all took a vow, I can't remember what year it was, that we would tell somebody every day about being a midwife. And I still do that, every time I go to the supermarket, and I say, 'Oh yes. I like lots of tea bags, because I am a midwife you see'. My children used to die of embarrassment, I have to say. But our strategic plan was to speak all the time about midwifery and being a midwife, to write as much as you can, to challenge every article that came up or every letter that came up, to join the Royal College of Midwives, and ginger it up and be part of it, and get it taken forward.

**Mrs Caroline Flint: *Maternal Care*, p. 63**

# Asthma

## Asthma care nurses

I am a nurse by background, and in 1983 I was just finishing a role with the Medical Research Council, when our GP, Dr Robert Pearson, turned to me and said, 'You have looked at diabetes, you have looked at hypertension, I think we have got a major problem with asthma in the practice. We know it's increasing and patients are not getting a good deal; why don't you spend some time researching, looking at the role of the nurse in asthma?' So I did this for a year and we found that by utilizing nursing skills, we were able to reduce the acute nebulizer use, but inevitably what we did was to increase the inhaled corticosteroid use. We went round various hospitals and I was a real nuisance, because I wanted to know what was going on, and the one thing that struck me at that time was we were giving messages that were too complicated for the patients to understand. Patients needed to have simple messages. The major requirement was that we needed to make people understand that prevention was possible, and that our goal should be having patients without symptoms.

**Mrs Greta Barnes: *Asthma*, p. 53**

## Asthma patients, 1937

I thought I would describe what I was seeing 63 years ago and I would like briefly to describe three patients. They were all connected to the extent that there's something that goes wrong with the definition of asthma. And I must remind you, of course, this is the pre-antibiotic era.

I was called from my room before 4 o'clock in the morning. My room, incidentally, was the room where penicillin had been discovered in 1928. I went down to see a patient and this infant was 12 months old, and the mother said that her boy had been wheezy and coughing nearly all his life; every cold caused severe wheezing. He had developed a cold two days previously and she was going to bring him along to the hospital, but with her eight other children she was so busy she didn't have time. That particular morning the child had changed a lot, the coughing and wheezing had stopped and he had changed colour, and she was worried. And here was I at 6 o'clock in the morning seeing my first case of what I thought was acute asthma. This story was all lies, the child was quite cold; he had obviously been dead for some considerable time. I remembered my teacher, Dr Wilson – later Lord Moran, Churchill's doctor – had said that the history was so important, but no one had ever suggested that the history you take might be a packet of lies.

*…no one had ever suggested that the history you take might be a packet of lies.*

The next case I saw two months later. I was on duty at 2 o'clock in the afternoon, and the nurse said would I please urgently see a boy who was having difficulty in breathing. She thought that I might have to admit this child to the ward, because he had acute asthma. In fact, this boy, aged 12, didn't have acute asthma. He had had a sore throat the previous day and that morning speech was difficult, eating was difficult and now breathing was difficult. I gave one look at the throat and saw a diphtheritic throat, and the reason I remember this particular case is that I had never used force on any patient before or since, or ordered so much force to be used. As soon as I said to the mother, 'He will have to go to the Western Fever Hospital, because he has got diphtheria and I have to take a swab before he goes,' the boy shut his lips very tightly and would not allow this to be taken. So I got three hefty medical students, two of them in St Mary's rugger team, two nurses and myself, and while I held his nose, we got a very good view of that throat. I took a swab and said, 'Let go', as I was causing acute obstruction with the tongue depressor and he went almost blue. The first cough that he took, very near my face, went all over me. Now that is another story, the bilateral membranous conjunctivitis that I had

three days later, that's something different. I apologized to the mother that we had to use force, but I said that it was essential that I got a good view of that throat. The reason he was so difficult was that his school friend had been sent to the same fever hospital three days earlier with diphtheria. This was a bit of the history that I hadn't got. And she added, 'Two days before, he had difficulty in breathing and was given an operation on his throat, and he died on the table. That's why my son didn't want to go to this fever hospital.'

My third and final case. I was asked to see a boy in the ward. This boy, aged five, had his eighth admission in about ten weeks to the children's ward with acute asthma and I had never seen so many notes as on this one boy, all from the social workers. His mother was a prostitute; she wasn't even a Paddington one, she had a place just off the square in Mayfair – upmarket – and she was actually very pleasant. The father, on the other hand, was an alcoholic, but generally in prison. The story was that the boy had this intense fear of his father, he really was terrified of his father. I don't know if anyone here has ever seen a one-cause asthma due to emotional causes, but everyone agreed that this was the cause. The reason I was asked to see this boy was that a new houseman had noticed that during his first admission and the last two admissions, the father was in prison so he couldn't be the cause. I took a different history and the boy had a cat and he knew he was cat-sensitive, it had caused trouble to his eyes, to his nose, and if the cat scratched him, to his skin, and also caused him asthma. So I said, 'Why didn't you tell anyone, you have been in here eight different times and you know the cause of your asthma and you have never told anyone?' He said, 'No one has asked me whether I have a cat at all, you are the first person.' I said, 'Why didn't you tell them that you knew the cause?' He started crying and said, 'Well, my cat produced kittens on my bed two days before I came into hospital, I know that you will advise me to get rid of the cat,' and he cried and cried and cried. I think somehow that he had one-cause asthma due to allergy. Those are three patients where the history was not quite what one thought it might be.

**Dr Bill Frankland: *Asthma*, pp. 6–9**

*…asthma in childhood then was very much what you might call an 'orphan disease'.*

## Asthma treatment, 1950s–1960s

My impression when I was a student and a houseman is that asthma in childhood then was very much what you might call an 'orphan disease'. Nobody was that interested in it. There was no adequate treatment and children didn't ordinarily die from it, so the principal physicians really tended to pay it little attention. What treatment there was, as I can remember just

after the war, was ephedrine and things of that sort. Potassium and stramonium were very popular for asthma and for whooping cough. Antihistamines were tried extensively with, I think, no success, although we thought there was some. But there was no really effective safe treatment until, I would have thought, the 1950s or 1960s.

**Dr Archie Norman: *Asthma*, p. 9**

## Avon Longitudinal Study of Parents and Children (ALSPAC)

Most of the paediatricians knew that ALSPAC was being run on a wing and a prayer, and there was a bit of disquiet, but I think Jean Golding, the Director, had an aura about her that people believed that she would come through. I think Jean's greatest characteristic is her dogged optimism that things will come right. That inspired people like me to follow, but some of her senior colleagues were less sanguine about it. A note came down from higher up in the university that ALSPAC was in the red, and shortly after that came an open threat from finance that they were going to freeze all the senior academics' discretionary funds to pay for the ALSPAC debt. I'll never forget the reaction of my seniors – it was quite an eye-opener for me as a young academic about the way that the seniors behaved, because people just came out of the woodwork, livid that the pot of discretionary money that they'd been building up over the years could just go to pay for Jean Golding's irresponsible debt. This was a major ruction that actually took some time to heal between the different academic paediatricians, and I'll never forget it. We were saved because of Sir John Kingman, the Vice-chancellor of the University of Bristol at the time, who is a statistician and really understood the value of longitudinal studies.

Professor Jean Golding, Professor Alan Emond: *ALSPAC*

**Professor Alan Emond: *ALSPAC*, p. 17**

The ALSPAC ethics committee was innovative in a variety of ways, one of which was that we had study mothers as full members of the committee. That was extremely helpful. We also had a teacher. Ultimately, as the years progressed, we had fathers and young people, the progeny of ALSPAC, the 'Children of the 90s' themselves, now represented as full members. That was so, so important. Among the rules that were set down, we had to get the balance right of being

sufficiently prescriptive and proscriptive to protect the participants, without producing such inflexible rules and regulations that further development was prevented. Obviously, we had to have very high levels of confidentiality and anonymity, and there was a 'golden rule' that those who collected data should in no way be involved in analysing it. There were, of course, occasions when some of the biological samples, for example, showed some results that were way out of the normal range, and we felt we had to have an avenue of going back to the individual. In general, the information people got was about how things were going in general in the study, not about their individual results. But there were occasions on which we felt we had to go back to the individual and we had to lay down the best rules we could, before this had been thought of by any other organization. We came up with the working rule that one had to have a strong indication of a condition that had a serious risk of harm for which there was a known remedy. We were also sure at that time, and still are, that we were not going to divulge genetic information. We got quite a lot of stick for that. The trump card they tried to play was autonomy, you know: 'It's our information, it's our right to get it', but we were able to balance that, put autonomy in its proper place, with justice and with doing good and not doing harm.

*...there was a 'golden rule' that those who collected data should in no way be involved in analysing it.*

**Professor Gordon Stirrat:** ***ALSPAC*****, p. 35**

It wasn't just an ethics committee for ALSPAC incidentally, it was an ethics and legal committee, and that too was important. Indeed, it reached further. It served as an ethics and legal and scientific appraisal committee, and was actually concerned to ensure that what was done was good science, but it also recognized that there was a tension between what might be the best science, in other words, what might be the fullest information that could be obtained, and the possible shortcomings and disadvantages of actually seeking that information. Some information might be potentially upsetting to parents; for example, where it touched on sexual health, sexual experience, questions of paternity, evidence of possible abuse and so on. There was a great deal of debate about the ways in which the study could be safeguarded and the willingness and keenness of participants maintained, not just at the outset, that was fairly easily done – you've seen the enthusiasm of parents from the beginning – but ongoing, year after year. Maintaining the reputation of ALSPAC was high among the concerns of the Ethics Committee. It had to preserve the reputation of the study.

**Dr Ian Lister Cheese:** ***ALSPAC*****, p. 34**

Investigating cardiac output – Professor Ron Bradley and Dr Margaret Branthwaite: *Intensive Care*

B

## Beechams

Mr Lazell, who later became the Chairman of the Beecham Group, decided that it was about time Beechams had a research group, so he bought an old house in the midst of Surrey, Brockham Park, and set up a central research group there. Initially that was a general purpose research group that did all sorts of things – studied the effect of light on the colour of Lucozade, studied the use of cysteine in Silvikrin hair tonic and various things of that sort. It was officially opened by Sir Alexander Fleming in 1947. Now this might have been a coincidence, but there was no doubt that his shadow fell over Brockham Park for some years afterwards. I joined the company in 1952 when the labs had been going for about five years and by which time they had moved more in the direction of what we used to call 'ethical pharmaceuticals', but we now call prescription medicines. Mr Lazell felt that the introduction of the NHS in 1948 was going to destroy the over-the-counter pharmaceutical business and, as you probably realise, Beecham had a big commercial interest in Beecham's Powders, Beecham's Pills, Veno's Cough Cure etc. You name it, they were all on the shelves in Boots.

**Dr Peter Doyle: *Post Penicillin*, pp. 25–6**

In 1984 at Beecham, the actual driver of the 5-HT anti-emetics research programme was Gareth Sanger. He was working hard on the whole thing at the time and knew the pharmacology, that is the classic pharmacology, of 5-HT. But we ran into some very stiff opposition from management. On one occasion we

*...one of our colleagues turned to us and said: 'I thought you were both going to get fired on the spot'...*

had a project meeting where our second in command of research sat there and told us that Beecham would never go into anti-emetics again, because they had been burnt in that area before. Gareth and I sat there and we had all this data produced at the time. We knew exactly what was happening, we had the data right down the line. The compounds, 5-$HT_3$ antagonists, were so effective against anti-cancer therapy-induced emesis, that we both just got up there and, even though the Chairman was telling us 'No we're not going to do it', we kept on at it. After we came out of the meeting, one of our colleagues turned to us and said: 'I thought you were both going to get fired on the spot', because we just would not give up on it; we knew we had something. It was because of Gareth's drive that Beecham research really was very focused; and that was where a lot of the drive came from on the Beecham side of it. However, for a long time Gareth did not get much support, but ultimately things moved forward.

**Mr Wesley Miner:** ***5-HT*****, p. 60**

## Been to America (BTA)

We were very privileged to travel round to other units in the UK, and to go abroad to gain further experience in the 1960s to 1970s. I was very fortunate in 1970/1 to go to Massachusetts General Hospital, Boston, to work as a research fellow in the respiratory care unit run by Henning Pontoppidan for 18 months. Such leave was allowed at senior registrar level and, apart from broadening the mind and obtaining insight into the culture of another country, the 'Been to America' (BTA) label was thought to be a brownie point on your CV for a consultant post in the UK. At the senior registrar level, the BTA was almost obligatory.

**Dr Doreen Browne:** ***Intensive Care*****, pp. 41–2, 59**

## Biochemistry and biochemists

In 1959, as a student, I remember going to see the Royal Free Hospital's twin-coil kidney. I was not interested in the machine as my eye was taken by a lady who was weighing salts using laboratory scales. She was measuring the chemicals to make up the dialysate fluid. Nobody has mentioned that you could not do dialysis without a biochemist

**Dr Rosemarie Baillod:** ***Dialysis*****, p. 22**

In the laboratory it was the chemists who were helping with diagnosis; they were performing laborious and painstaking analyses of metabolites in the urine and in post-mortem material from spleen, liver, brain, and so on. It was these metabolites extracted from the liver and urine that we subsequently came to use as natural substrates for the enzyme analysis. You couldn't ring up Sigma (a major chemical supply company) as we do these days and get the substrates sent by post overnight.

**Mrs Elizabeth Young:** ***Genetic Testing*****, p. 39**

## Birdwatching

In my case, there was an overlap between counting birds and epidemiology. I had been interested in birds from a very young age but I was also interested in the scientific side of birdwatching, especially bird migration and bird numbers. When I was on St Kilda I wrote about a dozen papers and short notes for ornithological journals and for the *Proceedings of the Zoological Society of London* on various aspects of birds and on the grey seal. I was interested as a naturalist. At that time I didn't have any real knowledge of statistics. It was my birdwatching that kept me scientific during my medical student days. I used to read some of the bird journals; the medical journals were too heavy to read as a student. I don't know how some of our medical students now manage, but they can and do. I felt the teaching we had at London was not very scientific, it was more of an apprenticeship: I do this, so you do this. The birdwatching kept me critical of the scientific side of things. When I joined the MRC it was very much the other way round. It was the epidemiology that was the scientific side, and I think I have been able to apply a bit of it to my birdwatching. The two have run together, one perhaps ahead of the other, but the two are related. I think that someone who wants to count wrens on St Kilda has got something in common with someone who measures the haemoglobin level in a population. My experience of working alone on St Kilda and writing papers on natural history probably helped me when starting in medical research.

**Professor Estlin Waters:** ***Population-based Research*****, pp. 67–8**

## Bone cement

Simplex C, the original bone cement, was manufactured in a back street in Stamford Hill, London, and the owner of the firm was an American who happened to be a patient of mine, which is how I know the story. There were inhibitors in the compounds that had to be mixed together, and this company, North Hill

Plastics it was called, had the patent on these inhibitors, and the US FDA would not grant permission for the cement to be used. So, the Americans fell quite behind, and patients were coming over to this country for hip replacements. This irritated the Americans no end, and I think the first person actually to do a total hip replacement in the US was Harlan Amstutz, who had worked for a year at the Royal National Orthopaedic Hospital, Stanmore, and went back to special surgery in New York with a McKee prosthesis in his pocket along with some cement, and the FDA gave him permission to do a one-off operation in 1962/3. In the end, of course, the Americans bought out this company.

**Mr Alan Lettin: *Hip Replacement*, pp. 57–8**

## Breastfeeding

In the 1950s mothers were advised to 'time' suckling and they all displayed their watches or clocks nearby; on the first day, one minute on both breasts was allowed at four-hourly intervals, this was increased to two minutes on day two, three minutes on day three and so on until ten minutes was allowed. This prescribed time had been arrived at because a bottle-fed infant would consume formula milk from a bottle in 20 minutes.

Ms Ellena Salariya: *Breastfeeding*

As a student midwife in Glasgow in the 1950s, and later in Dundee as a staff midwife, one had to be on one's guard about mentioning breastfeeding, as bottle-feeding mothers would feel guilty. Supplementary and complementary bottle-feeds of formula milk were given to the breastfed infants secretly by midwives and nursing staff. When my first baby was born in 1954 I insisted that he remain in the room with me at all times. I was not popular and was considered somewhat of a rebel, but I simply could not trust the staff that he would not receive formula milk. I breastfed the baby when he needed to be fed and had no problems.

**Ms Ellena Salariya: *Breastfeeding*, pp. 22–3, 58**

## British Atherosclerosis Society

I was working in considerable isolation and was concerned – maybe because we were in Scotland – that nobody else seemed to be the least bit interested in atherosclerosis. So I took myself off to meet the vascular pathologist John French in Oxford. This was 1958. The Great Western Railway was late by 20 minutes, and John met me at the station in a terrible flap, as he had bicycled down from the Dunn School of Pathology. He said, 'Could you afford a taxi? Prof has got a lecture at five past 1 o'clock and he's waiting for you.' Now, I hadn't done my homework, I didn't know who 'Prof' was. When I went up the stairs, at the double, there was this steely grey-haired man whom I later recognized as Howard Florey, Nobel Prize-winner in Physiology or Medicine in 1945. He said, 'If you want to try to form an atherosclerosis group go ahead, but it won't work, because there aren't more than nine people in the country who are the least bit interested in the subject, and you have got three of them here, you, French and me.' He then produced a bottle of white wine out of his desk with three glasses, one for himself before the lecture, and one for each of us, and poured half the bottle into the glasses. He told me to go away and find 20 people, and he told French to find £250 a year, and to come back in three months, which we duly did. This time French and I met, and prepared our brief before meeting the Nobel Prize-winner. We thought we had better get it right. I found 18 people, and French had got £250 for three years from ICI (Imperial Chemical Industries) – a lot of money in those days. We went through the list and off we set with the Atherosclerosis Discussion Group, now the British Atherosclerosis Society. To initiate it, Florey again produced a half bottle of white wine and three glasses. To this day I do not know whether that was the same bottle of white wine or not.

*To initiate it, Florey again produced a half bottle of white wine and three glasses.*

**Professor Michael Oliver:** ***Platelets*****, pp. 25–6**

## Brompton cocktail

What was this Brompton cocktail? Generally speaking, it was a mixture of morphine and cocaine in honey or syrup plus alcohol. It was probably used as a post-thoracotomy analgesic at the Brompton Chest Hospital, London, and as a cough and respiratory sedative in terminal tuberculosis. So probably the Royal Marsden and the Brompton Chest Hospitals were using the cocktail, even though they weren't disseminating its use. When was this formula published? It was some time in the 1950s in a supplement to the hospital formulary, either at

the Royal Marsden or the Brompton Chest Hospital. In 1958 it first appeared in *Martindale's Extra Pharmacopoeia*, and then the *British National Formulary* and then eventually in the 1970s it was being published in four formulations.

**Dr Robert Twycross: *Pain*, p. 27**

## Butterfly collecting

One of the things I remember most fondly about the days at Harvard Hospital were visits from the parent institute in London of Christopher Andrewes, Forrest Fulton, and other scientists, and there would be the most long and intensive discussions on the virology of the problem. Andrewes had a wonderful trick of suddenly coming into one's lab in the afternoon and saying, 'I say, would you like to go for a walk in the New Forest?' He had a car and, of course, in those days very few people did, and we would be driven into the New Forest and he would be carrying his butterfly net, because his sideline was entomology, and there, while walking along the path, one would talk about what experiment should be done next on the common cold.

**Professor James Lovelock: *Common Cold Unit*, p. 221**

## Butterfly genetics

I think that the genetics group as a whole, and Cyril Clarke in particular, were outstandingly talented. They were able to stand back from the immediate and specific aspects of the field, whether this be serology, or paediatrics, or obstetrics, and look at it as a kind of research problem from first principles. Cyril, in particular, was very much a person of first principles. Because of his basic experience in genetics, he was able, I think, to move from one situation to another in a way that perhaps people more immediately involved in the applications were not. People are often a bit disparaging about his butterfly work, but in fact it is strikingly modern. Workers in genetics use model organisms all the time, and now in human genetics one shifts, as indeed Cyril did then, between one species and another without much trouble. We know the genomes are all very similar. I think Cyril may have chosen butterflies as a rather unorthodox model organism, and I am quite sure one of the reasons he chose them was because they were more enjoyable than something like *Drosophila* to work with. There was extraordinary ability in the research design and original thought, and Cyril imparted that to all the people who were working with him.

**Professor Peter Harper: *Rhesus Factor*, p. 38**



C

## Cancer care

Cisplatin, the platinum-based chemotherapeutic drug, had an unintended but major contribution to make to medical oncology. The reason is that cisplatin led to great benefits because it caused emesis, and all the interest that there was in emesis and the control of emesis now cuts across to almost every other anti-cancer drug where the control is as good or better. Cisplatin ultimately caused a revolution in cancer care, in that having the ability to control emesis meant that patients generally could be treated on an outpatient or ambulatory basis, rather than having to stay in the hospital because of the dehydration and electrolyte imbalance that often occurred. This benefit of looking at the emesis was definitely stirred by cisplatin.

**Professor Richard Gralla: *Platinum Salts*, p. 46**

## Cancer genetics

In the late 1960s quite a lot was known about chromosome abnormalities in cancer cells, but they were thought to be a consequence of the disease process rather than anything to do with the causation of the cancer. Nothing was known about genes that caused cancer, and the few rare inherited cancers, like retinoblastoma, were thought to be oddities of little importance. I already had

a clue that cancer genes were important from the work that we had done in Edinburgh on a specific chromosome abnormality that occurred in one type of leukaemia. I had shown, further, that male breast cancer was commoner in men with an abnormal XXY chromosome complement, suggesting that genetic make-up was important in the causation of cancer. Further, from what I had read of earlier work by scientists such as Theodore Boveri, it seemed clear that genetics would be important in cancer causation. I also believed, since so many things about human beings were determined by an interaction between genetics and environment, that cancer, too, was likely to have a major genetic component. So off my grant application went to the British Empire Cancer Campaign Scientific Committee (BECC) in London. The reply which came back, many weeks later, was a bit of a bombshell. Effectively, it said that the BECC was surprised that I did not know that cancer was caused by environmental factors, such as smoking cigarettes, the use of tars, mineral oils, and other industrial chemicals. Genetics had little or nothing to do with it. However, since I was a new professor, the Committee would give me a small grant to get me going, on the understanding that I would come back with something more sensible in a couple of years.

**Professor David Harnden: *Clinical Cancer Genetics*, p. 99**

## Cannabis

I had just come back to Israel from the US and I was interested in the chemistry and biological effects of natural products, and chose a few topics, one of which was cannabis. I asked the NIH in 1961/2 to support Dr Yehiel Gaoni and me. The Head of Pharmacology at the National Institute of Mental Health, Dr Daniel Efron, told me that they hadn't awarded a single cannabis grant; they were not interested in cannabis; they thought that it was a drug used mostly in Mexico and South America: 'It's not an American problem; when you come up with something more significant and relevant, please call us.' Nevertheless, my colleague, Dr Yehiel Gaoni and I went ahead. About a year later, I got a call from Dr Efron asking me whether I was still working on cannabis and when I said: 'Yes,' he asked, 'Can I come over?' So, he came over and I inquired: 'What's the rush?' He said: 'Well, a senator called us and asked whether cannabis will ruin his son's brain because he was caught smoking pot.' The senator asked the NIH whether they had any medical or physiological information on cannabis. They had none because nobody was working on it; they hadn't given a single cannabis grant

*'…a senator called us and asked whether cannabis will ruin his son's brain because he was caught smoking pot.'*

Professor Raphael Mechoulam: *Cannabis*

ever, I believe, maybe a decade previously, but anyway, at that time, they had no projects. By that time we had isolated the principal active component in cannabis, a molecule called tetrahydrocannabinol (THC) and elucidated its structure. Dr Efron took with him the world's supply of THC, about ten grams. Quite a bit of the early pharmacological work in the US on THC was done with the material that Dr Efron got from us and NIH was happy. We got a grant and then later had to reapply many times; the grant continued for nearly 40 years, and this was my main source of support.

**Professor Raphael Mechoulam: *Cannabis*, pp. 7–8**

A large number of patients have reported, in the vernacular, that use of street cannabis in smoked, cooked or other forms, was giving them marked benefit. My temptation was to believe them. Why other people didn't, I'm not sure. What was interesting when we started the programme was that as soon as we announced it, people started writing to us. We had a secret address and still do, but they wrote to the newspapers that covered the stories; they wrote to the BBC; they wrote to the Home Office. We used to receive a mailbag from the Home Office once a week. Over time, we had about 4500 patients who wrote to us and about 30 per cent of them had experience with cannabis. We then drew up, I think, a 70-point questionnaire and wrote back to them all. We wanted to know everything about what they did: where they found their cannabis; what type it was; whether they felt some was better than others; what caused them to

take more; what caused them to take less – supply was the problem that caused patients to take less, not side effects – and what other medicines they'd been on. We found a very clear picture of what the material could do and what we had to do then was to try to maintain that. Information from David Baker's research, and a lot of research throughout the world, was beginning to add biological and scientific credibility to a quality of data, which, sadly in this day and age, physicians don't heed very well. I think it is at their risk that they don't heed and don't seem to listen to the patients. I know that David's study was absolutely heralded as 'the actual proof', in that six mice got better; so that was fine. The fact that we had 4,500 patients, 1,000 of whom had got better, was irrelevant, because it was a different quality of data.

**Dr Geoffrey Guy:** ***Cannabis*****, pp. 55–6**

## Career influences

I was assigned to be oncologist Eve Wiltshaw's houseman by 1974. One of the things that I had to do was to give this platinum stuff to a patient with ovarian cancer. I had been taught that you couldn't treat people with advanced cancer and that the drugs didn't work and that they always died. The patient got very sick and looked a bit peaky, but came back about two weeks later without any cancer. That was what converted me to spending the rest of my career as a medical oncologist.

**Professor Hilary Calvert:** ***Platinum Salts*****, p. 27**

*…the reason I went into clinical pharmacology is possibly almost unique.*

I suppose the reason I went into clinical pharmacology is possibly almost unique. I started at King's College, London, aged 17, and I thought, 'Well, I don't want to complete preclinical studies too quickly and start clinical studies'. (I should also add in parentheses that my favourite pastime was spending the long vacation cycling across Europe to the Alps and back with a couple of friends.) So, I did a BSc in physiology, which meant two extra-long vacations, besides just one for the ordinary preclinical course. The part of the BSc that I enjoyed particularly was pharmacology. Having done the BSc and wanting another long vacation, I thought I would spend one more year and do a Master's degree by examination in pharmacology. My entry into clinical pharmacology could be put down to a passion for transcontinental cycling.

**Professor Brian Prichard:** ***Clinical Pharmacology 1*****, p.17**

My interest in palliative medicine was triggered by anger: the shock as a young doctor working in a general hospital where I was taught not to get too close to the patients or I'd begin to suffer with them. As a young psychiatrist, I did all the wrong things. I did get close to my patients. I got close to two patients who had both attempted suicide after the loss of a loved person. I got very interested in the developing field of psychology of stress and loss, and felt that this was somewhere I wanted to go.

**Dr Colin Murray Parkes:** ***Palliative Medicine*****, p. 10**

In the late 1970s and early 1980s I worked with John Batten as a senior registrar at the Brompton, and one of the things that got me into CF was the evidence of the benefit of specialist aggressive units. You could see when patients came into hospital sometimes just how much you could improve them. They would come in malnourished, badly infected, really dying and, with intensive treatment, you could actually pull people right back, and that convinced me of the importance of both a positive approach and special clinics. It is worth remembering the impact of nihilism on the patients and their families before that time, many of whom had been told, 'Your child will die at the age of five, oops, all right, by the age of ten. Still alive – well, wait until 15', and we would then inherit them with this feeling of nihilism and negativity running all the way through that child's life.

*It is worth remembering the impact of nihilism on the patients and their families…*

**Professor Duncan Geddes:** ***Cystic Fibrosis*****, p. 22**

I was attracted into perinatal medicine by my experience in the slums of Dublin as a medical student. We were on our own without midwives or doctors. Another medical student and I attended 44 home deliveries in six weeks. It made a tremendous impression on me – the joy and excitement of the whole experience. Even though there were hairy moments, there was always a tremendous party after the birth in which all the neighbours joined in. This was a great bonding occasion for the community. It is sad that we have taken childbirth (and death for that matter) and shoved it away in hospital. In the home, though, there is the opportunity to share the joy at the arrival of the new baby, renew friendships and make up quarrels.

**Professor Peter Dunn:** ***Maternal Care*****, p. 69**

## Cervical screening

In about 1964 the then Ministry of Health agreed that cervical smear tests should be offered, and available, to every woman. There were really no formal plans of how this should be done, but every pathologist became responsible for this. I think there were four or five training schools set up, and these were very important. I know there was Erica Wachtel (Hammersmith) and Chandra Grubb (Royal Free) in London, Betty Attwood in Birmingham and Blanche Butler in Manchester. One sort of offered oneself to these schools for training; there seemed to be no special funding for it, but that was the way to get your training, and that was the way that I got mine, with Erica Wachtel. It was fairly basic training, because you were shown slides, and told: 'This is abnormal and this isn't'. There was no one to explain to you what you were looking at or to explain that the aim of the exercise was to detect a precancerous condition. Many of the pathologists, who were responsible for offering or arranging screening in their own hospitals, really were not in a position to cope with the job because it is very time-consuming, and they were willing to take on anyone. I remember saying: 'Well, I have been to a training school, I know how to do it.' They said: 'All right, we will take you on a trial basis.' You were put in a little hole in the corner to get on with it on your own. I remember I actually sat in a fireplace, my feet were in the fireplace, and my microscope was on the mantelpiece and I had a suitably high stool to sit on. Until I proved my worth, I wasn't given an office or a proper desk or anything.

Three Aylesbury spatulas and one Ayre spatula, 2009: *Cervical Cancer*

**Professor Dulcie Coleman: *Cervical Cancer*, pp. 11–12**

To start with, we had people who were formally training to be laboratory technicians and then I think it was probably in the 1970s that we took on a group of women, mainly part-time, who became cytoscreeners. They were different to the people who were qualified with the Institute of Biomedical Science (IBMS); they didn't have any formal qualifications, and they were often derided and called shopping-bag screeners, but they were absolutely fantastic at

Mrs Marilyn Symonds, cytology laboratory, Stoke Mandeville Hospital, Aylesbury, 1964: *Cervical Cancer*

what they did. They were able to sit down quietly and concentrate and look at every cell that was being passed under the microscope, and I can say that that group of women now are nearly all retired, and it's extremely difficult to replace them. The IBMS now think that we should have biomedical scientists with degrees and formal qualifications in cytology, but I can honestly say that on the whole they are not nearly as good at screening as those women from the 1960s and 1970s.

**Mrs Marilyn Symonds: *Cervical Cancer*, pp. 21–2**

## Child protection

One of the most difficult things in my involvement with ALSPAC was trying to balance my responsibilities as a clinician participating in safeguarding children in the NHS with my responsibilities to the study. I felt that ALSPAC had to adopt the same thresholds of concern as were current in clinical practice. There were a couple of occasions where it did result in the family withdrawing from the study, and that caused a lot of heartache, but I think my conscience is clear that, at the end of the day, we did pertain to the same thresholds that were around at

the time. There were one or two quite worrying cases of neglect and abuse, and of mental health issues, that we had to take account of. These are not written up anywhere, but that did go on behind the scenes.

**Professor Alan Emond: *ALSPAC*, p. 77**

## Cholesterol

I saw a man in the Tower Hamlets heart attack register. Well, I didn't see him, but I interviewed his widow. He had had an attack of chest pain in the night and the emergency doctor had come along and said that it was indigestion, and nothing to worry about, and he died before morning, his wife finding him dead, downstairs on the sofa at daylight. He had been admitted three years earlier to St Bartholomew's Hospital and I noticed on his notes that his cholesterol had not been measured when he had his MI (myocardial infarction) or afterwards. The interesting thing was that he was only 28 years old when it first happened, but it was not considered necessary in 1968 to measure the cholesterol levels in a young man with a coronary in a London teaching hospital.

**Professor Hugh Tunstall-Pedoe: *Cholesterol*, p. 58**

## Cisplatin

[In the 1970s cisplatin, a compound containing platinum salts, revolutionized the treatment of solid tumours such as those of the testes and ovaries for which there was no effective treatment. Unfortunately it caused massive emesis (vomiting) and some patients refused life-saving therapy because of these side effects. The development of powerful anti-emetic drugs to counter platinum-induced vomiting subsequently changed all cancer treatment.]

**Wiltshaw:** In 1971 there was no other oncological unit in the country, and almost no other unit in the world, that was doing clinical studies in drugs, and, as you can imagine, we were not favoured doctors at the time. And, in fact, we were called the 'death-watch beetles', because we had to go to see people who were dying, and try to treat them with totally ineffective drugs. Nitrogen mustard was about the only drug that resulted in any kind of improvement. The situation in the 1970s was that we had this tiny medical unit that had no staff; there were two doctors, haemato-oncologist David Galton and myself, or David Galton and somebody else. There were no junior staff and we relied on David Galton's international reputation to attract fellows from abroad to help us with the work, and these people were funded by themselves or by their countries; there was no such thing as funding for a clinical fellow for medical oncology.

Dr Eve Wiltshaw: *Platinum Salts*

Nevertheless, they did come and that was a great help to us. There was no senior house officer, there was no registrar, and there was certainly no nurse to help you. So we did all our IV therapy and work, blood products and so on, ourselves. It was impossible to do things in a big way at that time. To consider a collaborative trial was impossible. There was no unit to which you could hand out helpful hints and ask them to collaborate with us. Again, remember, there were no nurse data managers, so it was a slow business. The other side of the coin at the time was that there were few restrictions on trials: virtually no ethical permission was needed, and the hospital relied on the doctors not to do anything that might be considered detrimental to cancer patients. Again, all our patients knew the diagnosis in the 1970s. They might not have known it when they came to the hospital, but they were told when they arrived. We found that when they were asked if they would enter a study, often comparing drug A with drug B, very few refused. However, that kind of permission given by patients was well below what you would have to do now. Patients were not told about all the hazards that might occur. We are talking about 'luck' in terms of platinum compounds, and one of the things that we decided was to treat patients with ovarian cancer, not because we thought that this was the drug for ovarian cancer, but for another reason. One was that I had a small practice in ovarian cancer patients. The second was that we knew that this was about the only adenocarcinoma that responded, however badly, to alkylating agents. They did have a small response rate, and therefore we thought that this might be amenable to the new drug. That turned

out to be a very appropriate way to go. The first use of cisplatin was impressive to me, and I reported this to the cisplatin group at the Oxford conference in 1973. Twenty patients were treated and several showed dramatic regression of tumour masses and the disappearance of ascites – this was despite the fact that most were seriously ill before having this drug.

Calman: What a remarkable testimony that was, and it shows, I think, two things: one, the courage of the oncologists but, just as importantly, the courage of the patients to be part of that process. You also mentioned the death-watch beetle bit. Sixty per cent of the patients referred to me in Glasgow in the first six months of my appointment there died within the month without treatment. That was the referral practice, which many of us saw in the early 1970s, and things changed at just about that time.

**Dr Eve Wiltshaw, Sir Kenneth Calman: *Platinum Salts*, pp. 25–6**

## Clinical pharmacology

I had a row at the interview for the Professorship of Clinical Pharmacology because I insisted that I wanted to continue to do clinical medicine and this was contrary to some opinions in Oxford at the time. I very much liked doing clinical medicine, and I don't think that a clinical pharmacologist could hold his head up unless he knows about the prescribing of drugs to people who are ill. Also, the clinical students will soon find you out if you are just a theoretician. You have got to know what you are talking about on a ward round or whenever you are teaching clinical students; you really must know the practical implications. I think it is extremely important to maintain this contact with ordinary, grubby, day-to-day medicine. Our problem is – and it hasn't been said yet – that we are not organ-based. That's why the subject finds its position difficult. Those who fund the NHS would rather pay the pharmacists – cheaper – to look after the drugs, not the clinical pharmacologists. So there is still a serious problem, I think, in the identity of the subject of clinical pharmacology.

*You have got to know what you are talking about on a ward round…*

**Professor David Grahame-Smith: *Clinical Pharmacology 1*, p. 34**

## Clinical research

It saddens me as I reflect upon what's happened over the last few years (1990s), because I have seen how difficult it has become to pursue clinical research in the atmosphere of medical schools. The pressure of the NHS on beds, on positions, anything where you have to apply the lessons you learned from research to the care of patients and their prospering, is blocked by the way in which the NHS has regressed. Last year it was my privilege again to go round as an observer for the Wellcome Trust with the working party that looked at the possibility of providing clinical research facilities in various of our university medical centres. For me the wheel had turned full circle; from being able easily to run a medical unit, previously, in the heart of a medical school in London, we were now having to go and look at the facilities that were desperately needed in practically all our major teaching hospitals. They just were not there. And the Wellcome Trust was able to provide facilities, buildings and equipment, to five centres. As far as I was concerned, you could have made a strong case, and a strong case was made, for another dozen. Now that is where clinical research has arrived at over the last 20 years, which seems to me a great shame. There is no shortage of people as one looks at the quality of those coming through both the MRC and the Wellcome Trust and all the other research bodies, but we are at risk of not being able to provide them with the right places in which they can pursue that clinical research.

**Professor Sir Stanley Peart:** ***Clinical Research*****, pp. 41–4**

## Clinical research methods

Between the time the Clinical Research Centre (CRC), Northwick Park, in London, was planned and its opening in 1970, a distinct change had taken place in the nature of research. For instance, there were observation wards throughout the research wing, the purpose of which was to allow patients to be observed and studied. And there were metabolic wards for long-term collection of excreta, etc. Neither of these facilities was much used because, by the time the CRC opened, new methods of clinical research had been introduced that depended less on direct patient study and more on sophisticated laboratory investigation. I believe there was a fundamental change in the way research was carried out as measurement technology developed.

**Sir Raymond Hoffenberg:** ***Clinical Research*****, p. 33**

*…when we'd got something that worked reasonably well on laboratory infections, we took a few doses ourselves…*

## Clinical trials

You must remember it was quite a different kind of clinical trial in the 1950s and 1960s from the kind done today because there were no lawyers looking over our shoulders with regulations, and it didn't cost you £100 million in order to get a drug passed by the US FDA. So when we'd got something that worked reasonably well on laboratory infections, we took a few doses ourselves to determine the basic pharmacodynamics and then persuaded somebody to let us try it in the field. I don't really think we did very much damage, and I think we did a bit of good.

**Dr Len Goodwin: *Africa*, p. 78**

## Clinicians and drug discovery

A little warning: management takes a lot of notice of clinicians. The more eminent they are the more notice they take. Syntex/Roche was developing prokinetic drugs based on 5-$HT_4$ agonists and they'd gone down the road quite a long way, although I was not in charge of this programme. But the company moved that programme forward and then they brought in some very eminent gastroenterologists after an awful lot of pre-clinical work and one of them asked in front of management: 'Does this compound prevent pain? Gastrointestinal pain,' and the answer was: 'No, it doesn't.' The clinicians said: 'Well, that's it, it's useless. We must have a drug that is analgesic for these IBS (Irritable Bowel Syndrome) patients.' The company called him in and no matter what we said to management it was of no avail – the programme was stopped. It can be very damning how very quickly a whole programme can come to an end.

**Professor David Clarke: *5-HT*, p. 109**

## Committee on Safety of Drugs (CSD)

At our first Adverse Reactions Subcommittee meeting, in July 1963, we asked the secretariat to prepare a letter to be sent to all doctors in the United Kingdom. This was a warning about serious adverse reactions, which had been reported from patients who had been given monoamine oxidase inhibitors, used in the treatment of depressive illness. It was sent to all doctors in February 1964 and the circular went out on the now characteristic bright yellow paper, in bright yellow envelopes. These have been used for warnings about adverse reactions to drugs ever since.

This was the first official warning about adverse drug reactions ever issued by any drug regulatory body. There was an unexpected reaction to that warning from Dr William Sargant, a very distinguished psychiatrist at St Thomas's Hospital, London. He believed so greatly in the value of monoamine oxidase inhibitor drugs that he would not accept that they caused any serious adverse reactions and he castigated the CSD in no uncertain terms. We were to find that this was not an uncommon response to reports that we issued about adverse reactions to drugs. There were always doctors who thought our warnings meant that the drugs were banned from use (which was not true), and that patients for whom the drug was of special value would be denied the treatment they needed (which was not true either).

It became clear to me later from colleagues that there were three reasons why hospital staff did not send in reports, even when an adverse drug reaction was the cause of a patient's admission to hospital. The day-to-day care of patients and drug prescribing was usually the responsibility of junior doctors who did not necessarily realise that it was their duty to look for, and report, adverse reactions to drugs. Secondly, although they had been asked to report 'suspected adverse reactions', many physicians felt they should only report a reaction they were *certain* had been caused by a drug. And certainty is hard to achieve, when a patient may be receiving several drugs at the same time. Thirdly, some doctors were worried that drugs they valued greatly could be taken off the market if they reported adverse reactions to them.

**Professor Owen Wade:** ***Safety of Drugs*****, pp. 123–4, 125–6**

## Committee for Safety of Medicines (CSM)

The one other thing I'd like to say is about patients. All the way through my period on the CSM we did think about patients. We thought about them all the time. We may have looked at the risk–balance ratio in a sort of patronizing way, and I'd accept that. We may not have had meetings in public – in that period no scientific committee had meetings in public – but to say we didn't think about patients is completely wrong. And the one person, above all, actually – surprisingly – who was always talking about patients, was the late Sue Wood (Principal Assessor, CSD). And although she was a very difficult woman in many ways, and she and I had huge arguments, which apparently reverberated around the building, nevertheless she was always, always talking about the 'poor ******* patients', as she put it. 'What are you going to do about them?'

**Professor Sir Michael Rawlins:** ***Clinical Pharmacology 2*****, pp. 61–4**

Professor Sir Michael Rawlins: *Clinical Pharmacology 2*

## Common Cold Unit

I remember my friend and I going to the Common Cold Unit as young medical students, and the very first thing we did was to look at the list of the other volunteers. We could speak to any of them over the phone. So we looked down the list quickly where there was a Miss Somebody and a Miss Somebody in a particular hut and sure enough they usually turned out to be students of some kind or other, especially as we were going there in the university vacation time. And so one picked up the phone and made contact with those two and what could one do? Play chess over the phone, which we did a great deal. We weren't allowed to go within I don't know how many yards it was of each other, so sometimes we'd do a walk and wave at each other and all one could look forward to was the social on the final evening, which hardly gave time for any relationship to develop. Anyway, they were enjoyable days and I am only too pleased to have made perhaps a very tiny contribution.

*We weren't allowed to go within I don't know how many yards it was of each other…*

**Mr Michael Cox: *Common Cold Unit*, pp. 262–3**

## Condoms

One of the jobs that the duty anaesthetist had to do was to buy a dozen condoms at the local chemist's shop, because, at that time, tracheostomy tubes tended to be very crude, and we found the best ones were silver tubes with a home-made cuff made from a condom on the outside. These things did tend to burst from time to time, but we always had half a dozen ready for changing over. It was a very good way of keeping the tracheostomy tube clean, because, of course, the inner tube was silver, it was taken out, and it worked as an airtight fit as well.

**Dr Joseph Stoddart: *Intensive Care*, p. 44**

Although SIGMA (Socio-sexual Investigations of Gay Men and AIDS) actually began in 1982 to research homosexual behaviour in a multi-site context, the project wasn't fully funded until 1986. It's worthwhile, I think, to say that at one point, the ESRC (Economic and Social Research Council) was asked why it had not funded research in sexual behaviour and AIDS in that crucial period, and they said they had received no grant applications. In fact we had submitted an application, and I was subsequently able to get them to withdraw that statement. But they were certainly worried about the intentions of Mrs Thatcher, who had quite publicly threatened to get rid of sociology from the ESRC on the grounds

that it was not scientific. Therefore, for the ESRC to be seen to be paying for a project that was so strongly controversial simply wasn't on. In the end we got the funding from the Department of Health primarily for looking at condom adoption, and only secondly from the MRC. We were able to demonstrate that the adoption of condoms by gay men took place in the early part of the period and that, by 1986, when we got funding to look at this, the process of condom adoption was virtually finished. It was only because of the medicalization of the research problem that we got the funding to mount the project. With the social sciences we wouldn't have, in fact, got any funding.

**Professor Tony Coxon: *NATSAL*, pp. 12–13**

## Conferences

I learnt more in unofficial discussion around the swimming pool, than I did from any of the formal presentations, because I met people, I talked to them informally, and I got many ideas and contacts from that very nice relaxing two hours. There is a lot to be said for not overburdening your conferences with too many papers.

**Dr David Wheatley: *Psychiatric Drugs*, p. 193**

I have an uneasy feeling that the pharmaceutical industry may be unduly influencing the dissemination of information about psychopharmacology through their heavy involvement in the organization and funding of international conferences. I remember that when I attended the First and Second British Lithium Conferences in 1977 and 1987 respectively, these meetings were not sponsored by the pharmaceutical industry to any great extent and were held in Lancaster and Wolverhampton, not particularly glamorous settings I think.

**Dr Philip Harrison-Read: *Psychiatric Drugs*, p. 195**

## Contamination problems

In 1985 tests for HIV were introduced to the Blood Transfusion Service and, in fact, tests for HIV became generally available. We were all asked by the parents of the haemophiliac children we were looking after, 'Please test our children' and that's what we did. But we read the message wrongly. What they were asking us, without saying so, was, 'Please find my boy is negative'. In those days when the first test came out, the concept of counselling was really not very well understood, and certainly we didn't understand it. We told the parents the results and then an enormous flood of anxieties and queries came in and people came and talked

*In a children's hospital, it is very difficult to inquire into the sexual habits of your patients.*

to us. When the test was first introduced, a large number of our boys were quite small, but as time went by, little boys of 12 became big boys of 16 or 17 and it became time for them to know. In a children's hospital, it is very difficult to inquire into the sexual habits of your patients. It is just not in the ethos of a children's hospital, and we thought that all these boys should know their HIV status. Whether or not they would actually modify their behaviour we very much doubted, although we did have condoms available in the Haemophilia Centre. It proved very difficult to get them to talk and it proved impossible to persuade their parents to tell them. Eventually we came to an agreement that if the boys asked, we would tell them. Various ways and means were found to raise the topic so the boys actually asked us, so they could be told. One father came to my office at 8 o'clock in the morning and he said, 'I hear what you are planning to do. On no account should my son be told, it will destroy him'. Eventually the boy found out and said he was grateful to be told because it was all hushed up so much at home that he thought something much more serious must be afoot. You will all remember how dreadful it was at the time with the television advertisements showing rolling waves and talking about HIV and safe sex, and so forth. When this happened in a haemophilia household the television was turned off.

**Dr David Evans: *Haemophilia*, pp. 27–9**

## Controlled trial

Archie Cochrane was very quick to confess that he had never done a randomized controlled trial but he stimulated everyone in the MRC Pneumoconiosis Unit to think in those terms; it was almost a religion at the unit, and many, many others did randomized controlled trials. But Archie did publish a delightful paper that I am sure most people are aware of. 'My first, worst, and most successful clinical trial' described his experience in the prisoner of war camp with famine oedema. His output measurement was the buckets of urine that were carried out from the different wards. I would just like to tell a little fact about that. Archie talked about it occasionally to us in the unit, but I asked him if he would address a meeting. I had arranged a conference on some topic, and I invited all the speakers and a few key people to a dinner the evening before, and when I did this I usually asked somebody to give a talk on something to entertain the guests after their dinner. I asked Archie on one occasion would he tell us about his experiences in the prisoner of war camp and about this controlled trial, and he agreed with very

great reluctance. As he told the story and spoke about the horrific conditions in the prisoner of war camp he almost broke down emotionally. He had very great difficulty in finishing the story, but afterwards he came and thanked me. He said, 'You have helped me to get over that difficulty and I am glad you did it.' Very shortly after that he wrote it up and it was published in the *British Medical Journal* but that was the only controlled trial that he did.

**Dr Peter Elwood:** ***Population-based Research,*** **p. 23**

## Coronary heart disease (CHD)

We set up incidence studies of CHD among men in a wide range of occupations to give us information to go alongside the national mortality statistics. The studies included a huge range of occupations: medical practitioners, schoolteachers, factory workers, and, very importantly, a range of occupations in London Transport and the civil service. In 1949 I had a hunch that acute myocardial infarction could be related to occupation. It was more common in men than women, in middle age than in youth; there were some hints in the national mortality data. Within a year there was an intriguing suggestion of some protection against CHD, in particular against the most serious acute coronary syndrome – sudden death as first clinical manifestation – in the conductors of London's double-decker buses compared with the drivers, and in postmen versus three sedentary grades of office workers in government. We were soon struggling with the far more difficult issues of research into exercise in leisure time by a population rapidly becoming sedentary by the early 1970s.

*…I had a hunch that acute myocardial infarction could be related to occupation.*

**Professor Jerry Morris:** ***Cholesterol,*** **pp. 41–2**

We are actually on the verge (2005) of a pandemic of CHD far greater than we have ever seen before. We think we are beating it here, and we are, but CHD is not due to deficiency of statins. It is also not, by and large, a deficiency of genes; it is nutritional. I think that was why people had a lot of trouble accepting the cholesterol hypothesis in Britain. When all we could do to lower cholesterol was to criticize the food and agricultural industries, and to talk about diets, there were great forces ranged against people who wanted to lower cholesterol. These industries killed a lot of the enthusiasm for nutritional change by their promotion of negative views. I don't want to talk about individuals, but it was very obvious that if you had certain speakers at a medical meeting their lectures

would be organized and arranged by the food industry. In the early days of gene work as well, the suggestion that CHD was genetic was publicized because it was a distraction from nutrition. When statins came along then we had a big industrial force raised behind cholesterol-lowering with drugs. Statins have undoubtedly been a great boon. They have been a great success and we haven't yet seen their full benefits, but we shouldn't lose sight of the fact that one casualty of statins has actually been the nutritional hypothesis. For most parts of the world where CHD is going to be important in the future, it is a nutritional problem. It can only be tackled nutritionally: drugs are too expensive there. I think that point has been lost sight of and it worries me greatly.

**Professor Paul Durrington:** ***Cholesterol,*** **pp. 53–4**

## Cypriot community in London

In the 1970s, I was specializing in the clinical management of thalassaemia and what happened within a month, a few months of my having set up this clinic, was that a rather rapidly growing number of patients attended our own hospital or were referred to us from adjacent hospitals. The struggle for independence in Cyprus from 1957 to 1960 caused 10 per cent of the entire Cypriot population to migrate to the UK because of civil strife and economic depression. Most came to North London in the intake area of my hospital (University College), and adjacent hospitals, and so we started seeing thalassaemia major. I worked out that at least 14 per cent of these people carried beta thalassaemia, which was a lot. It turned out to be 17 per cent in the end. We had a population at very high risk, and patients started cropping up in all the hospitals round about, so I became a sort of referral centre. I very quickly found out that if a woman who had had a child with thalassaemia major became pregnant, they rang me up in a panic and asked me to arrange a termination because they were so afraid of having another child with this hopeless prognosis and a very punishing treatment of monthly blood transfusions.

*We had a population at very high risk, and patients started cropping up in all the hospitals…*

**Professor Bernadette Modell:** ***Clinical Molecular Genetics,*** **pp. 23–4**

# Cystic fibrosis

## Cystic fibrosis – adult patients

Cystics are, and are going to be, living longer and we have got to take away the age barrier, which would change the view of people treating cystics. I get very annoyed. Nihilism is a constant problem. Somebody asked me at lunch two months ago (and it's the first time it hit me), when they asked a younger colleague (who is not CF), 'What's your ambition?' The colleague turned round and said 'My ambition is…' She then asked me what my ambition was, and I thought to myself that I really had no ambition because I was supposed to have died when I was 16, and then it was 18, and so it has gone on – even now at the age of 38. If a cystic isn't strong enough to say, 'Well, there's a first time for everything,' it is extremely difficult to live through. There is a first time for everything, good and bad, and I get very annoyed when people fail to think that how they treat the patient now can affect the patient in the future.

**Miss Tracy Humberstone:** ***Cystic Fibrosis*****, p. 72**

## Cystic fibrosis – dietary management

During the late 1970s and early 1980s there was an enormous difference in dietary management as we went from low-fat diets, from dietary restriction in people who were undernourished, to Pancrease and high-fat diets, and suddenly people's weight took off, and instead of inheriting very malnourished sort of sexually immature 18 year olds from the paediatricians you began to get these rugby first-row forwards coming through.

**Professor Duncan Geddes:** ***Cystic Fibrosis*****, p. 22**

## Cystic fibrosis – infection

A young man with cystic fibrosis in 1990, or 1991, had acquired *Burkholderia cepacia* infection, possibly from contact with someone who had been to a Canadian cystic fibrosis camp, and he met and fell in love with and was shortly to marry a girl who also had cystic fibrosis, and she grew *Staphylococcus aureus* only in her sputum. Within two months of the start of that relationship, this girl had also acquired *B. cepacia*. The young man died within six or eight months of their meeting, following a lung transplant operation and three months later

the young woman died. This terrible event alerted us to the facts of this dreadful infection by which so many clinics in the UK have been so scarred over the years. This is a problem that we are only now getting to grips with through segregation and other infection-control measures.

**Dr David Stableforth: *Cystic Fibrosis*, pp. 31–2**

## Cystic fibrosis – treatment in 1945

It's difficult nowadays to envisage what it was like in 1945, but for those of us who had come back from the war to this country, it was an extremely exciting period. So many new advances in medicine: paediatrics itself had become accepted as a real branch of medicine, and not a junior partner; there was the discovery of the antibiotics that totally changed our attitude to infectious disease, which was of particular importance, of course, regarding CF; last, but not least, was the advent of the NHS in 1948. We could prescribe drugs without worrying whether the family could afford them, a matter of immense importance in a persistent long-term disease such as cystic fibrosis. Treatment – again primitive. The symptomatic steatorrhoea was controlled to some extent by pancreatic tablets or powder, and by a strict low-fat diet, which may not have been the best thing, but at least reduced the number of offensive stools, and certainly reduced the amount of offensive flatus, which for schoolchildren was very upsetting and unpleasant. The low-fat diet was supposed to be supplemented by a high-protein diet, but as much as one insisted on children having a high-protein diet, it was virtually impossible. These were still the days of rationing; proteins of any sort, and particularly meat, were in short supply and very expensive, and certainly there weren't many children who received even a normal protein diet by today's standards. Chest infection, usually considered to be staphylococcal, was treated with courses of penicillin and then aureomycin, or terramycin, or whatever was coming along. Physiotherapy was really pioneered in this country, rather than in the US, with postural drainage and chest tapping. Surprisingly these very primitive measures did decrease early mortality and at least temporarily improved the outlook for the older and therefore less severely affected child.

*…there weren't many children who received even a normal protein diet by today's standards.*

**Dr Archie Norman: *Cystic Fibrosis*, pp. 4–6**

Mrs Diana Garratt
*neé* Northover:
*Dialysis*

D

## Department of Health

The most dangerous organism we have is the Department of Health. This has become very clear to me. From about the early 1990s, we were being forced into accepting excessive surgical admissions to reduce waiting lists, or to have our finances cut. I once tried to close a ward at the John Radcliffe Hospital, Oxford. The Chief Executive said: 'Certainly we will do that, but you realise that it will cost us £500,000 if we don't meet our expected patient put-through rate: think of the hospital, please'. And I foolishly conceded.

**Dr Joe Selkon:** ***MRSA*****, p. 37**

# Dialysis

## Home dialysis

Dialysis, especially home dialysis, changed the face of British medicine. It introduced the nurse specialist, teamwork, particularly in the home. It introduced informality between staff, nurses, and doctors, and it gave patients the chance to have their say. This really was a huge change in the manner in which health care was delivered in this country.

**Dr William Cattell:** ***Dialysis*****, p. 76**

## Home dialysis: a home dialysis administrator's perspective

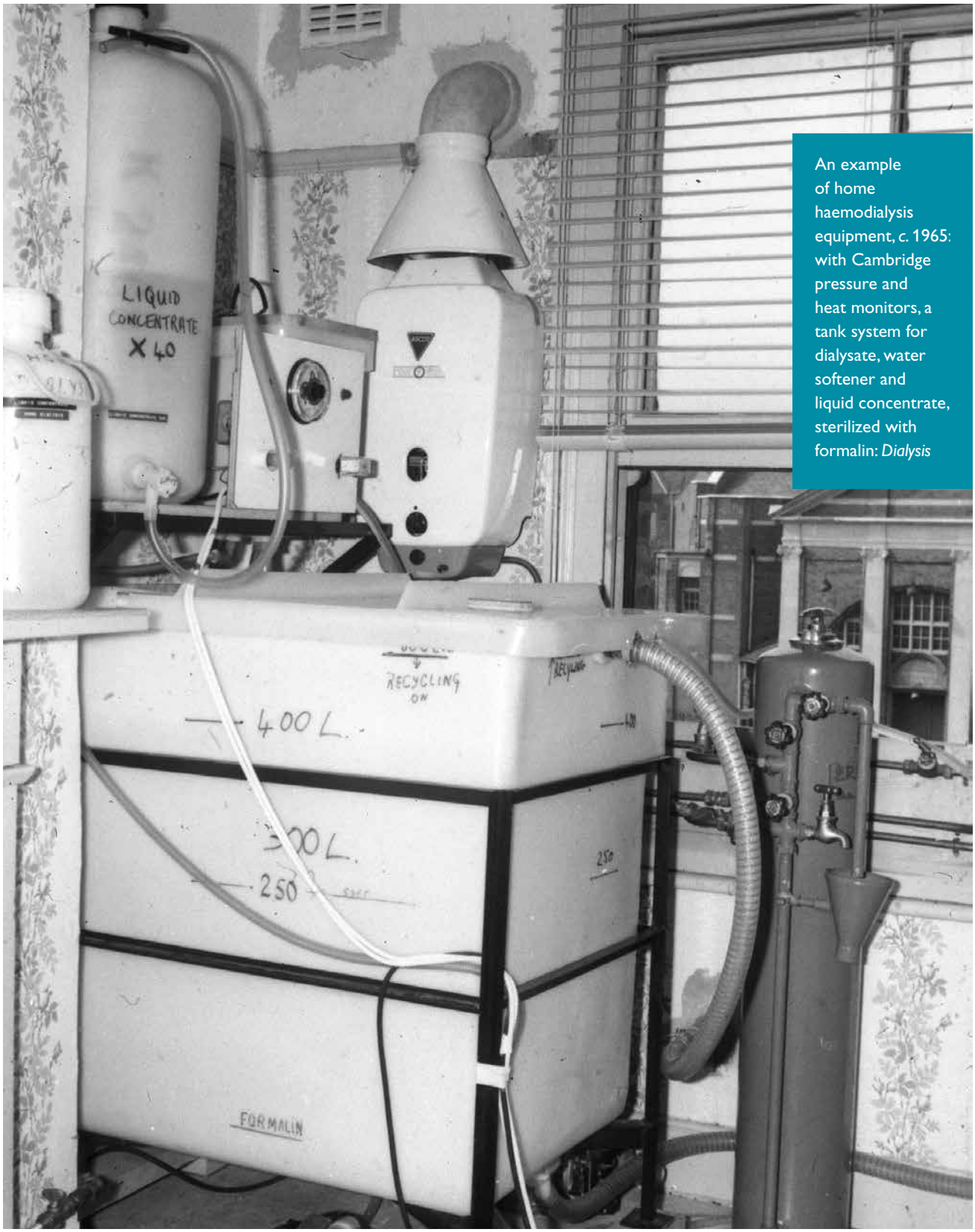
I was frequently the last person any patient with renal failure wanted to meet, because when they met me it was confirmation that their renal function was not going to return and starting home haemodialysis was further confirmation that their kidneys weren't going to work unless they had a successful transplant. In the early days, I had to liaise with the local authority who weren't always very happy about meeting the costs of the adaptations. The home dialysis treatment room requires a mains water supply and drainage to facilitate effluent from the water softener and dialysis machine, waterproof flooring and shelving, and a separate metered electricity supply. However independent we made the patients, what went on in their homes was a different issue. Frequently the spouse or partner provided considerable support. Few homes have spare space, and in the 1970s the dialysis equipment was considerably larger than that used today. Lack of adequate space to house the dialysis equipment and disposable dialysis supplies might necessitate the building of an extension to the home or a cabin in the garden, usually with covering from the house to the cabin. Only adults used the cabins. No patient was ever allowed to dialyze at home without a functioning telephone in the treatment room. Many of them had never had a telephone in their house and, as far as they were concerned, a phone in the house was the harbinger of bad news. Patients were overwhelmed at having to cope; learning to dialyze independently at the same time as having adaptations done and equipment installed by renal technicians caused considerable strain.

*Patients were overwhelmed at having to cope…*

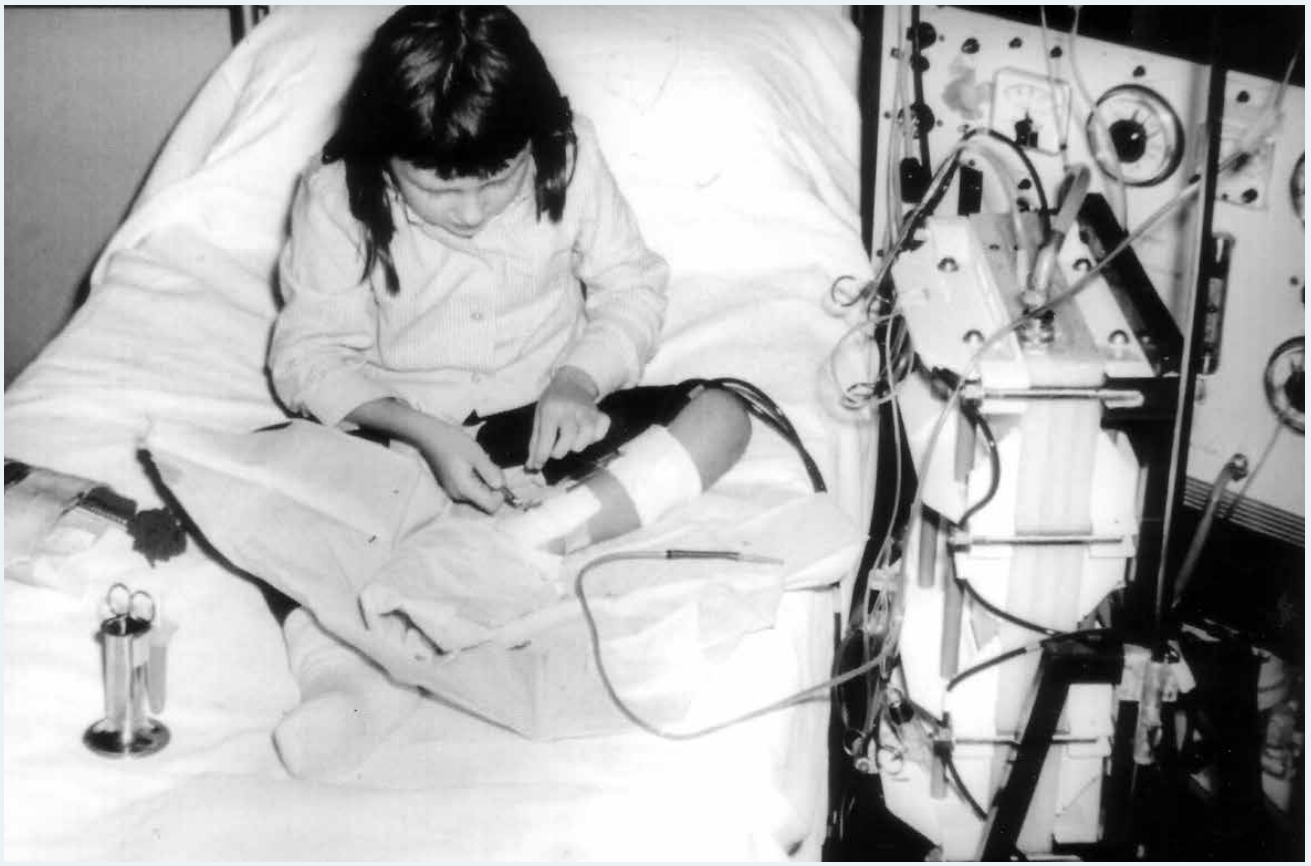
**Miss Mary Selsby: *Dialysis*, pp. 60–3**

## Home dialysis: a patient's perspective

I am a renal patient, started in 1969. It was January 1970 when Rosemarie Baillod came round to set me up at home on haemodialysis with my first shunt and I remember the room very well. We had a de-aerator, it looked like a toilet cistern, high on the wall above the bed. Actually, I think I was dialyzing on the table at that time, we hadn't organized the bed. The rest of the family went on around us; we had a small TV, my younger brother and sister and the cat, who went very soon after because it was sitting there watching the pulsating blood lines and that was very nerve-wracking, very, very nerve-wracking. We got through it, but it was an enormous effort. Every day you were either on the kidney machine, or you were hoping that the machine, which was not at




An example of home haemodialysis equipment, *c.* 1965: with Cambridge pressure and heat monitors, a tank system for dialysate, water softener and liquid concentrate, sterilized with formalin: *Dialysis*



Diana Northover, later Garratt, as a child in 1969: *Dialysis*

all reliable compared with the modern machines, would work, that the kidney would not burst, that you wouldn't have a blood leak.

**Mrs Diana Garratt: *Dialysis,* pp. 56–7**

## Home dialysis: her mother's perspective

Diana had two siblings and really dialysis had to be a normal part of the family pattern; it couldn't take priority. The other two children needed attention. The last thing I would like to say is that the funny thing about home dialysis is that when we had got past the ten-year mark – we went on for about sixteen years before Diana got a transplant in 1985 – what we found was that you worked so hard and you had so little rest, that when finally you'd finished with the dialysis, the Kiil (part of the dialysis equipment) was put on the local dump and the transplant was working, you couldn't really remember what you had been doing a lot of the time. So this was extreme, emotional, psychological, and mental fatigue. I don't know what the two sides of the brain were playing at! But I kept a friendship going with another dialysis mother, and she said, 'I need you as my

witness, because I have got to talk to somebody, I have got to know that we really went through it.' She suffered from the same thing. So when people say, 'Oh, go and learn French by total immersion', I have to say that what we learnt on home dialysis was certainly 'home dialysis by total immersion'.

**Dr Jean Northover: *Dialysis*, pp. 58–60**

## Dialysis: patient selection

In the early days, the early 1960s, when we had to be highly selective, our only criterion for acceptance was: 'Can we get this patient back to work?'

**Dr John Goldsmith: *Dialysis*, p. 70**

## Difficult doctors

My generation – becoming a general practitioner as I did in 1975 – was greatly influenced by the publications and the work of psychoanalyst and GP educator Michael Balint and the Balint Society. There was a realization that when there were difficulties in the relationship between a doctor and a patient, it wasn't just that these were 'difficult patients', but Balint turned the searchlight on the 'difficult doctor' and asked why was that doctor having a particular problem in this way. And that gave a way in which young and old within the groups could discuss what was the real issue that one was trying to deal with; was it something within one's own experience, or was it one's own set of attitudes that was creating the difficulty? Now I personally think that we are in great danger of having lost that from medical education.

**Professor Roger Higgs: *Medical Ethics*, pp. 55–6**

## Disabilities

A 1972 conference, funded by Action Research, dealt with the causes of the main disabilities, cerebral palsy, mental retardation, blindness, and deafness, and was interdisciplinary; it had neonatologists, paediatricians, obstetricians, and geneticists, and the idea was to channel Action Research money to support paediatric research, particularly in the neonatal area, and possibly some obstetric research. What came out from the papers of that conference was that by far the largest proportion of those disabling conditions were essentially nothing to do with what happened during labour or delivery or in the newborn period, and a great deal more to do with genetics and environmental factors, and Action Research then decided not to publish the papers. Obstetricians and

neonatologists have had a lot of money in the past because they believed they were going to avoid these terrible conditions, but they are not responsible for a major fraction of them.

**Professor Sir David Hull:** ***Neonatal Intensive Care*****, p. 58**

## Doctor–patient relationship

When I first went into general practice, I asked one of my patients what she had been told at the hospital – this was 1976 – and she said: 'Well, they don't tell me nuffin', doctor, 'cos they got that oaf '. And while I was trying to work out who the oaf was that she was talking about, I realised that she meant the Hippocratic Oath. From her point of view, having been born at the end of the Victorian age in working-class London, she was very clear that doctors took an oath not to tell the patient anything, and that was her view.

**Professor Roger Higgs:** ***Medical Ethics*****, pp. 62–3**

The idea that a doctor and a patient with a chronic condition take out a contract with each other, which is now standard in medicine, was pioneered in the 1960s in nephrology, almost by default. We were going to ask patients to do so many things with their lives and in their lives, and we were going to invade their homes especially and so they would have to take more responsibility as well.

**Professor Stewart Cameron:** ***Dialysis*****, p. 43**

Miss Tracy Humberstone: *Cystic Fibrosis*

## Doctors' ignorance

The other day I was at Guy's, where the 'doctors of the future' were present. It was a training evening where they have to diagnose what disease the patient has. One student doctor examined me, and was asked what her diagnosis was. In passing she said, 'Well, I ruled out cystic fibrosis because she's too old.' I sat there and thought, 'This is the young doctor of today, and she's going out on to the wards and she is going to encounter CF in adults.' Somebody asked me once, 'Well, can't you tell the doctors?' If you are in hospital and that doctor is looking after you for two weeks or more. I try to say, 'I want to help you. I have CF and I have lived with CF for 38 years, so please listen to me'.

**Miss Tracy Humberstone:** ***Cystic Fibrosis*****, p. 72**

## Domiciliary care

The 1959 study in Madras of home versus sanatorium treatment for TB showed that domiciliary chemotherapy was as effective as in the sanatorium and caused no more disease among household contacts. It had a profound effect on our practice here, so that by the end of the 1960s most of the tuberculosis sanatoria and hospitals were either closed or were closing down.

**Dr Kenneth Citron:** ***TB Chemotherapy,*** **pp. 31–2**

## Drug abuse

One of the focuses now in the [United] States, is on cocaine, with the emphasis on possibly manipulating the transporter pharmacologically as a way of dealing with dependence, and all that is to the good. It adds to medical knowledge, medical practice, and treatment. Whether it has achieved its aim, I'm not sure. Drug abuse is such a difficult and complex socio-economic problem, I'm not sure scientists will ever be able to come fully to grips with that. All that we can do is try to give a range of possible alternatives so that governments and the responsible agencies can try and make of it what they will. Science is not going to solve drug addiction. All it can do is provide tools that could aid social policies.

**Professor John Hughes:** ***Endogenous Opiates,*** **p. 90)**

## Drug discovery

I was a lecturer at St Mary's Medical School in the physiology department and I didn't really want to just teach medical students and end up with a line in a textbook, so, I thought, I want to discover a drug, and I was very fortunate and was employed by the pharmaceutical company Allen & Hanbury, later Glaxo, to find an anti-migraine drug. When I got there I found an empty lab and a girl sitting on a stool saying: 'What are we going to do?' I said: 'Well, I don't know; we'll have to think about this' because there were no preconceived ideas about how we should proceed. That would never happen today, to be given that freedom. I don't think I would have discovered anything if I'd gone to Glaxo 20 years later. So the empty room is the first thing you need if you want innovation and what did I do? I went and spent three months talking to clinicians while I was waiting for equipment to arrive, finding out about migraine.

*…the empty room is the first thing you need if you want innovation…*

But I just can't imagine how such a drug as sumatriptan would be discovered today. First of all if someone said: 'Well, there are 14 different 5-HT receptor types and we know that 5-HT aborts a migraine attack, you go and find the right one.' With just the molecular biology and paucity of whole tissue and *in vivo* pharmacology, it just wouldn't work. Then if you have the Clipboard Charlies going around telling you how to run your project and how you should be doing it, that would kill it as well. So I think I was very, very fortunate in being at the right time in the right place with the right organization.

**Dr Patrick Humphrey: *5-HT*, pp. 99, 101**

## Drug testing in sports

My first involvement with the Institute of Sports Medicine was in 1965 when I found myself responsible for introducing drug testing into world sport in an event called the Tour of Britain cycle race, also known as the Milk Race. I was doing my PhD on stress on the heart, and I wanted to look at people involved in a long endurance event. I had tried to get on the Tour de France. The British Cycling Federation said: 'Why don't you go on the Tour of Britain?' I didn't even know what that was. So I got an invitation to it and the week before I went, it was announced in the press that I was going to do drug testing, but I knew nothing about it. My own university refused to help me, but a man called Arnold Beckett from King's College London did. We started drug testing under the auspices of the Institute of Sports Medicine. That was in 1965. As a result of positive tests we banned the Spanish team, and I still don't go to Spain.

*As a result of positive tests we banned the Spanish team, and I still don't go to Spain.*

**Professor Harry Thomason: *Sports Medicine*, pp. 19–20**



## Educating children with chronic conditions

Concerning steroids in the 1960s and the 1970s, I saw a number of children with extremely severe asthma – stunted, ill, never at school. When treated with prednisone, say 5–10 mg daily, they could return to what appeared to be a normal life and normal schooling and this was a great result because they were no longer thought to be dim and unfit for school. They were normal children for that time. But after a year or so, it was becoming manifestly unsafe to continue with an asthma-controllable dose of prednisone or steroids and one had to stop.

Dr Archie Norman: *Asthma*, p. 9

**Selsby:** I liaised with schools so that the children on dialysis got back to their studies as quickly as possible. We were very fortunate at the Royal Free Hospital to have a superb teacher in the paediatric department who also liaised with the schools. We did have trouble with school outings as teachers wouldn't want to take a dialysis patient. I would ask: 'Have you got any asthmatics?' 'Oh, well, yes, but they are different.' 'No. They are more difficult to look after than a dialysis patient.' We also had patients who would argue with teachers to be allowed to participate in sports and their teachers, being very protective, didn't want them to do this.

**Garratt:** I was always very popular on school trips because I didn't need to go to the loo. So, I would actually be the one looking after all the bags.

Miss Mary Selsby, Mrs Diana Garratt: *Dialysis*, pp. 62–4

## Electron capture device

I invented, in 1956 at the National Institute for Medical Research at Mill Hill, a device called the electron capture detector. It was exquisitely but selectively sensitive to unpleasant substances, including halogenated compounds, and it could detect them directly in biological materials with minimal prior sample preparation. By 1960 it was available from scientific instrument manufacturers in Europe and the USA, and was widely used. It was not long before the electron capture detector became the standard method for pesticide and herbicide analysis. Its disadvantage was that it was much too sensitive. As little as a few hundred thousand molecules of a pesticide like dieldrin or DDT can be detected, or in other words a few femtograms. At this sensitivity pesticides can be found in natural vegetation, even from a remote area such as the islands off Antarctica. As soon as a quantity is attached to a measurement, sadly it seems to acquire a spurious significance.

**Professor James Lovelock: *Environmental Toxicology*, pp. 5–6**

## Endoscope/gastroscope

I believe the surgeon Harold Edwards smuggled an endoscope into this country in 1934. The cost of the Schindler gastroscope was £80 plus a £40 excise duty from Germany. This was quite beyond him as a mere private consultant surgeon starting his career at that time. But Hitler was just coming to power and he did the one good thing he ever did, according to Harold Edwards, he doubled the amount of Deutschmarks you could get per £1, which halved the price of the gastroscope. So all Edwards had to do was to smuggle the endoscope into this country to avoid the excess duty. He did this by despoiling its brand new container box with the heel of his shoe to make it look old. But he had a tough time with the customs man at 5.00 a.m. in Harwich, I believe. He published a confession in the *British Medical Journal* 50 years later!

**Dr Peter Down: *Peptic Ulcer*, pp. 46–7**

## Environmental awareness

There was very little concern about world ecology before Rachel Carson's book *Silent Spring*. We were all in a humanist frame of mind and the good of mankind seemed to be a sufficient aim for us to work towards. Certainly in the Medical Research Council I don't think anybody seemed to feel that what they were doing could even conceivably be thought of as harmful to the environment.

**Professor James Lovelock: *Environmental Toxicology*, p. 8**

## Environmental lead

The MRC Epidemiology Unit conducted studies on environmental lead from 1976 to 1982 and chose three areas in Wales with different levels of traffic, from a rural area to a very heavily polluted area. The heavily polluted area was Port Talbot, where there's a motorway, which is elevated above houses. Along this motorway we chose houses on the main road and houses with the motorway over above, and we did lead sampling in blood and lead air sampling, and confirmed that the lead levels were very, very high, and air lead levels were very high. We also took blood from women from Beaufort at the top of one of the valleys, where there's quite high traffic, and from Porth where there's a one-way system and very heavy traffic. But then we went to three islands. Tory Island off the north coast of Ireland is a rather isolated community, and we were told it had no petrol traffic at all, never had and there was never likely to be any petrol traffic. My colleague was appalled to see a petrol-driven van sitting some little distance from the harbour and made enquiries about it. Apparently about two years previously the local authority had given a petrol-driven van to the islanders because there were two communities on the island and, the school was at one end of the island and, on wet days, the van would collect the children from the other community. The islanders had been told that petrol was put in at the back of the vehicle, and water in at the front, but they had forgotten to tell them that you also put in oil from time to time to lubricate the engine. So the van ran very happily for some time and then it seized up, and they just left it where it had ceased and never bothered with it again. With that background we felt we could call it a traffic-less island. We took blood from every adult, swept every house to get lead in dust, and measured air lead. We then went to Arran Island off the west coast of Ireland, and again my colleague was appalled to see a petrol-driven car on the island and he found that the district nurse on the island had brought a car over, sometime previously, and every time she went to the mainland, at most once a month, but probably not even that often, she took her petrol can and collected two gallons of petrol, put it into the car, drove the car until the petrol ran out, and then just left it wherever it was, until she next went to the mainland. So again we felt that we could call it a traffic-less island. The third island was truly traffic-less, and that was Sark in the Channel Islands. No one is allowed any mechanically driven vehicle of any kind, lawnmower included. So we truly did have a traffic-less, vehicle-less island, and we got blood from them. We found that the levels were almost identical to the areas in Wales. There was very little difference between them.

Dr Peter Elwood: *Population-based Research*, p. 125

Transport on traffic-less Tory Island, off the north coast of Ireland, *c.* 1970s: *Population-based Research*

The Welsh Office asked the MRC Epidemiology Unit to look at water lead. Some of the areas in Wales have a very acid surface water and old lead pipes. One or two studies had shown that the lead levels in the water were really quite high, higher than the WHO recommendation. We went to north Wales and did a number of surveys of water lead and blood lead, and estimated that the contribution that water was making to blood lead levels was quite substantial. Whereas with air lead, no matter where we went we couldn't get estimates of the contribution to blood lead from air higher than about 10 per cent. Now there were uncertainties in this. Food lead was obviously a very important source and food handling wasn't nearly as careful as it is now. I suspect that a damaged conveyor belt might be repaired with lead solder, whereas now they wouldn't dare have lead solder anywhere near food handling. I suspect that the fall in lead levels, which has been shown quite conclusively in many studies over the years, has been largely due to a reduction in water lead and in food lead. We certainly showed that the lowering of water lead was important and was effective. On two occasions we were alerted to the fact that the Welsh water authority was going to change the pipes to an estate or to a village, and so we went and got blood lead levels and then we followed the blood lead levels following the change, the removal of the lead pipes and the putting in of copper pipes, and we showed very nicely the fall in blood levels and we showed the sort of half-life of blood lead from those studies.

*…lead levels in the water were really quite high, higher than the WHO recommendation.*

Dr Peter Elwood: *Population-based Research*, p. 124

## Epidemiology

I realised that epidemiology is really a democratic subject, high response rates means one man one vote, everybody in a community is important. We need everybody's blood pressure, we don't just need the blood pressures of people who have come along to see you about their blood pressure or have coronaries, we need the whole distribution.

**Dr Julian Tudor Hart:** ***Population-based Research*****, p. 66**

## Epstein–Barr virus

It would be nice to point out that African experience and African staff have contributed something rather important to world medicine. I think of the time I went through to Makerere and met Denis Burkitt. He was, I believe, originally there in the Colonial Medical Service as a practising surgeon, but with an eye for the unusual. He had just shown that he could treat the so-called Burkitt's lymphoma by chemotherapy and also that it had a very unusual distribution. Then the English virologist Tony Epstein observed herpes-like particles in the tumours, and discovered what is now called the Epstein–Barr virus. But I think it was truly remarkable that a very busy person doing what could have been called 'just' routine work was able, within the environment of that day and that place, to make completely original and lateral-thinking observations of something that has had an enormous effect since.

**Dr David Tyrrell:** ***Africa*****, p. 41**

## Ethics

If we look back at the beginning of intensive care in the 1950s, it is probably fair to say that none of us were taught anything about ethics then, and medicine was a paternalistic subject: doctor knows best. Since that time, medicine has become infinitely more complex and has the capacity to create harm as well as benefit. At the same time, patients have become more sophisticated and want to have their say in what is done. Intensive care, perhaps, has brought more focus on some of the ethical disciplines, for two reasons. First of all, it is often previously healthy adults who become acutely sick. Such patients were legally

Dr Margaret Branthwaite: *Intensive Care*

incompetent. But perhaps the most important of all is the proximity, in time, between the decision taken and the outcome. If chemotherapy is withdrawn from somebody with leukaemia, the outcome may not be entirely clear – how the death is going to occur nor when. If you discontinue mechanical ventilation in somebody who can't breathe, the outcome is very immediate and there in front of you. So intensive care, to some extent, became a focal point for the emergence of ethics as a conflict in medicine.

**Dr Margaret Branthwaite:** ***Intensive Care*****, pp. 73–4**

## Ethnic minorities

There was increasing interest in the health of ethnic minority groups around in the late 1990s, so although it wasn't in the original NATSAL application, at a later stage we decided to try to obtain funding to boost the samples of black African, black Caribbean, Pakistani, and Indian ethnic groups. Because they are all small minorities in the UK population, the numbers would be too small to analyse separately, without 'boosting' their numbers for the survey. So that was quite a unique feature with lots of challenges.

**Mr Bob Erens:** ***NATSAL*****, p. 51**

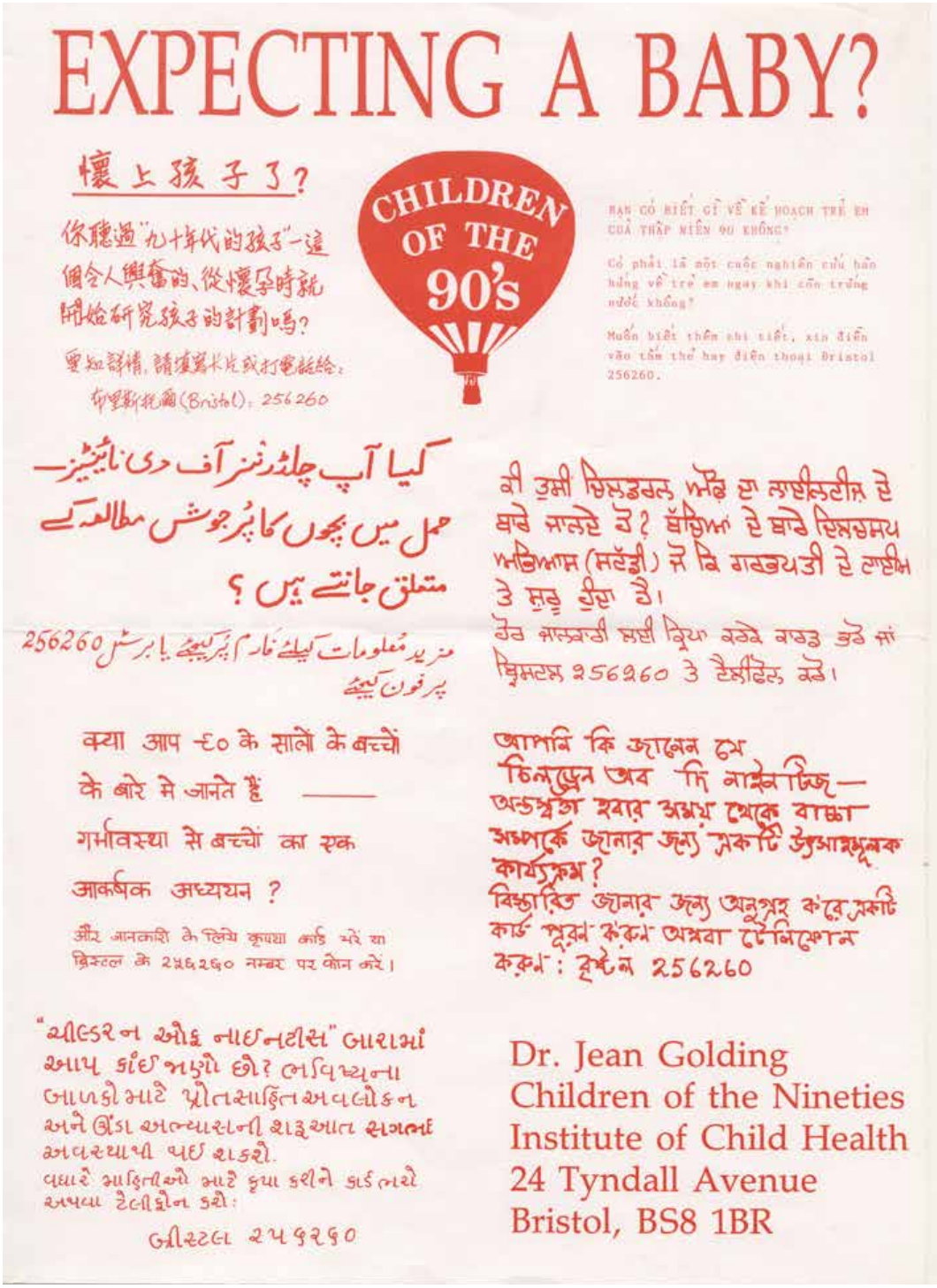
*We had little cards to introduce the study to the mothers printed in seven different Asian languages.*

We also had posters up at libraries and various hospital waiting rooms, clinic waiting rooms, GP waiting rooms, and so on, which may have attracted some people who wrote in, as many did from the outset. Incidentally, we also made a big effort to attract ethnic minority families, at least those where the mother was not English-speaking. We had little cards to introduce the study to the mothers printed in seven different Asian languages. I don't think we were hugely successful but I think it was very important that we did what we could. I made some visits to a local temple and a mosque and so on, trying to spread the word – we weren't very successful, but we tried.

**Mrs Sue Sadler:** ***ALSPAC*****, p. 31**

## Exchange transfusion for Rhesus babies

My first contact with exchange transfusion was in 1949 as a student in Belfast, when I was hauled in to assist with an exchange transfusion and my job was to keep a count of the blood taken out and also to wipe the clots with a wipe or cotton wool so that the outflowing blood could be measured in a galley pot; the




Expecting a Baby? Poster written in seven languages: *ALSPAC*

transfused blood was given through a vein exposed by a small incision at an ankle. That baby lived. Then in 1954 I got to Malta and within a few days was doing an exchange transfusion with glass cannulas and bits of metal linked together with rubber tubing, and with just a two-way syringe. The Henderson syringe with three-way flow (in, out, and for the blood) made a huge difference. Later on, the better plastic catheters also made a huge difference, and the procedure ceased to be a nightmare.

**Professor Charles Whitfield: *Rhesus Factor*, p. 18**

## Expert committees

The difficulty that all expert committees face is that sometimes you may have to sum up and conclude dead against what the public or at least the vociferous part of the public hope you will conclude. That's really difficult to do, and to protect advisers from abuse is terribly important, otherwise governments will not be able to attract advisers of sufficient quality. What we will attract are people of enormous courage, of course, but not necessarily enormous ability; the two don't always go together.

**Professor Robert Maynard: *Environmental Toxicology*, p. 36**

Professor Malcolm Ferguson-Smith: *Clinical Molecular Genetics*

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## Facial recognition

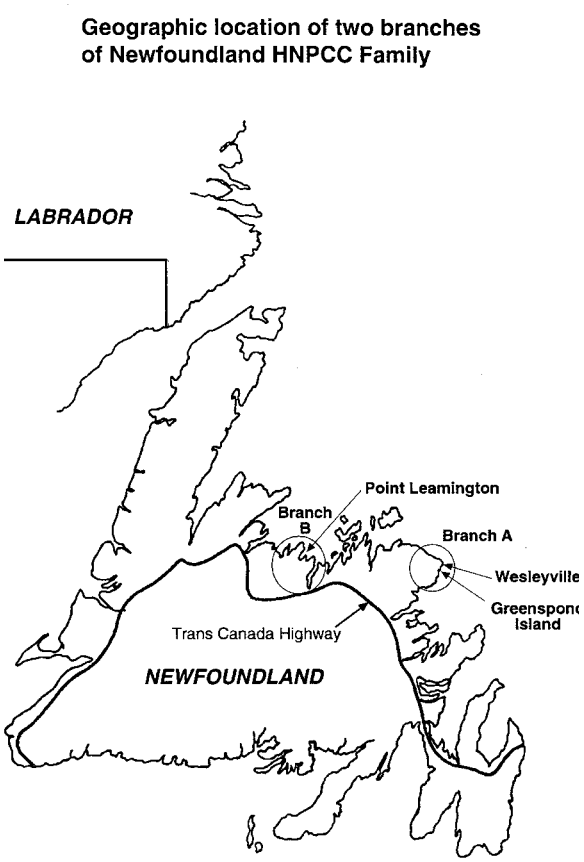
In terms of long-term memory the MRC Applied Psychology Unit has had quite a lot of involvement, some of the time with very practical issues. We were asked to help the military improve face recognition and it became clear after a while, as this was during the early Northern Ireland troubles, that the purpose was to improve the military's chance of catching terrorists, and I can remember having a real crisis of conscience, 'Could this be used to suppress civilization as we know it? And so forth.' In fact it turned out that we discovered that it was rather hard to teach people to improve their memory for faces, and it was very easy to make it very hard to recognize people by using disguise. We had a number of people around the unit wearing false beards, and wigs, and moustaches, serving as targets for recognition experiments, and one of the things that emerged was that if the photograph was in three-quarter rather than full face, performance was rather easier. And so we thought 'Aahhah!, this is something that we should definitely develop.' I happened to notice in the National Portrait Gallery that nearly all portraits were in three-quarter view, and I thought, 'Ah those portrait painters knew a thing or two.' I tried to develop it; I thought maybe all passports should be three-quarter, so let's just check it out. A number of us, with help from the *Cambridge Evening News*, set up a study whereby in each of a series of small towns around Cambridge, on a Friday evening, there would be a photograph of targets in different views, profile, frontal or three-quarter, and then our targets would zoom around Cambridgeshire, walking around a series of different towns, each

of them having seen a photo in a different view. The newspaper assured us that, 'All you need to do is tell people to ring in if they see the target, you will get huge numbers of responses.' I sat by the telephone with my son to help me from 9.00 in the morning until 5.30 that evening, when I got my first and only response; it wasn't three-quarter. We also had another interesting task that was to evaluate a course that claimed to train people to be better at recognizing faces. It used a procedure, a very ancient procedure, developed initially by Leonardo da Vinci, of 'reading' a face by breaking it into features. We discovered that after this three-day course, people were somewhat *worse* at recognizing faces, so at least we saved somebody some money.

**Professor Alan Baddeley, *Applied Psychology*, pp. 58–9**

## Familial cancers

Map illustrating geographic location of two branches of a Newfoundland HNPCC family: *Clinical Cancer Genetics*




A patient had his second colon cancer at 63 – his first colon cancer had been at 38. He also had prostate cancer and he died within a year, but he first gave me all the information that he had collected on his family and put me in touch with his daughter, whom I contacted subsequently, and his wife, so I had access to others in the family. I spent many hours on roads in Newfoundland going to different small communities and talking to people in their homes. Every time somebody said, 'I'll speak to my grandmother because she knows more of the history', or 'You need to know about that other part of the family' and they would contact them. Even before the days of ethics concerns, people wanted us to get the full picture. They knew there were other people that could help with the family history. The gentleman, who was from Wesleyville, told me that one sister had two colon cancers and had died in her early 50s; the other sister had had endometrial cancer. As I put the pedigrees together they were very, very interesting because there was very little about endometrial cancer in terms of Lynch syndrome at the time. This wasn't polyposis – it fitted best with Lynch syndrome but the endometrial and ovarian

cancers were striking in these two families. Now it turned out they were the first two HNPCC (hereditary non-polyposis colorectal cancer) families I had seen. Two years later, I was visiting a woman in Moore's Cove whose father had died at the age of 29 of colon cancer and he was part of the family of the first proband, and her husband finally came inside. The fishermen tended not to come in and talk to those like myself who were not originally from Newfoundland – and he said, 'Now she must have a cup of tea before she drives home.' Not knowing quite what to say to me he brought the Bible for me to look at. The Bible had nothing written inside the front cover; but it did have a sheet of paper inside the back cover, which was the marriage certificate of his wife's greatgrandmother and it said, 'Julia Ann T of Wesleyville, married to John W of Point Leamington.' The gentleman seen before in hospital was a T of Wesleyville – I could then go to the archives and find the exact connection four generations back. So this was one very large family. At that point, the family, then called Family C, was large enough to do the mapping. So it was the clinical picture and the knowledge of the migration patterns within Newfoundland, the settlement and migration over the centuries that gave the clues.

**Professor Jane Green:** ***Clinical Cancer Genetics*****, pp. 34–6**

## Familigram

One of the things that I did was to invent a research tool, which I never actually published or used. I made something, which I called a 'familigram'. It looked remarkably like music manuscript and I think that's why I liked it so much because it didn't have very much to do with technical medicine, with which I was rather disenchanted at the time. What I did was to plot on this 'music manuscript', the attendances of members of the same family, of which I had a very detailed family tree. You can only construct such a register in a small town where everybody knows everybody else. The bars of this music were months and you could then see incredibly interesting runs and patterns, if you chose the right families. What was interesting was that I was introduced to a woman called Ruth Peachie. She was an anthropologist from the [United] States who had invented exactly the same tool. I don't know what she ever did with it after that, but she and I met and had a wonderful time talking about what those patterns might mean. It was the tension between the narrative and the numerate that seemed to me to be at the heart of the nature of general practice.

**Professor Marshall Marinker:** ***General Practice*****, p. 125**

## Farley's infant food – contamination

One further outbreak of infectious disease helped sustain the momentum for the revival of public health. This was the Farley infant food epidemic in 1985, in which a number of babies became ill and died throughout Britain. It turned out that the common factor was an infant food infected with *Salmonella ealing,* but this seemed unlikely as this had only been found in seagull droppings, so there was great scepticism. But then, in the end, the mystery was solved, because the bacterium was found in the water tank in the Farley infant food factory and the tank had been contaminated by seagull droppings. I was seen as someone who against the odds had got it right; a bit of luck.

**Sir Donald Acheson: *Public Health*, pp. 19–20**

## Fathers

**Emond:** One thing that I do regret about recruitment in ALSPAC is that we didn't enrol fathers separately and in their own right. Because, over the years, with family reconstitution and so on, it's become extremely difficult to track men and to actually look at, not just their genetics, but also their influence on the family. I know men are not very good at follow-up studies, but they need to be enrolled in their own right.

**Davey Smith:** I would support that comment and we are currently (2011) attempting formal enrolment of the fathers and partners, but obviously it probably would have been simpler to do it earlier, and would have been more successful. But, of course, given the restrictions on funding, staffing, etc., it's difficult to do these things if the situation isn't pre-planned.

**Mumford:** I was secretary of the Ethics Committee at that time. I remember that we certainly considered the issue; it came up before the Ethics Committee, and we decided against it. We decided this because of the question in a lot of people's minds about the link with the issue of paternity and whether mothers might be upset at the thought that the samples would be used for paternity tracing. I think the figures we had at the time suggested that something between 5 and 30 per cent of children were going to be brought up by men who were not their natural fathers, but not all those men knew it. Would opening questions about biological samples in particular raise questions in people's minds and put them off the study entirely? I think, because of this the Ethics Committee ruled against the idea.

**Professor Alan Emond, Professor George Davey Smith, Mrs Elizabeth Mumford: *ALSPAC*, pp. 32–3**

## Ferrets

Mr Wesley Miner: *Platinum Salts*

Ferrets have been alluded to as little vomiting animals; without the ferret, none of the anti-emetic research would have got anywhere. This is one area that would never have gone forward; you couldn't have done it without the ferret and animal experimentation. Up until that time, the way I had conducted the experiments was that I dosed the animal with cisplatin and if you have a control animal dosed with cisplatin it takes 60 minutes before the cisplatin will begin to cause the animal to vomit. So I would do that, but prior to that I would dose with a 5-$HT_3$ antagonist, and essentially the animals just would not vomit. So you wouldn't see any vomiting with the animals at all. Well, while I was running these experiments, I figured, 'Well, I have to run a control experiment with this; I have to make sure the cisplatin is getting on board'. So I decided what I would do is with every four animals, I would dose all of them with cisplatin, but one wouldn't get the 5-$HT_3$ antagonist. And I would watch them all. I did this a couple of times and by about the third time I was getting complete inhibition with the 5-$ht_3$ antagonist and the animals were just not vomiting at all, but this poor little control animal without the 5-$HT_3$, right on 60 minutes, bingo, he began vomiting. This began to concern me, because I figured, 'Well, okay, I do know the cisplatin is on board, but I am going to have to do something. I can't just let this poor little guy go away and vomit the whole time'. You cannot dose a ferret easily. They just will not let you do it. So I had to surgically prepare the animal with a little intravenous cannula and it used to be exteriorized right at the back of the neck. I was working on my own with the ferrets at this time at Beecham Pharmaceuticals. They wouldn't even let me in the experimental areas with the ferrets, because nobody liked them. So I was in a little back 'kitchen', in my cell, with my four ferrets, and I had to think of a way of putting the connector on the little valve at the back of the neck of the animal, so that I could actually get the 5-$HT_3$ antagonist on board while the animal was vomiting. The only way I could think of doing this, once the other animals had been dosed with the 5-$HT_3$ antagonist, and this animal had actually started vomiting, is to wait until the animal is vomiting, he is not going to be paying attention to my fingers. I am

*...without the ferret, none of the anti-emetic research would have got anywhere.*

not going to lose fingers this way. So this is exactly what happened. I waited until the animal started vomiting. I knew the cisplatin was working at that point, and I just very nimbly and very quickly fastened this little connector and while the animal was actually right in the middle of the emetic response, I whacked in the 5-$HT_3$ antagonist, and within five seconds the animal was normal, completely normal. This was one of the most exciting things I have ever seen, and it really gave me confidence then that we had something big. Then, of course, I was stuck with the situation, how am I going to get this little connector off the animal, because it was now completely normal. So I decided what I would do. Ferrets absolutely love milk, and so I prepared a small bowl of milk and I put it in his pen, and the ferret ran over and I got the little connector off and that was it.

**Mr Wesley Miner: *Platinum Salts*, pp. 55–6**

## Fetal monitoring

Electronic fetal monitoring is a wonderful example of over-used technology, ultrasound is another example; they are grossly overused and we don't seem to be able to stop that.

**Ms Beverley Beech: *Maternal Care*, p. 46**

The first opportunity that I took to do a systematic review using meta-analysis related to different ways of monitoring babies during labour (published 1979). Electronic fetal heart rate monitoring had been introduced in obstetrics not long previously, sometimes accompanied by fetal scalp blood sampling to assess fetal acid-base status, particularly if the heart rate had raised concerns. It was being suggested by some people that these more intensive methods of intrapartum fetal monitoring should replace intermittent auscultation using fetal stethoscopes. I set about analysing three published reports of RCTs (randomized controlled trials) comparing different methods of intrapartum fetal monitoring, and the findings from one unpublished RCT, which were kindly made available to me by the investigators. About 2,000 babies had been born to the women who had been entered into these four trials: 13 of their babies had had neonatal convulsions. With the help of a medical statistician – Klim McPherson – I analysed the distribution of these babies among the comparison groups in the RCTs. This revealed that the pattern was very unlikely to have occurred by chance: the analysis suggested that continuous electronic fetal heart rate monitoring with scalp sampling might reduce the risk of neonatal convulsions.

**Sir Iain Chalmers: *Corticosteroids*, pp. 53–4**

## Fieldwork

Fieldwork has changed enormously because people distrust you nowadays, whereas, perhaps even 20 years ago, working in the Rhondda, in particular, was easy because everybody left their keys in their door and you just turned the key and shouted, 'Can I come in?' and they would say 'Yes', without even knowing who you were. In the early days, I think I am right in saying this, we didn't even write to the people and say we were coming, we just cold-called, which we are not in favour of doing at present [2000]. Years ago people knew their neighbours, they knew lots about them, they knew the people across the road, they knew the people down the road. Nowadays no one wants to tell you anything about anybody, because they are always afraid of being accused of revealing things to agencies like the DSS (Department of Social Security), and so it's a closed shop. You can rarely get any information from neighbours these days. You cannot call at the corner shop, or the post office, which is what I used to do a lot, to learn about people's movements, that's out now. So now you have to rely on health authorities or ONS (Office for National Statistics), if you have flagged people, rather than by word of mouth with neighbours. Valleys people stay valleys people, but in the big towns like Cardiff and even Caerphilly, they do move and change. I am a valleys person, so I suppose I am a bit biased, but valleys people are communities and they care about what goes on around them and they are very friendly, they are very warm, on the whole, whereas town people are cold, distant. Cardiff particularly is very cosmopolitan with lots of flat dwellers and you are not even knocking on a door, you are buzzing on an intercom at the bottom of the block of flats, so you don't get tremendous satisfaction from home visiting as we did years ago.

*Nowadays no one wants to tell you anything about anybody…*

**Mrs Janie Hughes:** ***Population-based Research*****, p. 117**

## Fieldworkers

Fieldworkers are rather a speciality, and to have a love of going out and meeting people and accepting the challenge of getting a high-response rate demands a certain kind of person and we seemed to get those people. We also could give them a career and a career structure; the medical and the non-medical people, and the support staff, they all had career structures within the MRC and permanent posts most of them. This was very beneficial to the development of an area of research, rather than just a one-off project. There was continuity, and I

knew that when we followed up Caerphilly, we wouldn't have to start recruiting another set of staff for phase two and phase three. We would have the same people going back, who knew the area and were known by the men. That was a tremendous advantage.

**Dr Peter Elwood:** ***Population-based Research*****, p. 110**

# First heart transplant in the UK

## The operation

On that day, the donor arrived at the hospital at 14.25 and went into ventricular fibrillation in the lift going up to the theatre and the heart was kept going by external cardiac massage. We had twin theatres at the Heart Hospital, and the recipient was in one theatre with Donald Ross getting him ready and I had the job of taking the donor heart out. The patient was on the table by 14.35 in the afternoon and a number of observations were made and blood cultures were taken. The ventilator was switched off at 16.09, and by 16.30 all the traces on the various recordings were flat. The ventilator was restarted at 16.38, external cardiac massage was given, the chest was opened, heparin was given, and the heart was actually removed by 17.47; it took 11 minutes to get the heart out. Removing the heart was a novel experience and I saw parts of the intrapericardial anatomy in a novel way. I was relieved to get the donor heart out without damage, which, of course, would have been a sad thing to do at the beginning of this whole procedure. The time for the insertion of the donor heart, up to the time that the aortic clamp was released, was 48 minutes. The donor heart was not refrigerated in any way, other than being kept in a bowl of cold saline while it was transferred from one theatre to the other and I must say that we were all immensely relieved to see that it was able to beat when the aortic clamp was released. It was an intensely dramatic moment, I think for everybody there, as it became pink and began to beat when the aortic clamp was released.

*Removing the heart was a novel experience and I saw parts of the intrapericardial anatomy in a novel way.*

**Sir Keith Ross:** ***Heart Transplant*****, p. 10**

## Post operation

*…I slept on the trolley next to the patient in the operating theatre…*

After the operation we had no resident anaesthetist at that time, so I slept on the trolley next to the patient in the operating theatre and unfortunately in the middle of the night the central venous line came out and we had to put another one in, and I was worried in case I was the first anaesthetist to kill a heart transplant patient. I wasn't sure what anaesthesia for heart transplant patients who had had the operation was, but eventually we did insert the central venous line under local.

**Dr Alan Gilston: *Heart Transplant*, p. 12**

## Clinical moratorium

I don't like the term moratorium very much. It implies some higher authority, saying 'stop'. Really I was part of that clinical moratorium, which was a self-imposed moratorium as far as we were concerned. After our early euphoria we realised that we were abysmally ignorant and didn't know how to assess rejection or how to treat it. Our second case was basically a failure. At that stage I made a decision that I would do one more and that would be it – either it would work or not. We did another one, which didn't work for very long, and that triggered my self-imposed moratorium, which I think applied to most of the people working at that time when the great fall-off occurred. So it implies that the surgeons did have a sense of responsibility and then, of course, the Government moratoria came into play. However, I think doctors should be given some credit for a sense of responsibility in this respect.

**Mr Donald Ross: *Heart Transplant*, pp. 48–9.**

## Heart transplant programme

The first response of the Department of Health was to say, 'My God, this might work, it's going to cost money, how much money?' and they did a lightning survey of the costs of all kinds of medical procedures all over the UK, and what that revealed was that hospitals hadn't the slightest idea how much things cost, that there was a 400 per cent difference in the cost of a valve replacement between hospitals A and B, and nobody really knew what anything cost and in particular nobody could estimate what a heart transplant would cost. So what they then did was say we need a heart transplant unit with 24-hour cover, with *n*-number of nurses, *n*-number of pathologists and this is going to cost that much; my

goodness it's too much, we can't do it. The next stage was to set up committees, and one committee has 40 members, of which one had a passing knowledge of heart transplantation and none of the others, and many of the names I know to be implacably opposed to it. These committees never discussed the moral, ethical, legal considerations, only the cost and how the procedures could be stopped.

**Professor Donald Longmore:** ***Heart Transplant*****, pp. 52–3**

## Foot and mouth disease (FMD)

Why should a country like the UK, in which FMD is not constantly present, that's not endemic, invest much money and time and effort in supporting a sophisticated high-security laboratory and also in research on vaccines and vaccination procedures?' The answer, which I think is rather far-seeing, is that this is done to gain reflected benefit. Over 50 years ago it was thought that if the institute at Pirbright (Animal Virus Research Institute) could develop improved or new vaccines and control methods, and promote their use in the countries from which the UK obtains its supplies of meat and meat products, the reduced incidence of disease in those countries should result in a much lower likelihood of importing the virus and subsequently the occurrence of outbreaks in this country. In general I think this has proved to be the case.

**Dr Noel Mowat:** ***Foot and Mouth*****, pp. 44–5**

## Foot and mouth disease outbreak, 1967

From the point of view of the veterinary volunteers, they were away from home in fairly uncomfortable situations, and usually working long hours. One thing that we have got to remember is that there were no mobile phones in those days and if you wanted to talk to the wife or to a partner, you had to queue for a public call box, and if you took too long over a call, the people in the queue behind them got irritated. So that is a small thing, but it was from a social point of view, quite important. I would ask you also to look at the wives who were left behind to cope with life for weeks on end, because once anyone got into the infected area, well, that was it. It was almost as though he had gone to the North Pole. And the veterinarians were also doing a job that was not theirs by nature or by training really. Diagnosing disease and therefore death was a very depressing way of living. Can you picture what it was like living on a farm in an infected area, a ghost farm, because it had no animals?

*It was almost as though he had gone to the North Pole.*

**Miss Mary Brancker:** ***Foot and Mouth*** **pp. 34–5**

## Foot and mouth disease vaccine trial, unexpected problems

I was in East Africa at the same time as Tony Garland, and we had some problems out there. In his vaccine trials in Embakasi, Kenya, he lost one vaccine trial because the control cattle were eaten by lions that had got underneath the fence from Nairobi National Park.

**Mr Gareth Davies: *Foot and Mouth*, p. 43**

## Free drug samples for research

**Andrews:** My perception was that it was much easier to get compounds in the 1980s and 1990s. The amount of bureaucracy to get a compound to try something in your model to see if it worked was a lot simpler. The speed with which compounds circulated was probably a lot faster then than it would be now if a similar situation arose.

**Tyers:** Supplying compounds wasn't only between industry and academia, it was also between industry and industry, because most of us had exciting compounds to work on that were in the public domain.

**Professor Paul Andrews, Dr Mike Tyers: *5-HT*, p. 83**

Professor Rod Flower: *Clinical Pharmacology 1*

I'd like to say that when drug companies do this sort of altruistic thing it makes a huge difference to the field. The same thing happened with the prostaglandins: if it hadn't been for Upjohn distributing free samples of standardized materials the field would never have got anywhere.

**Professor Rod Flower: *5-HT*, p. 11**

## Friends in high places

**Higson:** Sometime very late in my career as Director of the Scientific and Technical Branch of the Department of Health, it must have been about 1986 or 1987, I got a call from the Secretary of State's office to say that I was to go to the National Heart Hospital and see Professor Donald Longmore. This was on an instruction from Number 10 and I was to ensure that Professor Longmore got the NMR machine that he wanted! I'd got this call about midday. About 2 o'clock I was in

the National Heart Hospital, and we talked and I went back realizing he was a very well-connected man. But I had no money and I spent the evening talking to people at the Department of Trade and Industry (DTI), lying through my teeth about a loan of some money to buy a machine, which in due course would be repaid from Donald's charity or else by the Department of Health, neither of which either of us had the slightest intention of doing. I was leaning on the fact that Number 10 were keenly interested in this and you got an imager, Donald, and you never paid for it and neither did I on behalf of the Department of Health. The DTI made their sole contribution to MR imaging with your machine.

**Longmore:** We got two more after that!

**Mr Gordon Higson, Professor Donald Longmore: *NMR and MRI*, pp. 65–6**

# Funding research

## By industry

**Andrews:** From my perspective, with the 5-$HT_3$ work that we did on emesis, there's no doubt that it was funded mainly by industry. Quite a variety of companies supported it over the years; I think that was true for a number of us. Glaxo and, as it was originally, Beecham and then as it became SmithKline Beecham, probably were the two major funders, but then others came later. That made a very important contribution because, as far as I can recall looking back at the papers that were published in this area, there were almost never acknowledgements to the Wellcome Trust or the MRC for funding. I think I'm only aware of one grant, maybe two that they funded in that whole period that involved emesis in any of this pharmacological work. So it was really industry that drove it.

**Sanger:** Is it worth commenting on the opinions that fellow academic colleagues had about the receipt of so much industry money?

**Andrews:** Yes. I think the attitude clearly has changed and now it's seen as quite favourable to have links with industry and be seen to be collaborative and having work that's translational, but it was certainly not viewed quite so well in those days, in the 1980s and 1990s, let's put it that way.

**Hunter:** There was a lot of industry funding and also a lot of provision in kind, in terms of tools as well as for imaging. In terms of advancing our knowledge of 5-HT pharmacology, industry funding played a big role.

**Professor Paul Andrews, Professor Gareth Sanger, Dr Jackie Hunter: *5-HT*, pp. 80, 81**

In developing obstetric ultrasound, it was a case of one step at a time. I was quite impotent on my own, so I had to seek resources from the company. The extent of the original undertaking on the part of Kelvin & Hughes, the marine navigation equipment manufacturers, was in a memo from Bill Slater who was the Deputy Managing Director and resident in Glasgow, which stated that Mr Brown had permission to spend half a day a week working with Professor Donald and had a budget of £500 with which to do the work. It was on that understanding that the first contact scanner actually came into being. It was a very elastic sum of money and it owed a great deal to the scrounging capabilities of the young Brown and the tolerance of other people, because everyone really was on the side of the angels. There was a general desire to help.

**Mr Tom Brown: *Ultrasound*, pp. 17–18**

Mr Tom Brown: *Ultrasound*

## In hospitals:

In the 1950s to 1960s there were some very rich hospitals. St Thomas' Hospital medical unit, for instance, ran its research programme entirely at this stage on the interest from the endowment funds of the hospital, so they didn't need to apply elsewhere. I can remember the first chap who did apply for an outside grant was looked on as a very strange sort of animal. I think the same situation probably applied at Bart's and Guy's, but these again were the rich hospitals.

**Dr Sheila Howarth: *Clinical Research*, p. 23**

*…the first chap who did apply for an outside grant was looked on as a very strange sort of animal.*

## In universities:

I recall clearly when I became involved in the early years of establishing a charity for the Muscular Dystrophy Group, founded in 1959, and we were at that time collecting money and were looking for people to do research in neuromuscular disease. Among those who were on our research advisory committee was a very distinguished provincial professor of medicine who was asked whether he was interested in embarking upon or in getting one of his members of staff to embark upon a programme of research. He wrote back to say that he had a member of staff who was writing up a family of patients with peroneal muscular

atrophy and if he had any difficulty in getting funds to buy his reprints he would come back to us. It took a long time even to educate some of the clinical professors who had been brought up in the kind of clinical background you are talking about.

**Lord Walton: *Clinical Research*, p. 27**

Guz: I seem to remember the time in the 1960s when there were an awful lot of medical schools, certainly in London and some outside, that were really not interested, with some exceptions, in having some of their money coming to them from elsewhere. In my own medical school (Charing Cross) it's widely known that my boss, Hugh de Wardener, actually spent time trying to get the Dean of the day, a very powerful figure, who refused to sign an application form for a grant that the NIH, Bethesda, Maryland wanted to give him. It was said that would remove the power from where it should be.

Walton: I can only speak for the north-east, my own native city and the University of Newcastle upon Tyne, where they would grab any money that was coming from anywhere. We didn't ever have that problem in the 1950s to 1970s, it only emerged as a difficulty in the 1980s.

**Professor Abe Guz, Lord Walton: *Clinical Research*, pp. 21–2**



G

## Genetic code

In 1951 Max Perutz produced his first X-ray pictures of haemoglobin with its pairs of alpha and beta chains. Francis Crick and Max suggested to a young post-doc, Vernon Ingram, because somebody had left some sickle cell blood in their laboratory by mistake, that it might be worth trying to determine its structure. Ingram tackled this problem using two-dimensional electrophoresis and chromatography, or protein fingerprinting as it was called, and found a single amino acid substitution difference between the two haemoglobins. This was a very under-estimated paper because it took the concept of one-gene-one-enzyme to one-gene-one-peptide chain and, incidentally, provided some of the first intimations of the nature of the genetic code.

**Professor Sir David Weatherall:** ***Clinical Molecular Genetics,*** **pp. 16–17**

## Genetics network

I would like to emphasize how successful for genetics has been the development of a network of groups within the UK. That is rather special to the UK. It was made possible by each of us knowing one another, and deciding on sharing and having common interests and common meetings. It also occurred in the environment of the NHS, which is absolutely key, and something that is a tremendous advantage that the UK has, for example, as opposed to North America and

*That is rather special to the UK.*

Europe. Some of us were fighting political attempts to destroy this network in the Thatcher days and fortunately I am happy to say that in politics the pendulum has swung the other way again (2001).

**Professor Malcolm Ferguson-Smith:** ***Genetic Testing*****, p. 68**

## Genetic Nurses and Social Workers Association

One anecdote that reflects the naivety of the Genetic Nurses and Social Workers Association in the early days. We didn't know what we were doing and it was decided that a constitution should be established for this new association. But noone had ever done that before and one of the members of the group was a member of a sailing club and she went and got the constitution for the sailing club and they crossed out 'sailing' and put 'genetic nursing'. We lived with that constitution until the British Society for Human Genetics was formed.

**Professor Heather Skirton:** ***Clinical Genetics*****, p. 71**

## Geneva

We supplied this magnet to a clinic in Geneva. We had tested this magnet. Inevitably, you know, some magnets are better than others and some are worse. This was one of the best magnets we had ever made and we were very proud of it. We sent it to Geneva and no sooner was it put into use, we were told it wasn't working properly. Time and again we went out there. Whenever we went out and operated it, it worked beautifully. Whenever we left Geneva we got complaints that it wasn't working. A fair amount of bad blood developed, I have to say. The people out there said we hadn't made a good instrument and we said that they didn't know how to use it, and so it went on. The key to end the story was this was a magnet with a vertical field with coils in the horizontal plane. It turns out that all the trams in Geneva are fed off an enormous ring main and whenever a tram starts up the vertical magnetic field in the whole of Geneva changes by so much that one of these scanners is thrown completely out of focus.

**Professor Sir Martin Wood:** ***NMR and MRI*****, pp. 69–70**

## Glasgow 1950s, obstetric ward

We were working in quite a Victorian environment. I was itching to get my hands on the equipment and determine what it could do, but there was absolutely no way in which a young male layman was going to lay a hand on a female abdomen in the obstetrics and gynaecology wards of the Western Infirmary in the 1950s.

**Mr Tom Brown:** ***Ultrasound*****, p. 21**

*…there was absolutely no way in which a young male layman was going to lay a hand on a female abdomen…*

## GP maternity unit

In 1965 we started a movement in Oxford, for a GP maternity unit. We had a benefactor in the Chairman of the Hospital Board, who put up the £12,000 that was necessary to build us a 12-bed, one delivery room, two first-stage rooms etc., nursery and the lot, and this was latched on to the end of the labour ward at the Churchill Hospital. The innovation then was that we were able to use domiciliary midwives, which we thought was a fairly major breakthrough. The midwives were a little bit hesitant for the first two or three years, but in the end they took to it. We could have a much more relaxed style of care. People could go home a couple of days or even a day after delivery, they didn't have to wait ten days like they did in the specialist hospitals.

**Dr Michael Bull:** ***Maternal Care*****, p. 24**

## Grateful patients

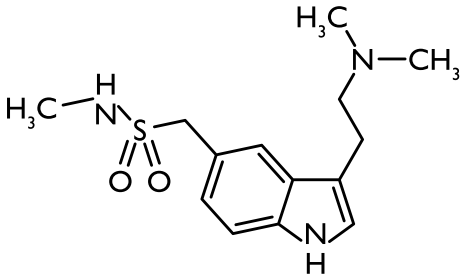
Before ondansetron was approved in the [United] States by the FDA it was possible to use it off-label with the Surgeon General's permission. There was a report through from our clinical trial researchers, who said that this woman was suffering from severe nausea and vomiting and could she take ondansetron as a means of overcoming it and the Surgeon General said, 'Yes, she could'. Well, she took it and it worked very, very effectively. She said: 'If I ever meet the guy who discovered this drug I want to give him a big kiss.'

**Dr Mike Tyers:** ***5-HT*****, p. 106**

As a laboratory scientist I received letters from cancer patients thanking us for making their treatment more acceptable. This is surely almost unheard of? Their correspondence made for a good day and a very good year. We were all grateful

for having the opportunity to make a difference. That is, all except my local health authority. The headlines in my local newspaper, the *Bradford Telegraph and Argus,* announced that the cost of the new antiemetic drugs had bankrupted the local health authority and that a Professor Naylor working at the local university was to blame.

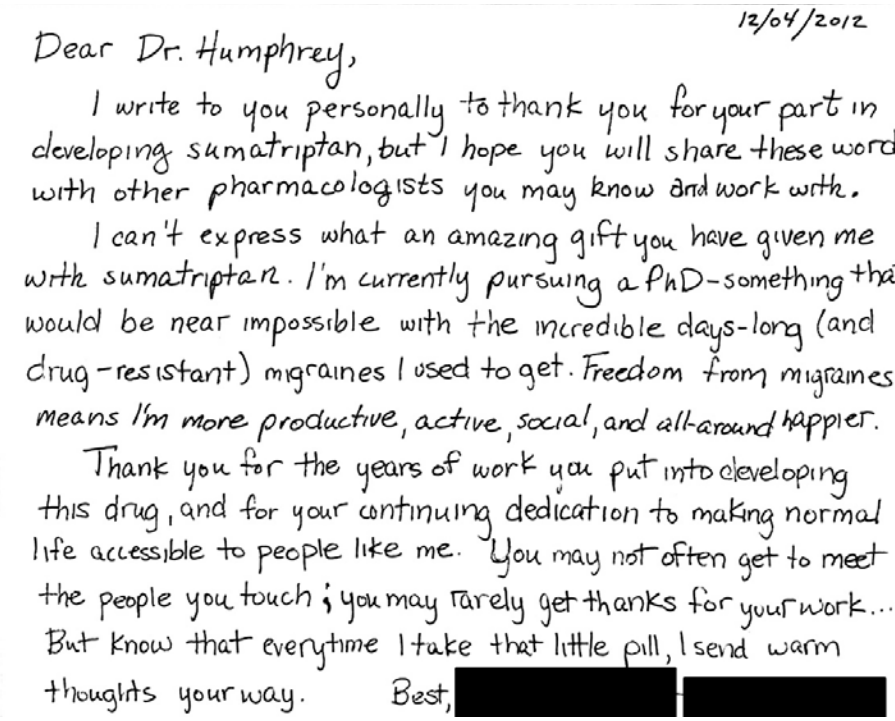
**Professor Robert Naylor:** ***Platinum Salts,*** **p. 59**



Sumatriptan

This drug, sumatriptan, at the end of the day, didn't need marketing because it worked. I've got a letter in my pocket which is one of many that I still receive from women saying, 'You've changed my life', which is extraordinary; 20 years on you still get letters like that.

**Dr Patrick Humphrey:** ***Migraine,*** **p. 43**



12/04/2012

Dear Dr. Humphrey,

I write to you personally to thank you for your part in developing sumatriptan, but I hope you will share these words with other pharmacologists you may know and work with.

I can't express what an amazing gift you have given me with sumatriptan. I'm currently pursuing a PhD-something that would be near impossible with the incredible days-long (and drug-resistant) migraines I used to get. Freedom from migraines means I'm more productive, active, social, and all-around happier.

Thank you for the years of work you put into developing this drug, and for your continuing dedication to making normal life accessible to people like me. You may not often get to meet the people you touch; you may rarely get thanks for your work... But know that everytime I take that little pill, I send warm thoughts your way. Best, [redacted]

Letter to Dr Patrick Humphrey thanking him for his part in the development of sumatriptan: *Migraine*



H

# Haemophilia

## Haemophilia in the 1930s

I was born in 1925 and haemophilia was diagnosed when I was one year old by my falling out of my highchair and tearing the fraenum in my upper lip. Thereafter, very fortunately, I had a perfectly normal life, having only mild haemophilia, so I enjoyed my school days, but life at home was really severely shook up when I was five; my mother produced triplets who also had haemophilia and it was that which brought us into contact with Professor Macfarlane, Dr Macfarlane as he then was, at Bart's Hospital. It was in 1934 when one of my brothers was admitted to Bart's with a severe haemorrhage and, I think, two of them were treated there for long periods. We also used to go up and see Gwyn Macfarlane regularly every few months while he took blood tests. After he retired I remember getting a letter from him in which he said how he watched his delicate apparatus in his small room at Bart's, most of which was constructed from Meccano, being crawled over by my three brothers like monkeys, wondering whether it was all going to get torn to pieces or not. But he was really a wonderful supporter to my mother, because at that time in the 1930s there really was no treatment other than

*…the real miracle was Macfarlane introducing the concept of blood transfusions from my mother to the boys…*

the Russell viper venom. But apart from that the real miracle was Macfarlane introducing the concept of blood transfusions from my mother to the boys, which, of course, in the late 1930s saved their lives on a number of occasions.

**Mr Clifford Welch: *Haemophilia*, pp. 40–1**

## Haemophilia research, 1950

**Bidwell:** I went to Oxford in 1950, to work with the pathologist Professor R G Macfarlane who said to me, 'Well, we have got nothing to treat these haemophilic patients with, would you like to have a go at seeing if you can make something from animal blood?' So that's how I got started in 1952.

**Lee:** Which animals did you choose first of all?

Preparation of animal antihaemophilic globin in 1955: animal blood is collected at the slaughterhouse and brought to the laboratory by Ethel Bidwell and her assistant Ross Dike: *Haemophilia*

**Bidwell:** Animals that were slaughtered in a slaughterhouse. I think the first thing was the bovine blood. When I got involved, it was done by the slaughterhouse men and they were very helpful, very kind. They wanted the very best for me. They wanted me to have the animals that had won all the rosettes at the shows, but ancient old cows were much better. I went down to the slaughterhouse on my Vespa motorbike and I came back with a large glass container. I got concerned lest I tipped off my motorbike and tipped blood on the floor.

**Lee:** How much blood would you be collecting?

**Bidwell:** About a gallon. People don't realise that plastics were only just coming in. It cost me about the equivalent of a week's wages to buy a plastic container to put the blood in so that it wouldn't break on the road to Oxford.

**Dr Ethel Bidwell, Professor Christine Lee: *Haemophilia*, p. 13**

## Haemophilia treatment, 1960s

My first patient was in hospital 27 times before his 5th birthday and, worse than that, he saw 17 different doctors. Nobody was interested in haemophilia. Haemophilia was 'a bloody nuisance' and kids with haemophilia were 'bloody nuisances'. Only one in 16,000 of the population has severe transfusion-dependent haemophilia, and so it's easy to see where the resistance came from, particularly from the Blood Transfusion Service of this country and certain of its directors, to treating haemophilia at all, except as a hospital disease. There were letters in the medical press and the lay press, suggesting that people with haemophilia were not capable of treating themselves, that their parents should not take responsibility for them at home, that it was dangerous and unethical and immoral to put treatment into their hands. In two European countries, Italy and, I think, Spain at the time, it was illegal for patients to inject themselves with any medication, including factor VIII or factor IX. The other feature of medicine in those days that we tend to forget was its paternalistic nature; the doctor always knew best, nurses really didn't come into it, and it was thought that it was not right to educate patients. But we are now (1998) talking about 30 years ago. It was for the doctor to say when patients needed treatment. That's one of the reasons the children of that generation grew up crippled with haemophilic arthritis.

**Dr Peter Jones: *Haemophilia*, pp. 36–7**

*In two European countries, Italy and, I think, Spain at the time, it was illegal for patients to inject themselves with any medication…*

Dr James Porterfield, Dr Owen Lidwell, Sir Christopher Booth: *Common Cold Unit*

## Handkerchiefs and the common cold

**Booth:** The method you used in the early 1950s for measuring the severity of a cold was simply measuring the weight of a number of tissues was it?

**Porterfield:** Not so much weight as quantities. There were several different markers. How many handkerchiefs they used, whether they were sneezing and coughing; these would be recorded for each volunteer and then at the end of the trial these would be totted up.

**Sir Christopher Booth, Dr James Porterfield: *Common Cold Unit*, p. 237**

## Hearing aids

Could I go on to say something about acoustics? When John Lenihan started the Regional Physics Department in Glasgow, he was a great believer in seeing things that needed to be done and doing them. One of these things was to repair hearing aids and so he set up (this would be around 1954) a little workshop to do this. From that, he saw that the audiometers throughout the country were not calibrated at all: there was no systematic calibration and so they varied enormously in their accuracy. He set up a scheme in the department for calibrating audiometers throughout Scotland, which was later taken over by the Scottish branch of the Royal National Institute for the Deaf and a couple of years later was extended throughout the rest of the UK. Those of us who are hard-of-hearing owe a debt to that vision.

**Professor Joe McKie: *Medical Physics*, p. 78**

## *Helicobacter pylori*

[By the 1980s a common bacterium, *Helicobacter pylori* had been recognised as the principal cause of peptic ulcers, and it could often be eradicated by a simple course of treatment with bismuth. Prior to this, drugs for ulcers such as Zantac and Ranitidine had been major international 'blockbusters' and made many billions of dollars for drug companies.]

In the late 1980s there were serious problems here in implementing this new bismuth treatment for peptic ulcers, even once there was good scientific evidence that it was appropriate. And I think there were three factors that influenced this. One was clearly a professional prescribing inertia, people weren't used to thinking of ulcers being due to infection, and the profession as a whole were not ready for it, and they didn't like it. The second was that there was no pharmaceutical company promoting it. Most new treatments are promoted by pharmaceutical companies, but there was no new drug here to promote, there was no profit. Worse, there was every reason why the pharmaceutical companies in the gastrointestinal field should block this or should encourage it not to be developed, because it was going to undermine their main income. Money was being made at huge rates from cimetidine and Ranitidine, and these companies were the key companies promoting gastroenterology meetings and supporting gastroenterology research. Therefore one couldn't expect them to come out and support this new treatment, which might undermine their revenue. And I certainly did feel the effects of this personally.

**Professor Kenneth McColl: *Peptic Ulcer*, p. 95**

## High-dependency units (HDU)

The Brompton Hospital's medical HDU opened in about 1972 or 1973. HDUs started as multicentre facilities, governed by the sort of 'need' that existed in that particular hospital. Ours at St Thomas' was a need for severe acute asthma, because these patients almost always have their crises in the early hours of the morning when wards are least well-staffed; these patients are scattered all over the place, you had to run from here to there and if you usually get there too late, they were likely to be brain damaged, because they're already anoxic when they arrest. We gathered all these patients together in an HDU. The crucial thing about high-dependency, to my mind, is that it does not require one-to-one nursing care, and whether you put it a step down from the postoperative recovery room or a step down from an intensive care unit, the concept is still the same. In terms of follow-up, I would pay tribute here to the nurses, because, to

me, they were the people who first recognized that perhaps families and patients had lived through a quite punishing experience and maybe it didn't all end when they left the doors of the intensive care unit, or even the doors of the hospital.

**Dr Margaret Branthwaite:** ***Intensive Care*****, pp. 74–5**

## Hip prostheses

Sometimes one had a note on the back of an envelope, or a cigarette box, saying: 'Can you make this?' You had to go along with the surgeon up to a point, but usually some modification had to be made, with the surgeon's approval.

**Mrs Phyllis Hampson:** ***Hip Replacement,*** **p. 42**

*There was no post-market surveillance…*

In 1994 a European Directive had come along, which directed that all hip replacements would have to have a CE mark. By 1998, all knee and hip replacements had to have the CE mark to conform with the European Directives. One thing that we immediately realised was that manufacturers could get a CE mark a year after the introduction of a new joint. Thus, provided the joints survived a year, they got their CE mark, and that, ladies and gentlemen, was how it was in 1998. There was no post-market surveillance and we were told that if we wanted to get into post-market surveillance we should have to turn over a European Directive from the European Commission, which sounded quite a formidable thing to do, even for orthopaedic surgeons.

**Mr Keith Tucker:** ***Hip Replacement,*** **p. 38**

Regarding metal standards, I can remember in the 1980s, in the British Standards Institute committee that Swiss materials were very much worse than the British materials, the Americans somewhere in between, and we couldn't agree a standard. I think the Swiss were still using old railway lines. They had bought up the Burma railway and were manufacturing hip prostheses out of old railway lines.

**Mr Alan Lettin:** ***Hip Replacement,*** **p. 42**

## HIV/AIDS patients

When the HIV problem arose in the 1980s there were two groups that went looking after these patients. One was the work that was started at the Mildmay Mission Hospital, led at that time by Veronica Moss, which came out of traditional Christian evangelicism. Then, on the other side of London, there was another

'religious' community and that was the gay community; I say religious because they had a particular world view in that they had certain things that they valued more than anything else. The London Lighthouse in west London was set up by the gay community for the gay community. It was really quite difficult getting my drug users, or refugees or people with haemophilia, into the Lighthouse. Equally, there were a very small number of hospices that were open to take people with HIV, of which Princess Alice was one. I often used to go trading around to see who I could match up to get in, if I simply couldn't manage them at home. Underneath all this, for the patients there was an explicitly religious dimension to HIV, and that was that people wanted to go somewhere to die where, if you like, their ontology was recognized and their cultural needs were met. That was very, very important, because the HIV community – who were rejected initially by the traditional religious community – tended to correlate the religious community with the hospice community.

*...people wanted to go somewhere to die where, if you like, their ontology was recognized and their cultural needs were met.*

**Professor Rob George:** ***Palliative Medicine*****, pp. 64–5**

## Homebirth

I hate to think of this as 'home versus hospital'. I think home birth has a place and hospital birth has a place. Some women don't have homes, for some women home is not a safe place to give birth and we need a safe place where women can give birth in peace that isn't their home. Unfortunately, hospital now appears to equal loss of control over the process, no continuity of carer, no one-to-one midwifery care and active management of labour. That is what hospital birth means in many, many places in Britain.

**Mrs Mary Cronk:** ***Maternal Care*****, p. 76**

In the 1950s when I got my first obstetric consultant job, that was at Oldchurch Hospital in Romford, and we had about 2000 or more deliveries in the hospital and, listen to it, 2,000 deliveries at home. So home deliveries were then common. The reason was we had no beds; not enough beds and the reason why we didn't have enough beds, is that we never thought of early discharge; we kept them in, I don't know how long, a week, ten days, and therefore the rest were delivered at home.

**Mr Elliot Philipp:** ***Maternal Care*****, p. 55**

Mr Elliot Philipp: *Maternal Care*

## Home freezers

**Rizza:** Katharine Dormandy, the haematologist, was one of the few to start using cryoprecipitate for home therapy for haemophilia. I remember having a discussion with her about the problems of fridges without alarms on them, because if the patients were going to keep cryoprecipitate at home, deep frozen, then they had to know if the fridge had gone off, when they went away for the weekend. They had to have an alarm system fitted and those were very expensive at that time.

**Tuddenham:** Katharine had a wonderful relationship with her patients. It was maternal in some ways, because she knew them all very well and their social circumstances, she put a very great deal of effort into ensuring that they would have the best possible circumstances for home treatment. She was a pioneer in that area and obtained, as you mentioned, money for them to have freezers in their own homes in which they kept cryoprecipitate. Katharine was a pioneer and it undoubtedly changed the lives of our patients at that time to have their own freezers filled with locally produced cryoprecipitate.

**Dr Charles Rizza, Professor Ted Tuddenham: *Haemophilia*, pp. 34, 35**

## Hospices

People tend to think that a hospice is just a building, whereas a hospice works in the community and what has been shown is that treatment of pain in in-patients can actually be done at home and I think that's enormously important.

**Dame Cicely Saunders: *Pain*, p. 29**

I was invited by Cicely Saunders to come and join the staff at St Christopher's Hospice as a visitor once a week. I had the great privilege to chair an open meeting each week with all members of staff who wished to come. I can remember discussions about 'should nurses wear uniforms or not?' and 'what should we do when a patient arrives at the hospital? Should the senior nurse remain on the ward and wait for the patient to come up, or maybe continue her ward round with Cicely, or should she immediately break off and go down to welcome the patient in the ambulance?' We adopted the last of these alternatives. It was little things like this, which I think made a great difference to the holistic care that was growing up at that time.

**Dr Colin Murray Parkes:** ***Palliative Medicine*****, p. 10**

I had a neighbour who went into St Christopher's, and I visited him. I asked his wife on the way there: 'What's the difference? Why is he not in St Helier Hospital? Why is he in this place called St Christopher's, which is so difficult to get to?' And she said: 'When he went into St Christopher's, they cut off his number tag on the wrist and said, "You're not a number; you're a person"'. And I've never forgotten that remark.

**Mrs Jean Gaffin:** ***Palliative Medicine*****, p. 15**

## Hospices and AIDS patients

When the HIV/AIDS epidemic broke, in the mid- to late-1980s, I was frankly embarrassed by the hospice movement's stricture that actually they would only take AIDS patients who happened to have a cancer. We never produced that regulation. At the Princess Alice Hospice we took about 60 or 70 AIDS patients over the next 3 or 4 years, who were clearly dying and had made an informed decision that they didn't want to die in their acute HIV unit or at home; they actually wanted to die in a hospice. The really interesting thing that did for the hospice was to make us think very clearly about what we were doing in terms of aspects of confidentiality: how did it impact on the local population's ability to support us financially? Because there were lots of worries that if we stopped being a predominantly cancer hospice we wouldn't get the funding. At that time, 90 per cent of the funding had to be found from charitable sources. Well, I can tell you that the pragmatic ladies of Surrey were far more understanding than colleagues in the hospice movement, so that the message was: 'Somebody's got to look after these people; we're glad you're doing it.' There was, if anything, an increase in voluntary funding rather than a decrease.

*…the pragmatic ladies of Surrey were far more understanding than colleagues in the hospice movement…*

**Dr Andrew Hoy:** ***Palliative Medicine*****, p. 62**

## Hospice-at-home service

Cicely Saunders asked Barbara McNulty, who had been a district nurse, and myself, who'd been a general practitioner, to start the first hospice-at-home service. This was in 1969. And I'm so grateful for this; we spent quite a number of months going round local general practitioners and district nurses saying: 'Do you want a service at home? And if so, what shape do you want it to be?' The answer we got back was: 'Yes we do want a service. We want advice on symptom control and support and counselling, but as general practitioners, we want to remain in charge of patients at home, and the district nurses to do the major part of the basic nursing that was needed.' So that was how we set up the service and it opened in October 1969 and from the beginning it was a 24-hour service, 24 hours a day. Not indeed like the 9-to-5 that sadly Macmillan introduced 6 years later. The nurse always made the first visit, and that put the nurse at the key of our service, a very important service. I think that it made nurses into specialist nurses, before the term was widely invented, and gave so many competent nurses, quite rightly, a degree of responsibility and power.

**Dr Mary Baines: *Palliative Medicine*, pp. 60–1**

## Hospital hygiene

The eminent pathologist Sir Robert Williams said that *Staphylococcus aureus* was his favourite organism, because it had designed hospitals. All the standard hygienic practices in hospitals that we are supposed to ensure is done – smooth floors, cleaning, damp mopping, hand washing, sterile uniforms, separate operating theatres, changing bedclothes, filtering the air – everything is directed primarily at the control of *Staph. aureus*.

**Professor Gary French: *MRSA*, p. 69**

## Hospital infection

The Department of Health was very much concerned whether the cost of introducing, building or putting clean air theatres into hospitals, and all the rest of it, was cost-effective. This was a very big thing, and I think there was a study by the MRC, of where the infection came from, and to my recollection a chap came to the British Orthopaedic Association and told us that it all emanated from the perineum of the surgeons and the nurses and the immediate consequences of that was that nurses no longer wore dresses in theatres, but wore trousers. It didn't seem to me that that stopped the appropriately offending

bacteria from descending the trouser leg. And I thought I would carry this to its conclusion and I went to the theatre one day and tied string around my trousers just below the knee, which looked rather like those pictures you see of labourers in the fields in the nineteenth century and it caused considerable hilarity among the theatre staff, but the next day my anaesthetist went one better and came in wearing cycle clips on his trousers.

**Mr Harry Craven: *Hip Replacement*, pp. 76–7**

*'…arrange your patients in the wards.'*

When I was in Bristol in the 1970s, William Gillespie was the Professor of Clinical Bacteriology there, who had a lot of experience of treating bacterial infections both in the war and after. He always used to rib me, because I was so interested in resistance due to penicillinase: 'Oh well, if you want to get rid of staphylococcal infections, the way you do it is to arrange your patients in the wards.' He saw then that the environment in which the patient was located was a very clear way for dealing with staphylococcal infections. Antibiotics could be useful, but the main thing was to give the patients space: isolate them and have sufficient space between the beds.

**Professor Sir Mark Richmond: *MRSA*, p. 18**

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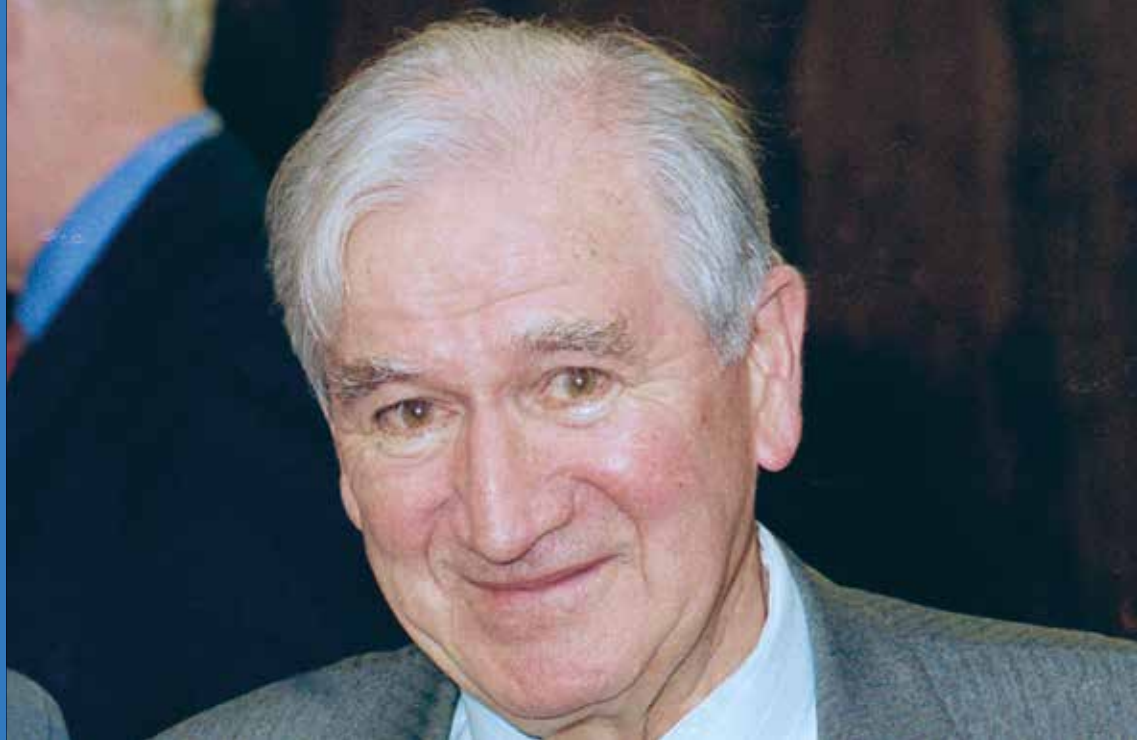


## Imaging the brain of a baby

How the baby studies got started – the reason was that those of us who worked in neonatal intensive care units were aware that there was a high-ish risk of brain damage in surviving infants and we wanted non-invasive methods for investigating the structure and the functions of the brain so that we could find out what were the causes, prevalence, timing and prognosis and so forth, of cerebral lesions. We had, in fact, introduced brain ultrasound imaging in babies in 1978, which gave us a lot of useful information, particularly about cerebral haemorrhage, which was one of the two main causes of damage to the brains of babies who needed intensive care. But that technique didn't give much information about the early events in hypoxic-ischaemic brain injury, which is actually the more important cause of long-term disability in survivors of intensive care. We were looking around for some new techniques which would non-invasively examine the brains of sick babies. Anyway, as far as the NMR spectroscopy was concerned, before getting involved with humans, we thought we ought to do some animal studies. We asked the question: if you reduce the oxygen supply to the brain of a rabbit do the predicted changes in the phosphorus metabolites and intracellular pH occur, and are they reproducible? And the answer to that was yes. The first baby's brain was studied on 22 October 1982 and we had been waiting actually to see if we could find a baby who we thought might have a unilateral lesion, and so would have a control hemisphere, and one day we found one that had something pretty suspicious looking on one

side on the ultrasound image, which we couldn't understand. The baby was born six weeks prematurely and appeared clinically to be extremely well. I can remember the discussions with the father, who was a US lawyer whose wife had had this baby while travelling through London, and trying to explain how it would be jolly useful if we could put the baby in a magnet please. Anyway it worked out and we got the first human brain spectra. What we found was a good control spectrum on one side and evidence of seriously deranged energy metabolism on the other. The child is now (1996) 14 years old with a hemiparesis but a normal IQ and that's just an instance of how NMR spectroscopy gives you a good idea of prognosis.

**Professor Osmund Reynolds:** ***NMR and MRI,*** **pp. 25–6**

## Inbred strains of mice

The eminent immunologist John Humphrey once suggested to me (though I do not believe he put it forward) that the Jackson Laboratory in Maine should be given the Nobel Prize for developing inbred strains of mice. He pointed out, in my view, quite correctly that what really revolutionized animal immunology in the 1950s and 1960s was the development of inbred strains of mice. They enabled whole fields of immunology, which couldn't be done in any other way, to be developed.

**Professor Sir Peter Lachmann:** ***Autoimmunity,*** **p. 61**

## Infectious diseases

In September 1983 I was invited to become Chief Medical Officer and on 1 October found myself sitting in the hot seat vacated by Sir Henry Yellowlees. Henry predicted that 80 per cent of my time would be involved with the NHS and the Minister's relationships with the British Medical Association, 10 per cent would relate to the wider health issues, including smoking, alcohol, etc., and 10 per cent to represent the UK at WHO and other global organizations. Apart from the diseases of childhood and vaccination for them, infectious disease was not, as I remember, mentioned at all. In the eight years that followed, infectious diseases dominated my work and thereby led to a renaissance in public health in some ways. Of the infections that I dealt with in the period 1983 to 1991 the most important were HIV/AIDS and BSE. Public health that dealt with sexually transmitted infection was renewed by a substantial increase in public funds and an influx of high-quality recruits to this speciality.

*…infectious disease was not, as I remember, mentioned at all.*

**Professor Sir Donald Acheson:** ***Public Health,*** **p. 18**

## Informed consent

The first short-course chemotherapy study for TB that I had the privilege of coordinating was in 42 centres in East Africa and Zambia. Of course, there were no 20-page consent forms to be signed, and it would have been difficult to get African patients with tuberculosis to sign a 20-page form; they might have signed it, but they might not have understood it. I did it this way: when they came to the hospital, I would say, 'Look, you have tuberculosis, if I give you treatment for 18 months, and you take it, you will be cured. But we have drugs that we want to test on you, and we think six months of treatment will be enough if we give you those drugs. But for that you will have to come into hospital and remain in hospital for six months. Can you do it? Or can't you do it'? I think that was a pretty good way of getting informed consent from them, because those who couldn't stay, didn't stay.

**Dr Amina Jindani:** ***TB Chemotherapy*****, pp. 20–1**

**Smith:** Dr Dewar will have to forgive me. It's really quite amusing in retrospect. I remember he got the consent from the patient, certainly for the first patient I know. I remember vividly his saying to the patient: 'You are having a myocardial infarction, which is caused by a clot in your coronary artery, and we propose to unblock it.'

**Dewar:** There were various ways of describing our intentions. I think I was rather economical with the whole truth.

**Dr Roger Smith, Dr Hewan Dewar:** ***Platelets*****, p. 104**

## Inland Revenue

There was an attempt at blackening my reputation as Chairman of the Committee of Safety of Medicines when one company persuaded a Member of Parliament to ask a question about how much money I'd been paid over the previous year, quite clearly hoping I hadn't declared it in my income tax. As I couldn't remember, I went back home and was relieved to see I had declared £2,600 but the Parliamentary Answer was that I'd only been paid £2,400 over the course of the year, so I breathed a huge sigh of relief that I'd paid £200 too much; it didn't really matter. About a week later, I got a letter from the Inland Revenue questioning my tax return and my payments from the Department of Health. So I rang them up and said, 'What's going on here?' And they said, 'Well, we saw this parliamentary exchange and,

*…I breathed a huge sigh of relief that I'd paid £200 too much…*

you must understand, it was referred to us. We checked up your income tax and we realise you've overpaid, and we think it's rather hard on you, and we think you ought to have an opportunity to claim the £200 back.'

**Professor Sir Michael Rawlins:** ***Clinical Pharmacology 2*****, p. 63**

## Intal (Sodium cromoglycate)

The story of sodium cromoglycate is the story of Roger Altounyan. Roger was a physician at the Monsall Hospital in Manchester where he had an asthma clinic. He had a number of patients that he had characterized very thoroughly. At the time, circa 1963, he was employed by Benger Laboratories, at Holmes Chapel in Cheshire. The treatment of asthma then was by isoprenaline, administered by pressurized inhaler, the Riker Medihaler was the dominant dosage form I think. Asthma was a rather mysterious condition and I can remember Roger describing to me that schoolboys would be told by the headmaster to 'brace up', there was nothing really wrong with them. This seemed to be the picture of the disease at that time. Roger was looking for a long-acting isoprenaline and he worked with chemists in the research division and ultimately they came across sodium cromoglycate. I think it is pretty well known that he used to screen these materials on himself. He'd take the research compound from a nebulizer and then administer his own antigen, and there are many stories of Roger being found slumped across his desk at work; whether they are apocryphal or not, I don't know. One of the features in the development of Intal, which I think Sir James Black always reckons to be a good feature in the development of a drug, is that management stopped the project. Roger continued working at weekends with a chemist called Colin Fitzmaurice and they moved slowly on in this research 'outside company authorization', if you like. On the base of his personal use Roger arrived at a dose of about 20mg for this compound, which exceeded the capability of the pressurized inhaler, and Roger was the first person really to realise the need for coordination – synchronization of dose administration with inhalation in portable inhalers – and he also is the inventor of the Spinhaler. He worked with a colleague in the workshop on the thesis of putting a capsule of drug on to a propeller, so when the propeller rotated the powder was thrown out. So Roger effectively developed both the drug itself, and certainly invented the delivery device. It isn't really enough to discover these drugs, there really has got to be drive behind them from a management point of view to do it. A

*…schoolboys would be told by the headmaster to 'brace up', there was nothing really wrong with them.*

Sir James Black: *Clinical Pharmacology 1*

young research director called Dr J S G Cox, an ex-Glaxo synthetic chemist, took over the project and it was really Jim Cox and Roger Altounyan who took this through to market. The product Intal was first marketed in the UK in 1967, which isn't a bad record, 1963 to 1967 to market, but the period between 1963 and 1967 was manic inside the company. The drug had to be synthesized and all the industrial processes scaled up. The mechanism of the Spinhaler turned out to be complex, and it had to be understood, the design developed, and the powder technology comprehended.

**Mr John Bell: *Asthma*, pp. 26–7**

## Intensive care

There is a distinction between teaching hospitals and regional hospitals. My colleagues had problems establishing intensive care in the former because of the competition from people who didn't want their empires disturbed. On the other hand, those of my colleagues who set up intensive care in regional hospitals, the poorer the better – most of them were old workhouses – were welcomed. When I went to Sefton General Hospital in 1966 we had three regional units: a dialysis unit, a poisoning unit, and a medical cardiac unit. I treated patients on the ward for a while, and they weren't doing too badly. But after four years, the physician superintendent came to me and said: 'You're causing disruption on the wards. The tropical people aren't using a ward; would you like a ward for yourself?' I couldn't have had more cooperation. There was absolutely no antagonism, no empire building, no defence of boundaries. Nobody said: 'You can't treat my patients'. They said: 'I think this patient's going to die unless you do something about it'. And, for a while I walked six feet above the ground, because I thought: 'What a privilege to be able to treat the worst patients in the hospital'. Then I realised that was because the physicians and surgeons wanted to go home.

**Dr Tony Gilbertson: *Intensive Care*, pp. 65–6**

## Intensive care nurses

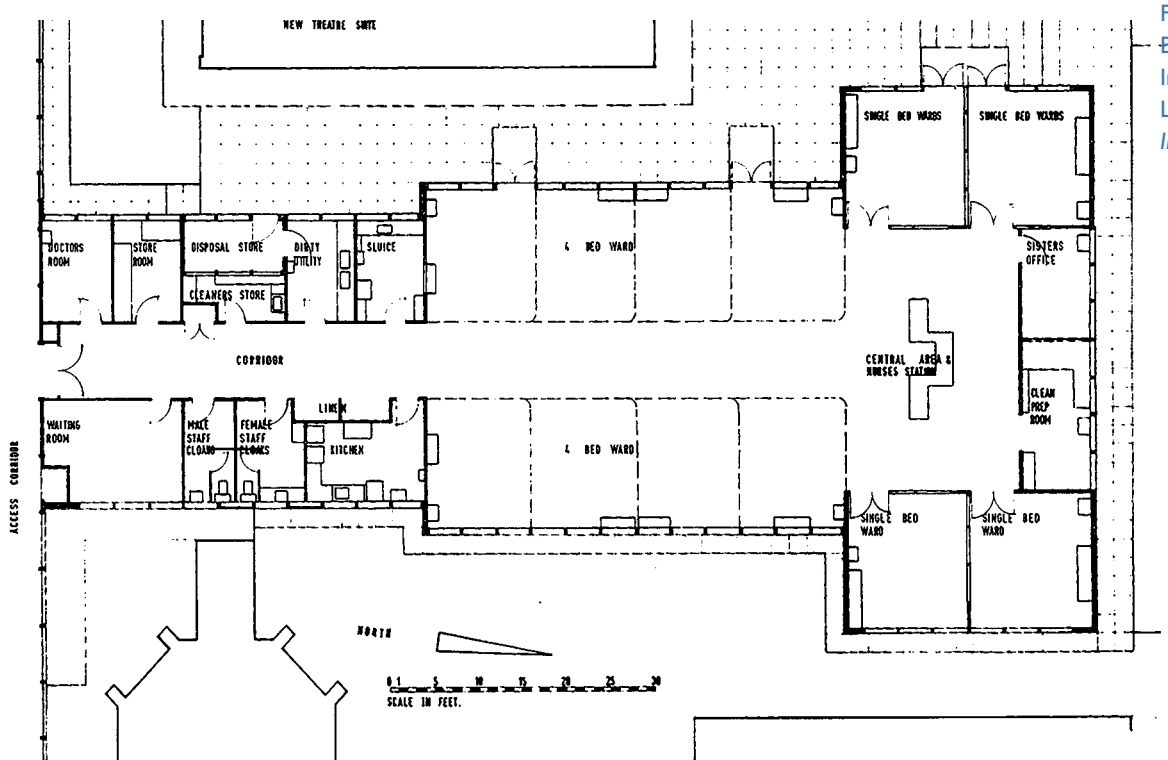
The question about intensive care letting nurses give dangerous drugs: this leads into something wider as well. The matron in Sefton General Hospital said: 'Well, the nurses can give dangerous drugs, but on two conditions: one is you have to have a morning course to teach them what to give and what not to give and so on, and you give each of them a certificate signed by you; and second, you must write a letter to me saying that you take responsibility for anything that goes wrong.' Matron carried that letter for a long time.

**Dr Tony Gilbertson:** ***Intensive Care*****, p. 65**

## Intensive care units

I came back to St Thomas' Hospital in 1960 and said that it needed an intensive care unit. I was told very firmly that Thomas' could do anything anywhere and didn't need an intensive care unit. I noticed that acute patients were being treated in general wards and getting into all sorts of difficulties. The mortality was very high from various tracheostomy complications and cross-contamination through the unsterilized ventilators, and including cross-infections to adjacent patients in the medical ward. This reached a point where we were granted two bed spaces for

*I was told very firmly that Thomas' could do anything anywhere and didn't need an intensive care unit.*




Floorplan of Broadgreen Hospital Intensive Care Unit, Liverpool, 1964: *Intensive care*

each of these patients, which cost the physicians beds. The cardiac surgeons wanted some special units for their postoperative work and the physicians agreed that an ITU (intensive therapy unit) was needed. There was a discussion in the medical committees and everybody said: 'Wonderful idea, but not in my beds'. Fortunately, the hospital was building its first significant rebuild after the war and there was a 28-bedded ward planned to go on the same level as the four operating theatres. The Professor of Surgery had decided that that ward would be his. I was only a very humble senior registrar at the time, and the hospital administration decided that they could quietly appoint this senior registrar to turn this 28-bedded surgical ward into an intensive care unit. Because it was done under the counter, I had control and could do more or less what I liked, with the help of the planning nurse, a planner, an architect, and a couple of consulting engineers. And that's how it happened.

**Dr Geoffrey Spencer:** ***Intensive Care*****, pp. 38–9**

## International markets

In 1972, I think it was, I was challenged by the pharmaceutical company Squibb. They had two drugs, Motival and Motipress for mixed anxiety/depression. These were compounds that had fluphenazine in them but this wasn't clear from the names of the drugs, and fluphenazine was causing some adverse reactions. We recommended that the Minister should revoke the licence for these two drugs. And then Squibb appealed. We heard this appeal but didn't agree with it, so we told the Minister to go on revoking. They could have gone to the Medicines Commission and had another shot at it, but no no, they sued the Committee on Review of Medicines, in particular me, as Chairman, for advising the Minister wrongly. And there was a long, drawn-out legal case. It was hell, I think, for the administrative officers of the outfit. I know I had to sign countless affidavits and the thing went on and on and on. Then eventually they gave up. But why did it go on so long? Because neither of these drugs was used very much in the UK, but they were in the US. And, of course, as soon as the decision was made that their licence was to be revoked, then WHO would tell every country in the world about this, and their market in the US would go down.

**Professor Owen Wade:** ***Clinical Pharmacology 2,*** **pp. 56–7**

## International Narcotics Research Club

Being part of the opioid research community, which was a relatively small community, was pleasant. Meetings of the International Narcotics Research Club never usually exceeded more than 250 or so people and I guess there was a core of 100 worldwide. That makes it a very tightly organized and related community and one of the nice things about doing science, I think for most of us who have stayed in science and been involved in various projects, the greatest pleasure is those relationships. There's no doubt about that. The cut and thrust of scientific meetings, plus the social aspects of it. That is the scientist's life.

**Professor John Hughes:** ***Endogenous Opiates,*** **p. 77**

## Interviewers

On occasions ALSPAC's interviewers came across situations that distressed them, and indeed really needed to be reported: potential child abuse, these sorts of things. One of the things that we did early on in the Committee was to set down the criteria and the mechanisms through which it was ethical, legal, and appropriate to bring those situations to the attention of the appropriate authorities. That was important not only for the whole conduct of the committee and of ALSPAC, but for those interviewers themselves because it gave them backup. They actually felt they were supported.

**Professor Gordon Stirrat:** ***ALSPAC,*** **p. 77**

*…every term connected with sexual activities was told to us…*

For the interviewers, we had to go up and be what was called desensitized. We had to go in to the National Centre for Social Research office for two days and sit there while every term connected with sexual activities was told to us, because the project managers were concerned that when we all went out to do the interviews, we would come across all these sorts of things, and we were not supposed to respond. The interesting point was that at the end of that time, we were asked whether we wanted to continue to be put forward to do this survey at all, and loads of the men refused to take part. The male interviewers dropped out at that point, the women didn't mind.

**Mrs Wendy Williams:** ***NATSAL,*** **p. 34**

## Intractable Pain Society

In 1954 I had a year's experience of this new phenomenon, pain clinics, in Pennsylvania. I found it quite fascinating and went back home to England and opened my own pain clinic as a regular session in 1959. There were quite a few clinics opened here and there in England, and by 1960 I wished that there was some way in which one could meet colleagues and discover what they were doing, what sort of complications they were getting, what sort of patients they were treating in their pain clinics, to get some joint information going. So in 1967 I invited everyone I knew in the pain field in England – there were 29 pain clinics in all – to the University of Manchester at Salford Hospital to a discussion meeting. Seventeen of the twenty-nine actually came and we had a splendid day's discussion which everyone thoroughly enjoyed and, I think, benefited from. At the end of the day they unanimously voted that we should repeat this process the following year and, in fact, each year thereafter, and that was the start of the Intractable Pain Society of Great Britain. At first it was simply a sort of club, and then in 1974 we formally made it into the Intractable Pain Society, which was, in fact, the first national pain society in the world. I think we all learnt a great deal from it, and, of course, not so many years later the International Association for the Study of Pain (IASP) opened on an infinitely bigger scale and it has proved to be enormously beneficial to all those in pain relief. I think the multidisciplinary idea improved the whole system very much and the pain clinic movement has been extremely valuable.

**Dr Mark Swerdlow: *Pain*, pp. 10–11**

## Iron supplements

The study of the effect of iron in bread on haemoglobin level in the Rhondda Valley surveyed, as I remember, about 8,000 women. We identified those who had haemoglobin levels below 11 grams, we gave them a month's treatment to bring their haemoglobin level up, and then we put half of them on bread fortified with an iron salt, and half on ordinary bread, and we watched the haemoglobin level over the next two years. We estimated that the absorption of iron from the bread was only about 4 per cent. When I submitted the paper to journals they all refused it, and said, 'This cannot be right, we all know that iron is absorbed from food at the rate of about 30 per cent in women with low haemoglobin levels, this cannot be right'. I had great difficulty publishing the paper. In the end we did publish it and over the next five, ten years, it gradually became apparent that iron absorption from food stuffs is about four per cent, so we were shown to be right in the end. The iron studies with South Asian women are perhaps the most

fascinating story of my life. The studies of the absorption of iron from bread were radioactive studies, done immediately after I came to the MRC Epidemiology Unit in 1963. I set up these studies using radioactive iron, because such precise measurements of iron retention could be made. I got friends and colleagues to come to the medical school and have a special breakfast. We had baked some radioactive iron into bread and people received a slice of bread with this, and then a fortnight later, we asked them to go to Harwell, the UK Atomic Energy Research Establishment, and have whole-body measurements of the iron that had been absorbed from the bread. The absorption was almost nil. I got a bit of publicity because of this, both in this country and in the USA, and I was asked to join the WHO Committee on Iron Deficiency. The Committee wanted to know what fermentation did to the iron and would I repeat this study using chapattis? So I set up a study to look at radioactive iron absorption from chapattis. In order to mimic real life as closely as possible, I got an Indian woman to help make about 200 chapattis. We measured the amount of radioactive iron in each and stored them in a deep freeze. I went up to Coventry, where there was a fair-sized Asian population, with the help of the health authority and one selected GP. We did rough power calculations (on the back of an envelope in those days), and we estimated that the method was so precise that we could get very accurate measurements from a quite small number of women. So we selected 20 women, all over 50, not suffering from any important disease, but no one who might become pregnant. Each day a chapatti on dry ice was delivered to each of these women, who would defrost it and eat it as part of her meal. A fortnight later they were driven to Harwell and really I think I made 20 friends on that project, they were so friendly to us. We found that iron was no better absorbed or absorbed no differently from bread. This study was a seven-day wonder, and everyone forgot about it. Twenty, perhaps twenty-five years later, I was telephoned by a reporter making a television programme on the uses of radioactive iron in medical investigations. 'Yes,' I said, 'I did look at the absorption of iron from bread, and I was also asked to look at it from chapattis.' The television programme blew up this story of the radioactive chapattis in an incredible way. They interviewed one of the women and a relative of another, who made extraordinary claims that a research worker from the MRC (they didn't name me) had given them chapattis and they had eaten a chapatti each day and were then driven in secret to a military establishment where they had a whole lot of measurements made. One woman said, 'My hair fell out, I began to get pains and cramps, I became arthritic, I am now diabetic, and if only I hadn't

*The iron studies with South Asian women are perhaps the most fascinating story of my life.*

touched those chapattis I am sure I would be fit and healthy ' A relative of the subject who had died, said, 'My mother's health failed from that day on and she would be alive now were it not for those chapattis'. The health authority set up an enquiry at the request of the Asian community and I went up to Coventry. I had prepared over the weekend a very full account of what we had done and I had clipped to it an account of the original study published in the *American Journal of Clinical Nutrition* and I asked the chairman of the meeting if I could give an account of what I had done before there were any questions. Well, the meeting was exceedingly hostile. The health authority were obviously keeping neutral, but one or two there were not. Over the subsequent weeks I was accused of all kinds of things. For example, an Asian health visitor had been with me on this study and she could testify to the fact that I had explained all about the study to these women, but she refused, saying she had never met me, had never had any part in the study of chapattis, and knew nothing about it. Our administrator dug out a letter from the health visitor saying how much she had enjoyed the study, how well the people had been handled, and how delighted they were to take part, refuting many of the things that had been said. She also found a letter that I had written to the son of one of the women giving a complete description of the study. Another was from the physicist who had prepared the radioactive iron, which had been submitted independently to a number of experts, who said that it was an extraordinarily low dose. That was why we had used Harwell, which had the most sensitive counter in the whole country. Another accusation was that I had purposely chosen these women because they were illiterate. We found letters from three of them thanking me for the most interesting study, written in perfect English. So the thing took a long time to die.

*Over the subsequent weeks I was accused of all kinds of things.*

**Dr Peter Elwood: *Population-based Research*, pp. 70–1**

## Irritable bowel syndrome (IBS)

We already knew that 5-$HT_3$ antagonist drugs are constipating and that's probably through blocking cholinergic motor nerves, so we thought we should study IBS patients who had a predominant bowel habit of diarrhoea. These were people who were really in a terrible way; they couldn't get to work. There were stories of people in the US buying a second house that was halfway to work so that they could stop off – it's a very debilitating condition and very painful as well. With alosetron, which became Lotronex, we got good efficacy. Not only did it block the diarrhoea, but people said they'd never felt so well. This looked like a very

exciting, potentially important drug. Unfortunately, very soon into the drug's life on the market, less than a year, I think, there were several patients who had ischaemic colitis, a very serious side effect, and the drug was stopped by the FDA, or GSK probably withdrew it before the FDA stopped it. Interestingly though, this drug is very effective and to this day we don't know what causes the ischaemic colitis, but we do know that a lot of people said that this drug was so important that now it's been brought back, but it's under very, very tight specialist control.

**Dr Patrick Humphrey:** ***5-HT*****, p. 71**

## Isolation wards

We were in favour of having isolation rooms in the hospital, but this was very unfashionable and thought to be retrograde. The days when you had to worry about infection were in the past and not something which the 1970s hospital needed to concern itself with!

**Dr David Tyrrell:** ***Post Penicillin*****, pp. 37–8**

I was amazed at the number of staphylococcal infections occurring in our surgical patients and the complete absence of adequate extract-ventilated rooms for the isolation of patients who had multi-drug resistant staphylococcal infections. I therefore spent three or four years building isolation rooms attached to the wards, with extract ventilation. However, by 1968 we were in serious trouble, for in that year we isolated staphylococci resistant to methicillin from 37 different patients. Despite everything we did in following the standard requirements the situation deteriorated further and MRSA were increasingly isolated from surgical wounds – from 37 in 1968 to 134 in 1973. Quite clearly, our hospital did not meet the requirements of a place that does no harm. The health authority understood our predicament and agreed to build a separate isolation unit of 12 beds. We started studying the epidemiology of methicillin-resistant staphylococcal strains throughout the hospital and found, surprisingly, that MRSA were circulating within the medical wards where no infections were occurring. However, when those patients were transferred into surgical wards, they went down with an MRSA infection after surgery and started an epidemic there. We therefore initially used our isolation ward to clear the presence of MRSA from our medical wards and screened new patients for surgery. Slowly, over two years, we succeeded in reducing the isolation of MRSA from all patients in this 1,000-bed hospital, and over the following five years to 14 (0.53

*…our hospital did not meet the requirements of a place that does no harm.*

per cent) of the 26,586 admissions. In the ten subsequent years to 1994 there were seldom more than three patients with MRSA infections in any one year. Unfortunately, in 1995 the Newcastle upon Tyne health authority decided to use the isolation wards to treat AIDS patients only, since they believed MRSA were 'no longer a problem'. Within a number of years the MRSA figures were back to those we started off with.

**Dr Joe Selkon:** ***MRSA*****, pp. 16–17**

## Japanese prescribing

Let's take Japan. It's all to do with the reimbursement of doctors, who get a percentage of the cost of the product that they prescribe, and with the way that the Japanese Government works. They reduce prices regularly so that it's the latest product that has the highest price and therefore the doctor prescribes the most recent products, which were developed by Japanese companies, and he gets the most money, so there's a very simple situation in Japan.

**Dr Ralph Batchelor:** ***Post Penicillin*****, p. 45**

## Jumbo football

Tom Connors, the cancer researcher, was responsible for this strange athletic phenomenon which always happened after a scientific meeting and it was always in the bar when people were very drunk. It is called 'Jumbo', rugby football played on your hands and knees with a match box as a ball; one team defends one wall and the other team defends the opposite wall. It gets very bloody and expensive.

**Professor Kenneth Harrap:** ***Platinum Salts*****, p. 24**

## Juvenile chronic arthritis

In the late 1960s we were certainly very much in touch with the National Orthopaedic Hospital at Stanmore about children with juvenile chronic arthritis. I was persuaded by the late Barbara Ansell, who was a rheumatologist at the MRC Centre for Rheumatic Diseases, Taplow, Maidenhead, who thought we should be able to help these children with their hip problems. We are talking about children of 11 to 12 years of age and over, but they were all confined to wheelchairs with destroyed hips, and they could no longer manage the pain. We felt something should be done. So we were faced with this problem of largely custom-made prostheses for them, because they had small skeletons. Children with juvenile

arthritis are not just small, but they are smaller than small; they are minute. They have all sorts of problems: bone problems, hypervascularity, anatomical deviations, a lot of anteversion, so we did have to call on help from the custom-made prosthesis people. Of course, measuring at that time was very difficult, there was none of the technology of today, you merely had to take an X-ray with the artificial hip prosthesis held alongside the patient, judge that the magnification was roughly the same, and then send off the X-ray to Stanmore. Often we were held on tenterhooks, because there were a lot of telephone calls as to when it was going to be ready, and I can recall it was pretty well when the patient was on the table, a motorcyclist would arrive from Stanmore with the prosthesis in his pocket and you hoped that it would fit. Fortunately, mostly it did.

**Mr Malcolm Swann:** ***Hip Replacement*****, pp. 32–3**

## Kwashiorkor

Cicely Saunders was working in West Africa and brought to public attention that lovely West African word 'kwashiorkor', which means 'the evil eye of the child in the womb, upon the child already born'. What a prophetic statement. It wasn't invented by her, it was an indigenous term throughout Nigeria and much of the rest of West Africa; it was saying that if you have too short a birth interval, the new pregnancy switches off the milk supply to the older child, who will die of malnutrition. I will never forget going for the first time to Port au Prince, in Haiti, to the antenatal ward and looking at a row of about 20 mothers with their children. All the mothers were pregnant, coming for an antenatal examination, and there wasn't a single sound from any of their children. The obstetrician who was running the clinic said to me: 'You see those children? They will all be dead within six months. They have all got kwashiorkor.' I could see with my own eyes the evil eye of the child in the womb upon the child already born and how a short birth interval was having a disastrous effect. This was known in the developing world long before we discovered it.

*'…the evil eye of the child in the womb, upon the child already born'.*

**Professor Roger Short:** ***Breastfeeding*****, pp. 47–8w**

Professor
James Lovelock:
*Environmental*
*Toxicology*

## Laboratory of Molecular Biology, Cambridge

The functional role of institutes is critical. I came to the Laboratory of Molecular Biology to work with Fred Sanger, and chose a project out of three suggestions, and did an experiment suggested by Sanger that didn't work. On the side I did experiments of my own, which Sanger didn't discourage, and when these worked Sanger encouraged me to go on; he said 'Do good experiments and don't worry about anything else.' I always felt that summarized it, one should do good experiments and not worry about anything else. Other factors were the general quality of the place and the non-restriction of the subjects: you were inventing subjects as you went along and noone stopped you crossing disciplinary boundaries. Once you were 'trusted' then you were free to develop ideas in the way you wanted.

**Dr César Milstein: *Monoclonal Antibodies*, pp. 24–5**

## Laziness

Laziness is the mother of good science. Creation comes from moments when you don't have anything to do. When you have no teaching, and basic admin, and extra commitments are seen to interfere with research, what if you have strong motivation, and don't know what to do? If you are teaching, you can fill your gaps by teaching, but researchers have to fill the gaps with thoughts. Applications of science are important and socially attractive but they detract from the single mindedness of research.

**Dr César Milstein: *Monoclonal Antibodies*, pp. 25**

# Leukaemia

## Leukaemia treatment, 1950s

In the early 1950s there were no platelet transfusions. I felt that we could stop our acute leukaemia patients from dying a miserable haemorrhagic death if we could get very fresh blood into them. Where were we going to get fresh blood? Very fresh. We had a system whereby we would invite two or three donors. Then one of us would bleed the first donor; the other one would put up a drip into the patient, and the idea was to get this blood in while it was still warm. Of course, we had the cross-matching business, and it took a very long time to get three units of blood taken in such a way that they were really fresh and went in 'hot'. We did find that the patients stopped bleeding for several days. We forget nowadays what a palaver these things were and the sheer time wasted in doing these things was quite extraordinary.

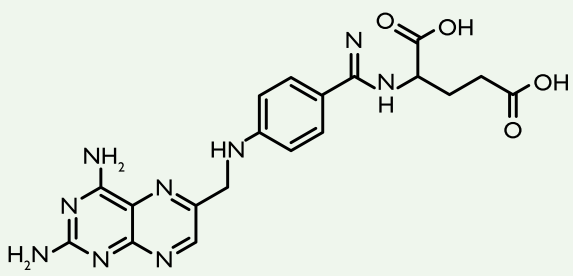
**Professor David Galton: *Leukaemia*, pp. 27–8**

## Leukaemia treatment, 1960s

*…two or three of them would die every day…*

I was a student on Bodley Scott's firm in 1962 and a houseman on the same unit for a year in 1965. There were up to 40 in-patients at a time with leukaemia and many others scattered in other wards throughout the hospital. Most had acute leukaemia and the median survival from diagnosis was about 12 weeks. Probably 1,000 went through Bart's Hospital in this period and I don't think there was a single long-term survivor. As a houseman, the dominant duty was putting up intravenous drips in the morning using Guest cannulae and taking them down again in the evenings. We might be putting up 30 or 40 drips per day and preserving the veins was all that was keeping these patients alive. Young patients when first admitted would start in a bed at the far end of the ward and would work their way up to the two single rooms that were at the entrance to each ward, where two or three of them would die every day – of course, some of the patients didn't even know they had leukaemia in those days, which was the standard practice of those days.

**Professor Ray Powles: *Leukaemia*, p. 25**




Chemical structure of aminopterin, a potent chemotherapeutic drug: *Leukaemia*

## Leukaemia trials, 1980

While we were getting organized and getting children into centralized randomized clinical trials in the best traditions of the MRC, the results that we were getting weren't quite matching up to those that were being obtained overseas by apparently similar protocols. This puzzled and worried us. So what we did in 1980 was to take a Children's Cancer Group (CCG) protocol from the USA, word for word, comma for comma, and applied it in the UK simultaneously, with the cooperation of the CCG. The first thing that we noticed was that it was much, much more toxic than anything we had used before, despite the fact that on paper it looked very similar. The reason was that the protocol was much more prescriptive and did not allow the clinician the freedom to stop treatment when children got a little bit poorly. We pressed on and I have to say that we did lose some children, because we weren't aware of the toxic side effects of this treatment, but once we got the hang of it, we produced the biggest single increase in overall event-free survival in this country. It was about a 20 per cent jump from the previous cohort studies to this one. We have never explained the reason for that jump, but we suspect it's something to do with physician compliance with the protocol and sustained chemotherapy, both in the consolidation phases and the maintenance phases, but that's still an open question.

*…we produced the biggest single increase in overall event-free survival in this country.*

**Professor Sir John Lilleyman:** ***Leukaemia*****, p. 47**

## Liberation of nephrology nurses and patients

Nephrology was one of the earliest specialties, perhaps along with intensive care, which, of course, was growing during the 1960s in parallel with the introduction of technologies in medicine, which liberated nurses in to a huge variety of roles and gave them greater responsibilities than they had had before; and how important that was, as it turns out, in the shape of medicine as we know it today. It was also one of the first specialties that liberated patients. I think that the role of increased nursing responsibility and the role of increased patient autonomy are two areas that nephrology significantly contributed to medicine in the past half-century.

**Professor Stewart Cameron:** ***Dialysis*****, p. 42**

## Listening to patients

The psychoanalyst Michael Balint taught a whole generation of doctors that it was very important to listen to what their patients were saying, and to listen without interpreting what they were saying, or telling them what they should be saying, or explaining to them better what to think. Simply to listen to what they were saying. That was enormously important.

**Professor Marshall Marinker:** ***General Practice*****, p. 127**

## Liverpool International Garden Festival

The International Garden Festival at Liverpool in 1984 provided the opportunity to develop the first large-scale public health promotion initiative, incorporating a static health fair with personal fitness training and personalized lifestyle advice to thousands of the 4.5 million visitors to the Garden Festival during a five-month period. Health promotion was incorporated into and grounded in many aspects of the festival from nutrition advice in allotment gardens to agitprop drama on health themes located around the festival site, and in poetry, music, and health events.

**Professor John Ashton:** ***Public Health*****, pp. 34–5**

## London Hospital Pain Chart

In 1978, I undertook a descriptive study looking at intractable pain at the Royal London Hospital. As anticipated from what was happening on the wards, it was found that the majority of the patients referred had carcinoma, many of whom had secondary disease. They were nearly all found to be experiencing unrelenting, unrelieved pain. For each patient in the study I interviewed a doctor and a nurse significant in their care, and, if possible, a family member. We found that, despite staff awareness of palliative care and the success in the hospice movement, as it was called then, pain relief was not an aim: 'Oh, yes, they can do it, but we don't do it here'. It was salutary, and of great concern to find that hospital staff had very low expectations of what could be achieved in their own area of care at that time. It was an enormous worry and one that we tried to address with some urgency. We used the body outlines with observation and assessment of the patient, but it was totally patient-focused, so it brought both staff and patients together, looking at the pain, trying to break this dreadful cycle where people would give analgesics and go away and not go back to check that it did work. There was neither the knowledge nor the vigour to address

The London Hospital Pain Observation Chart: *Pain*

# The London Hospital
## PAIN OBSERVATION CHART

This chart records where a patient's pain is and how bad it is, by the nurse asking the patient at regular intervals. If analgesics are being given regularly, make an observation with *each* dose and another *half-way between* each dose. If analgesics are given only 'as required', observe two-hourly. When the observations are stable and the patient is comfortable, any regular time interval between observations may be chosen.

*To use this chart*, ask the patient to mark all his or her pains on the body diagram below. Label each site of pain with a letter (i.e. A, B, C, etc).

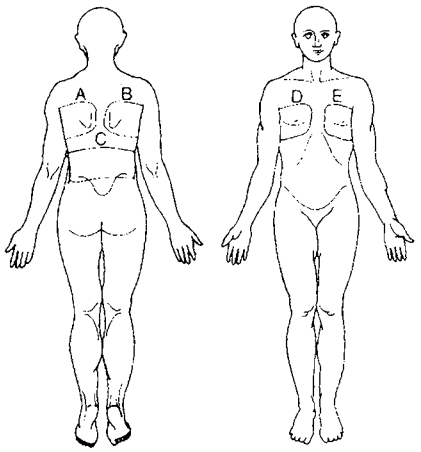
Then at each observation time ask the patient to assess:

1. The *pain in each separate site* since the last observation. Use the scale above the body diagram, and enter the number or letter in the appropriate column.
2. The *pain overall* since the last observation. Use the same scale and enter in column marked *overall*.

Next, record what has been done to relieve pain. In particular:

3. Note any *analgesic* given since the last observation, stating name, dose, route and time given.
4. Tick any other *nursing care* or *action taken* to ease pain.

Finally note any *comment on pain* from patient or nurse (use the back of the chart as well, if necessary) and initial the record.




**Date** . . . . . **Sheet number** . . . . . **Patient identification label**

| Time | Pain rating: By sites A | B | C | D | E | F | G | H | Overall | Measures to relieve pain (specify where starred): Analgesic given (Name, dose, route, time) | Lifting | Turning | Massage | Distracting activities | Position change* | Additional aids* | Other* | Comments from patients and/or staff | Initials |
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the problem, and, to be frank, I became quite haunted by what I heard. And as a result of the study we developed the London Hospital Pain Chart, which was accepted by the hospital and the medical college, and in various ways it was adopted and adapted in the wider health service. It may be still winging its way round various acute wards in some form, I hope.

*…to be frank, I became quite haunted by what I heard.*

**Mrs Jennifer Raiman:** ***Pain*****, pp. 18–20**

## London Medical Group

The London Medical Group (LMG), formed in the 1960s, was a really interesting bunch of people. We used to have meetings of general ne'er do goods and people who stirred up and asked questions that shouldn't be asked of doctors and their responsibilities. It was really interesting and encouraging that, as a senior registrar at that time at UCH, when I started lunchtime meetings with students saying, 'Do you want to come and talk about some of the patients you're looking after on the wards and the effect their illness is having on their lives?', within about two months I had meetings of something upwards of 30 medical students sitting, wanting to talk about the broader questions of people's suffering and illness.

**Professor Rob George:** ***Palliative Medicine*****, p. 25**

I was involved with the LMG from 1971 onwards, and I found it incredibly interesting, because many of the subjects that were being discussed were simply not covered in the general medical syllabus. So, for somebody who was going to go on to do paediatrics, the first time I came across child abuse was in lectures by Dr Christine Cooper from Newcastle. In particular, one had an opportunity, through the LMG, to visit St Christopher's Hospice and to learn about pain relief and palliative care. That stood me in very good stead when I was a houseman. The constant discussion on informed consent led to a bizarre situation when I was an SHO in psychiatry of having to sit my consultants down to give them a seminar on informed consent, because during my first turn on the electroconvulsive therapy rota, I discovered that not a single patient had given any form of consent at all. So the LMG was of a practical value to a junior doctor after qualifying.

*…many of the subjects that were being discussed were simply not covered in the general medical syllabus.*

**Dr Richard Nicholson:** ***Medical Ethics*****, p. 12**

## Love between patients

Our patients fall in love with each other all the time. I am in charge of sexual morals on the ward and ask the advice from the sisters, because of the cohabiting that goes on. And that is absolutely serious. We have had patients leave their spouses to associate with others, and some of them actually do have very strong relationships and live with each other. Part of the problem obviously is with the inevitable sequelae if the patients don't get a transplant; there are no offspring from two CF patients, because the men are sterile, so that's quite fortunate. But the cohabitation of two CF patients can and does cause a lot of grief.

**Professor Kevin Webb:** ***Cystic Fibrosis*****, p. 31**

Professor Merton Sandler: *Psychiatric Drugs*

## LSD (lysergic acid diethylamide)

We gave volunteers LSD, and then gave the same volunteers LSD after they had previously been treated with 5-hydroxytryptophan. There was some significant attenuation of the effect of the LSD. I think this paper was quite a landmark. We could only do five patients, because the sixth was a disaster. The Maudsley registrar who was a volunteer, after getting a shot of LSD, really went round the twist and he was psychotic for six months and more. Those were the days, you know, when you didn't really have to get ethical permission for anything. You are all shaking your respective heads in sorrow, I know. Well, we all did this sort of thing and it seemed all right at the time.

**Professor Merton Sandler:** ***Psychiatric Drugs*****, p. 146**

## Lucy Baldwin machine

Nobody knew at that time, in the 1950s, what the percentage of gas and oxygen should be in obstetrics. We had been giving gas-and-air analgesia on the wards and on the district, but that is really a form of asphyxia, because you deprived the woman of oxygen, so it was very important we thought, to give oxygen; we didn't know the quantities. We each had a machine called the Lucy Baldwin machine, because Lucy Baldwin had been one of the founders of the National Birthday Trust Fund. This was a modified dental machine. Independently, although we did consult one another occasionally, we were driven to the answer that it should be 50 per cent gas and 50 per cent oxygen. When I say we were driven, it was the midwives who told us, because the midwives were the people who were watching the women in labour and had seen what gave them most relief without asphyxiating them, or leaving them without control.

**Mr Elliot Philipp:** ***Maternal Care*****, p. 57**

Sir Peter Mansfield (in dark glasses), Sir Godfrey Hounsfield (holding microphone): *NMR and MRI*

M

## Magnetic resonance imaging (MRI)

A very bright graduate student of mine, Steve Busby, suggested 'why don't we look at the metabolites in a living organ like a piece of muscle, then we can immediately tell what is happening.' Everybody pooh-poohed the idea, but nevertheless they went away and did the experiment. That was the first *in vivo* tissue experiment, at the end of 1973, on a living piece of muscle. So I went to the British Heart Foundation (BHF) and said, 'Look, I think I could have a beating heart inside a magnet and find out the biochemistry of the heart during a heart attack.' And they sent the eminent cardiologist Sir John McMichael down: we had this 3-mm tube magnet with a little mouse heart beating in it and we put it in an old spectrometer and we watched it for about 20 minutes and saw the signal building up. Then we said to Sir John, 'Now we'll turn the oxygen off, that's a heart attack, and you can see those signals go away', and he got so excited that he went back to the BHF and said, 'We must support this, it's going to be tremendous'.

**Professor Sir George Radda: *NMR and MRI*, pp. 22–3**

## The 'Malawi clause'

Malawi is one of the countries in the world that is heavily dependent on tobacco-growing. During the late 1980s and the 1990s, the minister of health for Malawi would frequently stand up when these tobacco resolutions were being debated in the WHA (World Health Authority) and ask for something to be inserted at the

behest of both his country and the people who bought its products – the tobacco industry. If you look through those resolutions, you will always find something that I came to fondly call the 'Malawi clause' and usually it had to do with the need to acknowledge tobacco farmers, which everybody agreed was a good thing to do. There was a constant pressure through the voice of this official representative to the WHA for a weakening of these resolutions. To the credit of everybody else, I think the potential damage was always limited, but I think it is important to signal that, indeed, there was pressure that the WHA had to deal with.

**Mr Neil Collishaw:** ***Tobacco Control*****, pp. 10–11**

## Masks for drug delivery

Steroids were used mostly in treating asthmatic adults and with children there was the difficulty of getting the drug into them. The development of the large-volume spacers really made a considerable impact on the management of younger children with asthma and enabled us to deliver both bronchodilators and prophylactic medication such as steroids to these children. I suppose as a result of my interest in anaesthetics, I was very keen to get the drugs into the small babies and initially used an anaesthetic mask. I then attached this to a spacer and saw that if I could deliver a drug into babies in this way, we might be able to treat smaller children. Over the course of three years, I worked, cutting and pasting, and using sellotape, to develop some kind of a mask and thought that this was kind of relatively innovative, until I saw that ten years earlier a doctor in Canada, a Dr Freigang, had done it all before and had developed his own large-volume spacer and his own mask. But it did mean that we could now deliver medicines to children of all ages.

*. . . with children there was the difficulty of getting the drug into them.*

**Dr Paul McCarthy:** ***Asthma*****, pp. 56–7**

## Materials for hip prostheses

I was working in the aircraft industry before returning to the academic world in 1954. I had started some research on the wear characteristics of certain polymers, including polyethylene, for the defence industry, particularly for military aircraft. The industry required a weight bearing material that would operate in very strange environments, and particularly not be affected by the presence of water and high humidity. I was doing that work early in the 1960s when I first met John Charnley, the orthopaedic surgeon, who was developing hip replacements. After his trauma

of adverse reactions with PTFE (Teflon), Charnley was seeking an alternative polymer and he came over to Leeds to see some of the experimental work that we were doing. One of my lasting impressions of John Charnley is that he was a jolly good engineer. He wanted to understand the engineering and the physical principles by which these different combinations of material and different bearing configurations would work. Since that first contact, we had very frequent and stimulating exchange visits. Now there is a whole galaxy of possibilities, metal-on-metal, ceramic-on-ceramic, metal-on-ceramic, metal-on-polymers, ceramic-on-polymers and many of these are being very actively developed at the present time.

**Professor Duncan Dowson: *Hip Replacement*, pp. 28–30**

## Maternal deaths

**Drife:** I remember coming into the hospital where I worked as a registrar on a Monday morning. One of the odd things was that I came in a door about 200 yards away from the maternity unit and they had had a disaster, a maternal death, and I could sense something wrong 200 yards away, thinking something is not right. I don't know what it was, a silence or a change in the atmosphere, it was quite spectacular.

**Dally:** I do agree with you about remembering every detail of maternal death. When I was in gynaecology in Balham, I looked after a woman who took six weeks to die from an infected abortion, an illegal abortion. I remember every detail about her life, I remember every conversation I had with her, and the whole thing was very, very vivid.

**Professor James Drife, Dr Ann Dally: *Maternal Care*, p. 17**

## Maternity services

In the early 1970s there was a revolt by many women against what they saw as inhuman maternity services, and the practices within them. Few of them would have regarded themselves as having been motivated by feminist considerations. Having said that, it was very important that the feminist movement was growing at the same time. But the reason that the National Perinatal Epidemiology Unit had women on its advisory committee right from the beginning was basically from considerations of 'self-defence'. We felt that we would actually do the wrong things if we didn't get input from people who were in touch with the women using the maternity services, and who knew about the concerns they were expressing. So it wasn't from some sort of politically correct position that we engaged users of the maternity services. It simply seemed common sense to do so.

**Sir Iain Chalmers: *Public Health*, p. 69**

## Media

On the question of the difference in the media coverage of the foot and mouth outbreak in 1967/8 and at present [2001], it was certainly my impression that the media acted very responsibly in 1967/8. We didn't have the problem that they had recently where the press tried to sensationalize everything. They did show photographs of burial pits and burning etc., but in general they were fairly responsible in their reporting. There was a big change from 1967/8, even to 1981, in terms of the media involvement in outbreaks. I went up to Oswestry about two or three weeks after the 1967/8 outbreak started. I had been given the task of investigating the origin, because up to that point there had been no time to investigate the origin, as staff were fully occupied in dealing with outbreaks. When I arrived the Regional Veterinary Officer told me that some press people wanted to come in that afternoon to discuss the origin of the case, and would I talk to them? I said, 'Well, I have only just arrived and haven't started the investigation yet'. He said that it didn't matter, 'Just go and tell them what you are going to do'. I had to explain all the possibilities we were going to explore, and they were quite satisfied with that. We had no antagonism from the press in those days.

**Mr Howard Rees:** ***Foot and Mouth*****, p. 40**

*Scientists are largely to blame for the scares that spread among the public.*

I think it's important that scientists shouldn't transfer blame directly to the public for getting things wrong. Scientists are largely to blame for the scares that spread among the public. We are all aware of publications before the data are solid, publications that have been made to try to produce the next grant application. We should know by now, and God knows we have had enough evidence of it, that the media exists to find things to entertain and amuse and worry the public. Scientists exist to obtain grants to continue their curious activities. Those two groups will feed off each other, and so much of the blame, I think, for scares about carcinogenicity problems does lie with part of the scientific community, not only with the media or the public.

**Professor Robert Maynard:** ***Environmental Toxicology*****, pp. 23–4**

## Medical education

Many of us felt that there were several pieces missing in medical education. Certainly, this is true for those of us who had come from other universities, and for those who had come through London as well. I think we were very aware of the narrowness of the educational curriculum in medicine, which actually meant that when we talked about what the London Medical Group tackled, it was not what we would consider conventionally now to be necessarily ethical subjects; they were subjects where there was some feeling of disturbance, I think, when our elders and betters hadn't really grasped it. I certainly remember raising the idea of an ethics discussion as a postgraduate at the Whittington Hospital, and one of my consultants said, 'Higgs, when I hear the word "ethics", I reach for my golf clubs'. I think he was consciously echoing a Nazi phrase to tease me, but it was very clear that the generation above us were not only not offering ethics as part of our education, but also not particularly wanting any discussion of ethical issues at all. Ted Shotter was told by one senior medic that: 'these are things that should be discussed by consultants, with consultants, and in camera'. And so for us, there was a feeling of an opening up, of a revolution, which, I have to say, linked with other revolutionary processes in British life at the time, whether it was Carnaby Street, sexual liberation or whatever. But I think we were of a feeling of being somewhat on the crest of a wave.

**Professor Roger Higgs:** ***Medical Ethics*****, p. 13**

## Medical genetics – 1950s to 1960s

It's always difficult to talk about Cyril Clarke. It's like travelling in Ireland, when you ask the way, they say: 'Well, you can't start from here.' I think many of you know Cyril's background: he came to Liverpool in the early 1950s as a straightforward consultant physician, building up a private practice and with a major interest in asthma. There was no hint of things to come. But from his early childhood he had had a profound interest in butterflies and, later, genetics. He was breeding butterflies furiously by the early 1950s and got fascinated with mimicry. Purely by chance, through an advertisement for samples of butterflies, he met Phillip Sheppard from Oxford, who was one of E B Ford's protégés and they became very close friends. Cyril told me, and I think he told several people, that it was while walking on the Broads that Phillip said to him: 'Doesn't all this genetics have any applications to medicine?'

**Professor Sir David Weatherall:** ***Clinical Genetics*****, pp. 37–8**

Why did the haemoglobin field drift away from the mainstream of medical genetics? I think the only way I can put this together is to consider the way clinical genetics as a specialty developed after World War II. There really was nothing before that. It started in places like Baltimore and the west coast of the USA, and one or two centres here in the UK. It was natural for those departments to focus on local diseases, as it were, chromosomal abnormalities in particular, and standard monogenic diseases. I suspect that what happened was that the haemoglobin disorders tended to drift into haematology departments and there was a beginning of the separation.

**Professor Sir David Weatherall:** ***Clinical Molecular Genetics*****, pp. 27–8**

Professor Sir David Weatherall: *Clinical Genetics*

## Medical journals in Africa

We cannot take the growth of books and journals out of the context of medical education in East and West Africa. The *East African Medical Journal* had been there for a long time. The *West African Medical Journal,* which was privately owned, was going in 1960, and continued. The *African Journal of Medicine and Medical Sciences* developed, only to fall foul of the oil price rise and the slack in the economy. Other journals arose, the *Ethiopian Medical Journal,* the *Uganda Medical Journal,* the *Medical Journal of Malawi*, and this was very important for medical education, because it enabled local people to publish locally and not to get their papers turned down, 'because they were not well written'. This was an important stimulus to postgraduate expression. Finally, there were also the books that came and went, for example, John Lawson's book, which was a very important obstetric text, and other specialist books like *Davey's Companion to Surgery.*

**Professor Sir Eldryd Parry:** ***Africa,*** **p. 50**

*…this was very important for medical education, because it enabled local people to publish locally…*

## Medical Research Council (MRC)

Working for the Medical Research Council was very good for one's career development, both nationally within the UK and internationally. There is no doubt about that. At the same time, there were no brownie points issued by the MRC or by their visiting subgroups for investigations targeted at more practical orientated issues. In general, the MRC were more interested in fundamental research, developments of importance to fundamental science. I think the Medical Research Council's record in Africa, when viewed internationally in terms of contributions to international science, is pre-eminent. Perhaps in terms of applying that knowledge, the MRC's record was not so good. This isn't a new view. The same criticisms were being voiced in the 1960s. I remember one of them went something like, 'We are now in danger of knowing more and more and doing less and less.'

**Dr Roger Whitehead: *Africa*, p. 58**

## Medical student projects

**Herxheimer:** At the London Hospital we had projects for all students. They each had to do a little project, and lots of those were clinical pharmacology projects. And they were really very exciting and enjoyable. They were long before ethics committees were thought of. I remember two being published in *The Lancet* and I thought that was extraordinary for student projects. And that sensitized the students to clinical pharmacology thinking. Anybody else have that kind of experience?

**Flower:** I think that is a very important point. When I was a student of physiology, we did all the experiments on ourselves, in the way that students just can't do these days in most undergraduate centres, for various reasons.

**Aronson:** A paper in 1967 in *The Lancet*, on medical education, by Quilliam and Turner, describes a large number of experiments that they expected their students to do on themselves. For example, mydriasis and miosis in the eye, and using agonists and antagonists; you are right, we can't do that anymore.

**Prescott:** Alas, times have changed. I remember the days when we gave our students single doses of amphetamine and barbiturates in their practical classes so that they could experience the drug effects and identify which agent they had been given. To conduct such experiments now would be unthinkable.

**Dr Andrew Herxheimer, Professor Rod Flower, Dr Jeffrey Aronson, Professor Laurie Prescott: *Clinical Pharmacology 1*, pp. 61–2**

## Medicare (US)

Professor Stanley Shaldon: *Dialysis*

Stanley Shaldon has made many great contributions to nephrology but, I think that telling us how to do home haemodialysis overnight, three times a week, was perhaps his greatest. Once we adopted this in Seattle in 1965, most of our patients were well rehabilitated, went to work or school, or undertook other useful activities. Our state's department of vocational rehabilitation was so impressed that they became our greatest financial supporters in about 1967, paying for training, equipment, and supplies for home haemodialysis patients. Of course, these were a selected group of patients. Also, one of the arguments we used with Congress to get them to legislate the Medicare End Stage Renal Disease programme was that most patients would be treated by home haemodialysis or a kidney transplant and would become taxpayers again. Little did we know what was to happen as a result of the entitlement and Congress completely underestimated what the costs would be. In fact, later that year, the *New York Times* ran an editorial about the unexpected costs of the programme and entitled it 'Medicarelessness'.

**Professor Christopher Blagg:** ***Dialysis*****, pp. 73–4**

## Medicines Commission (UK)

I had something to say about the Medicines Act, which is rarely if ever talked about, and it is the way in which the committees meet, in which they're held. In the regulatory system, in my experience, the Chair always sits with people from the department, and is supported by them while the other members of the committee always sit on the other side of the table. I think that's the case in the Committee on Safety of Medicines; it was certainly the case in the Medicines Commission when I served on it. This meant that the most powerful member of the advisory body – the Chair – was on the opposite side to the members. That relationship, i.e. the Chair being very close to officers, civil servants, whatever, I think threw some of the decision-making.

**Professor Joe Collier:** ***Clinical Pharmacology 2*****, p. 57**

## Medicines Division of the Department of Health

In 1979 we moved to the Market Towers from Finsbury Square. In Finsbury Square we had manual typewriters. When I went to look at the building at Market Towers, it was all nicely equipped from a previous government department with word processors. The trades union insisted that all these word processors were going to be taken out, because it would affect our employment of secretaries. I created merry hell, as a result of which we got golf-ball typewriters. Now, that was the level of technology that we had, and I made a comment earlier on that the Medicines Division was under-resourced. It was grossly under-resourced.

**Professor John Griffin:** ***Clinical Pharmacology 2*****, pp. 57–8**

## Memorable patients

The little boy with Christmas disease. Dr Biggs got a telephone call from Dundee where I had come from, asking if she could take on the care of a little boy of four, who had had a venepuncture in the antecubital fossa and for some reason or other had developed a haematoma at the site of puncture. It got huge. It got infected and he ended up with osteomyelitis of the radius and he was in a very bad way. He was obviously very frightened, in great pain. He was referred to Oxford to be looked after by Professor Trueta, who was Professor of Orthopaedic Surgery then, a paediatrician called Dr Victoria Smallpeice and Dr Biggs. I remember when we unwrapped his hand, his thumb fell off, because his thumb was gangrenous. As soon as he was admitted Trueta said, 'This forearm must come off, he's very ill, he's infected', and this was done. I remember the first dose of factor IX concentrate being given. The child was taken to theatre and given factor IX, and he had to be sedated with rectal pentothal every day because he was so frightened. But the operation went very well, the factor IX caused no reactions whatsoever, and he healed very well. I know that boy well, because when I was up in Scotland last year [1997] I went to see him. He's now 42 years old, he's an architect. He has only one hand, of course. He did away with his prosthesis very early on, because he found the artificial arm more of a nuisance than a benefit, and he plays one-handed, right-handed golf.

*…when we unwrapped his hand, his thumb fell off, because his thumb was gangrenous.*

**Dr Charles Rizza:** ***Haemophilia*****, pp. 18–19**

**MacVicar:** The Professor of Medicine had made a diagnosis of malignant ascites in an elderly lady, which seemed to be confirmed by radiography. Then, from another unit, a young upstart came with an ultrasound machine to her bedside and said, 'This isn't a malignancy, this is an ovarian cyst!' I remember Professor Ian Donald kicking me under the bed-screen and saying, 'Not at all, it is a malignancy, the Professor of Medicine says so.' So I kept quiet after that. It was the first thing that made staff in the hospital recognize that this was a possible tool for the future.

**Hall:** I think Ian Donald himself said on a number of occasions that he thought that that was the watershed. In his own inimitable manner, he said, 'From that point on there could be no turning back'. The end of the story was that the patient was taken upstairs to the gynaecological department and had this great big cyst removed and lived, so far as we know, happily ever after.

**MacVicar:** What annoyed me was that Ian Donald got a cake from that woman every Christmas afterwards, and I never got any!

**Hall:** I think saving lives carries its own disappointments.

**Professor John MacVicar, Dr Angus Hall:** ***Ultrasound*****, p. 19**

## Metabolic studies

I was supposed to be becoming a nephrologist, but I was doing research on the then fairly new metabolic ward and discovered that all the experiments went wrong and produced results that I would not have expected. So I tried to find out why and discovered that the patients were getting the wrong drugs and the wrong electrolytes. And the atmosphere was unbelievable. If I could just say that in those days the nurses had to add up the amounts of dietary constituents to six places of decimals, from wartime tables that were totally irrelevant. I remember remonstrating with an assistant matron about this, and she said: 'But it does them good, Dr Vere.'

**Professor Duncan Vere:** ***Clinical Pharmacology 1*****, pp. 13–14**

## Midwives

*I found it just quite, quite frightful…*

My midwifery training in 1975 I found absolutely horrendous, it was probably the most traumatic experience in my whole life. Women being induced, women in agony all over the place, I found it just quite, quite frightful, and a general disregard for women. I felt as if I was mad some of the time, it was just horrible.

**Mrs Caroline Flint:** ***Maternal Care*****, p. 62**

## Migraine

In the 1970s I heard a programme on Radio 4 on the trials and tribulations of migraine sufferers, around the time that my friends had been saying: 'Don't waste time working on migraine, it's just something neurotic women complain about, it's not a real disease.' And it was neurologists saying that, but I realised it was a real disease and thought I'd better go and find out about it. I was lucky enough to talk to Marcia Wilkinson and spent quite a lot of time with her and she was a lovely lady, she knew how to treat her patients. What did I learn from it? She treated her patients as best she could with bed rest and keeping them in a dark room and so on and so on. But what she actually made me realise was that there were no good treatments for migraine, so it was another reason for working on it because it was a serious disease that needed a new medicine. I was really just making the point about what was available in the 1970s; not much.

**Dr Patrick Humphrey: *Migraine*, pp. 21–2**

## Military research

When I first went to the APU, I was a lowly research student and I was amazed to find that there was some sort of naval unit in Cambridge. Its sole purpose, as far as I could work out, was to provide, I think, six naval ratings per fortnight, to be tested at the unit. A large amount of time was spent 'cooking' them to see how well they performed when they were hot, or locking them in a room for hours on end and having them perform vigilance tasks

**Professor Graham Hitch: *Applied Psychology*, pp. 30–1**

## Mistakes

We have lived through a most exciting time in surgery, and, in fact, I think we have been discussing one of the greatest advances in surgery ever: hip replacement. We have made some mistakes along the way. I think it's quite important, looking back over 30 years of a new surgical procedure, to note that it was a triumph in the end for the vast majority of patients, but a failure for some less fortunate, who were in receipt of less-than-perfect prostheses.

**Sir Rodney Sweetnam: *Hip Replacement*, pp. 92–3**

It's my own personal view that medicine seems to stumble from one disaster to the next. All the way through it has been like that. You develop what you think is good therapy and you find that a significant number of patients suffer as a

consequence, but at the end of it there's been a little bit of advance. It is a shame that people have to suffer to get there and this is my own personal feeling, others may not think that. All new therapies are potentially dangerous, I think, and have to be used with great care.

**Dr Charles Rizza: *Haemophilia*, p. 69**

## Mixed treatment wards

What dialysis did as regards the changing attitudes to patients: I remember clearly the business of sharing accommodation between males and females and we were having to defend ourselves to the matron. She was astonished that we had put a female patient with a male patient for dialysis. We said: 'Do you want her to die or do you want her to live? It's as simple as that.'

**Dr Rosemarie Baillod: *Dialysis*, p. 46**

## Morphine

At about the same time, in March 1948, I was impelled by the stories of my patients that I had experienced first as a nurse, but most of all as a social worker. I knew I had to do something about end-of-life pain and I went, as a State Registered Nurse volunteer, to one of the early homes. There I found that the nurses seeing the prescriptions of morphine four-hourly 'PRN', *pro re nata*, as needed or as requested, by the doctors, quite quietly took 'PRN' off and gave the drug four-hourly, so as to prevent pain ever happening. This regular oral four-hourly giving of morphine dates back to 1935, fairly soon after the Brompton cocktail was put together. Now I was very impressed by this, because the patients were so much better with the pain control than the ones I had seen in hospital before then. During that time I took Mr Norman Barrett, the surgeon I was working for, to see this, and to visit a patient at home and so on. When I said to him, 'I am going to have to go back and nurse the dying somehow,' he said, 'Go and read medicine. So many doctors desert the dying, and there's so much more to be learnt about pain, and you will only be frustrated if you don't do it properly, and they won't listen to you.' So I did read medicine.

*… 'I am going to have to go back and nurse the dying somehow' …*

**Dame Cicely Saunders: *Pain*, pp. 5–6**

I just wanted to say something about morphine. It's interesting that even into the 1960s and early 1970s, there were still physicians who believed that a very small dose of morphine was an appropriate treatment for acute asthma. When I was a registrar at the Queen Elizabeth Hospital in Hackney in 1973 there was a consultant there who insisted that his patients should be given a small dose of morphine when admitted with acute asthma. All the senior house officers and registrars would carefully steer him away from these patients because they were absolutely petrified of ever using morphine, and would use various forms of subterfuge to avoid confrontation over the issue. Such comments as, 'The patient was admitted just before your take started', or 'Casualty had already given him some nebulized salbutamol. The patient improved so much it was not necessary to administer morphine.'

**Professor John Warner: *Asthma*, pp. 10–11**

## Mothers and babies

**Sadler:** You can't advertise, even if you have the money, to give people jobs measuring newborns in hospital. It's a very special thing to do. I was in a fortunate position because I'd been working with the National Childbirth Trust for a long time, and I knew the network, and knew this extremely valuable post-natal support set-up they have, where people who have been through the classes will then get together – sort of coffee mornings, what have you – but it's a group of people whom I felt were the kind of people that I wanted to be talking to new mums, and handling these newborn babies. That's how we got our first staff. It was word of mouth. When we wanted staff for the new Focus Clinics from four months onwards, it was the same network of people and also people who were known by those already working for us. Nepotism, absolutely. But it worked because we had a very special kind of group of people who were very good with children and babies and mothers, and knew what it was like and could communicate well.

*…we had a very special kind of group of people who were very good with children and babies and mothers…*

**Stirrat:** There was an enthusiasm, it somehow or other just caught the spirit of the age; it got a lot of steam behind it. Mothers recruited mothers, etc., etc., but in fact the midwives were key, as usual.

**Mrs Sue Sadler, Professor Gordon Stirrat: *ALSPAC*, pp. 24–6**

## MRSA

A lot of the move by the Department of Health to reduce MRSA infection was driven by high-profile political people being lobbied by ordinary people in the country, saying that their loved ones, their dear ones, had died from hospital-associated infection. I was the first Press Officer for the Hospital Infection Society, and at the time that we had our first international meeting in 1987 – I didn't know anything about being a press officer and I said, 'What do you want me to show?' They said: 'We want you to show that there is a Hospital Infection Society'. Of course, nobody knew anything about hospital infection at that time. I would say that we had quite a successful campaign, but in fact what I learnt was that the only news is bad news. We had some very, very interesting statements like those from Richard Marples, our great leader of our Staphylococcal Reference Lab, saying that the only way to get rid of MRSA would be to burn the hospitals down. Of course, MPs are lobbied, and if relatives of MPs get this infection, then they go to the Secretary of State for Health and say, 'Well, what are *you* going to do about it?'

**Dr Geoffrey Scott: *MRSA*, pp. 66–7**

*There are still some microbiologists who believe that the importance of MRSA is overplayed…*

Many people felt that we were wrong to take MRSA more seriously than MSSA (methicillin-sensitive *Staphylococcus aureus*) and that a great MRSA industry has arisen that was totally unrelated to the importance of the organism in their hospitals. For some hospitals this may have been true. When the 1998 Guidance on the control of MRSA came out, there was a bitter exchange of letters in the *Journal of Hospital Infection*, in which half the country's microbiologists more or less said this guidance was a waste of time, and by implication was written by London elitists, who knew nothing about infection control issues. There are still some microbiologists who believe that the importance of MRSA is overplayed, although I am not among them. Microbiologists did *not* put their foot down about filthy and crowded wards. The public did, and that's what got through to the politicians. MRSA became the focus for a growing understanding that infection control in hospitals was poor.

**Professor Gary French: *MRSA*, pp. 70–1**

## Multiple sclerosis

I first became aware that cannabis had a medicinal application as a young hospital doctor in London when I became aware of a patient with MS smoking the substance on the Victorian balcony. I spoke to the ward sister, a formidable woman who was very much of the old school, and asked: 'Are you happy with this?' She said: 'Well, yes. It does seem to help him.' I thought: 'Gosh, if it convinces her, there really must be something in it.' I spent a lot of time talking to this young guy and it was from him that I became aware of one of the most important things from the clinical point of view, as far as I'm concerned, about cannabis, which is that it has a very broad range of effects for people with multiple symptomatology. It isn't just a pain reliever or a stiffness reliever or something that improves your sleep; it does an awful lot of things for people who have a whole range of symptoms; that became a difficult issue later when approaching scientifically robust clinical trials.

**Dr Philip Robson: *Cannabis*, p. 40**

## Mustard gas

In 1951 leukaemia was regarded as a dreaded disease that few, if any, survived. The urgent need for fresh viewpoints on the nature of leukaemia and its therapy was acknowledged, but these were to come from a most unexpected source: chemical warfare. The use of mustard gas by the German forces in the First World War caused the allies in the Second World War to take preventive measures in case mustard gas should be used again. Secret research, both in the USA and here in Britain, on nitrogen mustards, the nitrogen analogues of the gas, found that they produced marked changes in the haemopoietic system. It was soon realised that nitrogen mustard (then known by the code name HN2) produced an action on blood cells and bone marrow unlike any other known chemical substance. This was the advent of chemotherapy.

**Dr Gordon Piller: *Leukaemia*, pp. 10–11**

Professor David Gordon, Professor Sir Stanley Peart, Sir Roger Gibbs: *NATSAL*

## National Asthma Campaign

The Asthma Society came into being in 1980. The medical background that was important, and noted at that time, was that we had two effective measures in the therapy of asthma: good controlling drugs, the steroids, and cromoglycate (Intal), as well as good relief medications. That left the issues of the delivery devices and patient education. Patients weren't taught how to use the devices properly and didn't really understand the difference between steroids and bronchodilators. And that's why the Asthma Society started with an educational programme involving patient groups, the branches that brought asthmatics together for support. It was very successful. The Asthma Society and the Asthma Research Council were run from the same office for a decade, but for organizational reasons it was obviously best that they came together, which they did in 1990. The National Asthma Campaign was the result, a charity campaigning on behalf of asthmatics with government and public bodies. It has introduced a very popular telephone helpline. The balance is shifting now from patient support groups to the service that is available through general practice asthma clinics. The National Asthma Campaign continues to fund research, which now, instead of being £300,000 to £400,000, is £3 to £4 million. Quite a success story.

*Patients weren't taught how to use the devices properly and didn't really understand the difference between steroids and bronchodilators.*

**Dr Donald Lane:** ***Asthma,*** **pp. 55–6**

## National Childbirth Trust (NCT)

I am recalling experiences from when I was a junior midwife at the Simpson Memorial Hospital, Edinburgh in 1978 and I think it was the height of medical intervention. Something that really struck me as a young midwife was the women coming into the labour wards for their routine shavings and enemas: some women would come in and look at you straight in the face, and you knew that they were from the NCT. More than that, their case notes actually had 'NCT' in red letters on the front. As a student, I thought there must be something in this, because they would sometimes challenge you.

**Mrs Phyll Buchanan: *Breastfeeding,* p.42**

## NHS central purchasing

I think the fact that so many British medical companies have disappeared is a tragedy. The reasons must be many and varied, but it must have something to do with the culture of the time. British companies appeared to be reluctant to engage outside the UK. Companies such as Lucas, Cambridge, and many others, including Watson-Marlow, all had the ability to produce and develop dialysis equipment to the demands of the doctors and to the special requirements of Dr Shaldon and others who were sending patients home to treat themselves. In the late 1960s and early 1970s, dialysis equipment was purchased on central contract and delivered to hospitals as and when required. The demand for machines in the UK was disproportionately high because of the demand for home treatment, even though the total dialysis population was much lower here than, say, Germany, France, and Italy. The companies therefore did not have to work particularly hard to make a decent business. Perhaps they got fat and lazy. If that seems unfair, I would like to make the point that central purchasing did not, in the end, do British industry many favours.

**Mr Eric Collins: *Dialysis,* pp. 38–9**

## NHS funding

One of the big difficulties came after you had done research showing that a new approach or technique was beneficial and should be incorporated as part of routine management – namely achieving the actual takeover from research to NHS funding. An example from University College Hospital was the antenatal diagnosis of thalassaemia – where at one point the service was going to cease totally because I insisted that I couldn't continue to fund this on research monies,

because it was no longer research, having become an accepted, necessary form of investigation. The decision was reversed only by involvement of the local population, for we were sitting in the middle of a very large Greek Cypriot population who relied very much on the service, and only their vociferous pressure brought about a last-minute change by the region to provide NHS funding.

**Professor Denys Fairweather:** ***Neonatal Intensive Care*****, pp. 71–2**

## National Survey of Sexual Attitudes and Lifestyles and AIDS policy

**Johnson:** I would like to say something about what NATSAL-1 was used for, which was quite extensively for sex education, for the AIDS projections, so it was used year after year to estimate the likely spread of HIV; it was used in legislation.

**Wellings:** It was used to underpin the whole of the national HIV and sexual health strategy. And also the teenage pregnancy strategy.

**Professor Dame Anne Johnson, Professor Kaye Wellings:** ***NATSAL*****, pp. 49–50**

Professors Anne Johnson, Kaye Wellings: *NATSAL*


*Private Eye* magazine front cover, 5 July 1968; left to right: Professor Donald Longmore, Mr Donald Ross, Sir Keith Ross: *Heart Transplant.* Reproduced by kind permission of PRIVATE EYE magazine – www.private-eye.co.uk

## Nationalism

One thing, and this may seem less medical than you would like, but the powerful symbolism of heart transplantation, the meaning of the human heart, the audacity of taking the heart out of one person and putting it in another, the tremendous drama that was involved in that, I think, contributed a great deal to the transplant boom. As a matter of fact, the image that was invoked earlier this afternoon, of the transplant team waving Union Jacks at a press conference is not a laughable phenomenon. The fact that all over the world, in various countries, teams felt attracted to doing at least one such transplant, had a very nationalistic dimension to it. Doing a heart transplant in that particular year of the transplant age was tremendously important for reasons that were not purely medical and surgical.

**Professor Renée Fox: *Heart Transplant*, p. 50**

## Native remedies

We set up a study in the early 1980s in three developed countries and three underdeveloped countries to see what the situation was at that time, what sort of treatment patients were receiving and what sort of pain relief, if any, they received. At that time I went to two or three very poor countries, to see cancer patients in hospital, and it was pathetic to see the worse-than-basic conditions within the hospitals. I remember the women's ward in one hospital in Sri Lanka in particular – there must have been 12 or 14 women there with really advanced cancer – and as I walked round the ward, none of them seemed to be in great pain. I asked the young doctor who was in charge of this ward what treatment they were receiving. He said, 'They get two tablets of aspirin a day', and I just couldn't believe it. I asked, 'Do they not receive anything except two aspirin tablets a day? Don't they get any sort of native herb treatment of any kind?' He said, 'Well, yes, they do get a native medication,' and when I asked, 'What's in the native medication?', he said, 'Oh, I don't know that.' I have often wondered since then why somebody hasn't gone out there to study those herbs and what's in them, because they looked to be pretty effective.

**Dr Mark Swerdlow: *Pain*, p. 39**

I had a patient with chronic myeloid leukaemia (CML) who was doing rather badly, and round about 1990 she decided to go to India for therapy. She had heard of a practitioner called Dr Vadya Prakash, operating in Delhi and in Deradan. She spent about six weeks there and she came back and said it wasn't very effective. But the Leukaemia Research Fund led by Gordon Piller suggested that it would

be worth looking at the particular compound that Prakash was using to treat predominantly CML. In conjunction with two other haematologists, I went to Delhi to look at this compound. There was no doubt that the compound that Prakash was making in his back garden and in his kitchen sink was controlling the leucocyte count. The leucocyte count of patients with chronic leukaemia was coming down in some cases to normal. To the annoyance of the All-India Institute of Medical Sciences and Lady Tata Memorial Hospital, he was building up a considerable practice in his own private office in Delhi. He didn't know what was in the compound, or he told us it was a mixture of things he made in his back garden. We brought the compound back to London for analysis and, of course, it contained between 15 and 25 per cent arsenic.

*…he told us it was a mixture of things he made in his back garden.*

**Professor John Goldman: *Leukaemia*, pp. 19–20**

## Needles

I came to Oxford in 1961 and before that time transfusion equipment was rather unreliable. The rubber and glass drip sets sometimes came apart in the middle of a transfusion and created havoc. Needles and syringes in 1961 were still of a type that had been used for many decades. Needles were all steel, sterilized by autoclaving after use and resharpened in a machine similar to that used for sharpening gramophone needles. They were sometimes blunt or even had a hooked point. They were packed for use in glass tubes and the size was identified by a twist of coloured cellophane, which closed off the end of the tube. The syringes were glass and sometimes stuck while drawing blood or giving an injection, usually at the worst possible time, particularly if you were dealing with a child.

*Needles and syringes in 1961 were still of a type that had been used for many decades.*

**Dr James Matthews: *Haemophilia*, p. 33**

## Negative transfer situations

**Gregory:** I think one of the things you didn't mention is negative transfer situations. There's the famous case about a mine trolley that had a brake pedal and accelerator – so the accelerator was on the right and the brake on the left for one direction of travel – but reversed on the way back – as one sat on a different seat and used the same pedals. Believe it or not, they had an awful lot of crashes.

**Brown:** A similar situation existed in the control rooms in the electricity-generating industry, where the engineers designed the same control panel for use on opposite sides of the room, so the control display relationships were reversed and people had to remember on which side of the room they were sitting and if they were on the wrong side they had to think, 'Well, right means left'.

**Professor Richard Gregory, Dr Ivan Brown:** ***Applied Psychology*****, pp. 38–9**

## Neonatal research

In my opinion it was always quite difficult to get adequate funding for scientific neonatal research. For one thing, a whole lot of people used to say, 'Oh, dear little infants, all the charities support you, no problem', but the fact is most of the parent groups and the charities were interested in service or in treatment, and not in prevention or basic physiology. The MRC caught us paediatricians, I think, in a sort of catch-22 situation. They said, 'We'd love to give more grants but we're not getting good enough applications', but the problem was that they didn't really have anybody in the corridors of MRC power who was a paediatrician or could reasonably, I think, look in comparative terms at the paediatric applications. So it has, historically, been quite difficult to get funding, and I have alluded earlier on in this discussion to a slight problem, which is the legality of research unless it is of direct therapeutic benefit.

**Professor Tom Oppé:** ***Neonatal Intensive Care*****, p. 72**

## Niche drugs

**Lewis:** I was always trying to save drugs that the marketing people were not in the least interested in and tried to kill off. I remember my best triumph at Merrell Dow in 1983 in that we had an antibiotic – Teicoplanin. But there was a big argument about Teicoplanin and they thought it was absolute rubbish and tried to kill it off. I remember a phone call in the middle of the night from the big boss in the US saying that they were just about to start a large feedlot experiment on a Texas farm, feeding this stuff to steers as a growth enhancer, and was I sure that the drug was actually likely to be a pharmaceutical, because if it was, he was going to have to kill off this experiment. They were, however, going to lose $2 million, because the farmer would have already prepared all the steers. So it was one of those moments.

**Flower:** Did you go back to sleep again?

*The marketing department only wanted blockbusters.*

**Lewis:** Well, it took some years for me to get my equilibrium back, but it actually turned out to be the most successful drug I've been associated with in the industry. Not saying an awful lot, but anyway, it's still going and, you know, it did well. But the company was risk-averse at that time; they had had some nasty experiences, and the last thing they wanted was anything that was going to go wrong. The marketing department only wanted blockbusters. That's one of the terrible things; nobody wants 'niche products' and it has gotten worse and worse and worse. If you can't show that this compound is likely to be a billion-dollar agent, nobody's interested. So it's very difficult for people in pharmaceutical industry research to keep working on things that might turn out to be interesting, because they tend to get killed off at a very early stage.

**Dr Peter Lewis, Professor Rod Flower:** ***Clinical Pharmacology 2*****, pp. 25–6**

## Nomads

In the Algerian Sahara we were comparing two anti-TB regimens: one a standard 12month regimen, which was based on isoniazid/streptomycin/ethambutol; the other was a short-course, six-month rifampicin-based regimen. The population included quite a lot of nomads who picked up their drugs at convenient places, or took sufficient supplies to get them from one place to another or to complete their treatment. The results in the short-course regimen were vastly better than in the standard treatment: 3 per cent compared with 17 per cent failures and relapses at two years. So it made an enormous difference that patients didn't actually have to go on taking their treatment for so long.

**Professor Andrew Nunn:** ***TB Chemotherapy,*** **p. 13**

The Wellcome Foundation bought a company in the north of England called Calmic. They had a formulation of paracetamol called Calpol. This proved to be very much more palatable than the British Pharmacopoeia solution of paracetamol, which was very, very bitter. What Calmic did was to use a very traditional mucilage of tragacanth and acacia, which has been used for centuries in pharmacy to suspend the paracetamol rather than it being dissolved. Well, I was sitting in my office one day and a man knocked at the door. He said, 'Boss, can you phone the chairman and tell him we can't make any more Calpol because the Bedouin have moved south.' 'Excuse me? The Bedouin have moved south?' 'Yes.' Now, you see, tragacanth is a natural gum abstracted

from some plants in North Africa by the Bedouin as they tend their goats. That year the weather in the region where the tragacanth grows was bad so they decided to up camp and move south, so no tragacanth. So that's why the man said to me, 'Well, could you phone the chairman, mate, and tell him that we can't make any more Calpol.' I said, 'What's this picture behind me on the wall?' He said, 'Oh, it's a picture of the earth taken from the moon.' I said, 'Well, the man who took that picture got back!' He said, 'What?' and I replied: 'So it's not the end of the world because the Bedouin have moved south.'

*'…we can't make any more Calpol because the Bedouin have moved south.'*

**Professor Trevor Jones:** ***Migraine,*** **pp. 74–5**

## Norwich Cathedral and hip prostheses

I was working as a technician in the orthopaedic theatre at the Norfolk and Norwich Hospital with Ken McKee and John Watson-Farrar. There are two things that I can recall, one may be slightly apocryphal about the design of the McKee hip prosthesis. He didn't just turn to engineering, he also turned to tenth- and eleventh-century architecture. He copied the flying buttresses of Norwich Cathedral for the shape of the stem of his prosthesis.

**Mr Geoff King:** ***Hip Replacement,*** **p. 55**

Dr Michael O'Brien:
*Migraine*

## Obstetric anaesthesia

Maternal deaths from anaesthesia, which were 20 in a triennium or more than 20 in a triennium when I graduated in 1971, have been reduced to a single death, a *single death*, in the whole of the three-year period, 1994, 1995, and 1996. For all that we grumble about anaesthetists being fussy and moaning at us obstetricians and holding us up when we want to get on and do things, I think that their achievement in making anaesthesia almost totally safe from the women's point of view is one of the staggering achievements of the last 30 years.

**Professor James Drife:** *Maternal Care*, **pp. 60–1**

## Obstetric ultrasound

When Ian Donald came to Glasgow in the mid-1950s I was his fellow consultant in the Western Infirmary and it was our custom to have a session each day to discuss the proceedings over a glass of sherry. He learnt that Babcock and Wilcox, a firm of boilermakers in the district, had an ultrasonic flaw detector so he immediately contacted the Director of Research in Babcock and arranged a meeting. I went to that meeting and the next thing was to arrange to visit the factory to see the flaw detector in use. We did this and there was nothing that would be suitable for the detection of tumours. But Ian talked this over with them and they decided that he could come down again, this time bringing a selection of tumours; my motor car boot was filled with large ovarian cysts and fibroids and so

on, which we took down to the factory. They had produced some kind of primitive transducer and a water-bath, and we took primitive pictures with an engrossed audience of the workers in the factory who thought it looked rather like an abattoir. We came back and he was still frustrated by the fact that there was something in this idea, and how could he develop it. That same evening a telephone call came from one Tom Brown, an engineer at Kelvin & Hughes marine technology company in Glasgow, purely by chance, and that was the start of this providential partnership between Tom Brown and Ian Donald. If it hadn't been for them there might never have been ultrasound as we know it.

**Dr Wallace Barr:** *Ultrasound,* **pp. 58–9**

Mr Thomas Brown, standing in front of the newly built contact scanner in the research and development laboratories of Kelvin & Hughes Ltd, Glasgow, 1956: *Ultrasound*

I heard, by chance, of the obstetrician Ian Donald's use of an A-scope machine on people. I went home, looked up Professor Donald in the phone book and phoned him up, on Western 5050, that night. Had he been the least bit stuffy, none of this might have happened, but in fact he was delightful, and it wasn't long before I was invited to go and see what he was doing.

**Mr Thomas Brown:** *Ultrasound*, **p. 16**

I consider that the success of the original work on obstetric ultrasound depended on three separate things: the people, the place, and the time. And I would like to start with the time. 1956 was a lot different from 1996 and I really don't think a Western Infirmary Ethical Committee would ever have allowed us to use an industrial flaw detector on patients. Nor do I think that the patients would have submitted to examination if they had had to sign a form which said, 'I hereby agree to this examination by an experimental machine and I don't know all the consequences thereof.' Although we had a lot of discussion with the patients beforehand, it certainly would not have been accepted nowadays. We were lucky in 1956.

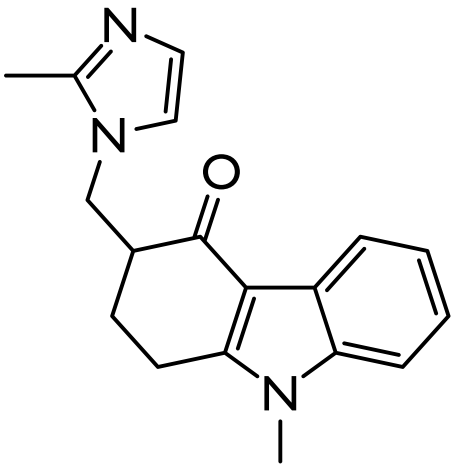
**Professor John MacVicar:** *Ultrasound,* **p. 47**

## Olympic Games

Peter Sperryn and I were both working with the British Amateur Athletic Board about the same time. I went with lots of teams to several Olympic Games and went with the hockey team on several of their world tours and so on, but was never paid by any of them. You were always expected to take it as holiday. At that stage I was working in general practice and one of my partners came out and said: 'We don't think that we ought to pay you while you are away.' That was what you were up against; I can't remember the year. But then I became a fully paid medical officer for track and field – I became their Chief Medical Officer in about 1986 – so at that stage I was paid. In 1986 there was the first Olympic medical officer being paid that I know of. I was also asked to be the Chief Medical Officer for the Olympics. I had just come out of full-time general practice, and I said: 'Well, I think this job is at least four days a week for me to do it properly; how much are you going to pay me?' To which they said: 'Nothing'. And I said: 'I cannot do the job if I am trying to earn a living, and you expect me to work four days a week for free; it's impossible.' So they were not paying us even at the Olympic stage in the mid-1980s.

**Dr Malcolm Read:** *Sports Medicine*, **p. 46**

Chemical structure of ondansetron, an anti-emetic drug: *Platinum compounds*




## Ondansetron

We used to do the ward round in Louvain every single day with our professor who was very, very strict. At 9 a.m. we would all go round, and every single child would be on their bed – you can't do a ward round like that anymore – but they would all be there with their cardboard kidney bowls, vomiting, and we would do every single ward round, every morning, every room, and it would smell bad, and we would feel bad, and the children wouldn't be able to tell us anything because they were just throwing up all over the place. Then once we started with ondansetron nobody was vomiting any more, and then in the cafeteria, because in Belgium the food is good, they would be served steak and fish, and chocolate mousse; but they couldn't even have the food trays in the room before ondansetron. But afterwards, the kitchen staff would come running up to me and they would say, 'Professor Brock, Professor Brock, what's going on? All the oncology patients are ordering food, they want chocolate mousse, we are coming and fetching the trays and the food has been eaten, and it is not the parents who are eating

the food, because the parents also get their own tray.' To me, that was a wonderful watershed; when we did ward rounds not only were they not vomiting, but they were actually ordering food and eating it.

**Dr Penelope Brock:** *Platinum Salts*, **p. 60**

## Openness

If I had my time again, I would like to see much more openness. Some, but not all, of the problems that we are seeing now about the interpretation of science and the way in which science is purveyed to the public in relation to their own interests and in their own environment and lives derive from the fact that some of the discussions were held behind closed doors. I have been very impressed recently in various ways in the Committee on Toxicity that I have been chairing, about open discussion of these matters. I suspect that if there had been more open discussion about some of the matters that affect the environment then some of the concerns and worries, certainly in the public perception, would not be there.

**Professor Frank Woods:** *Environmental Toxicology*, **pp. 23–4**

## Oral rehydration therapy

Although scientists and research clinicians were convinced that oral rehydration therapy worked, based on elegant trials, it was not until the Bangladesh war of independence, when Dilip Mahalanabis and his colleagues actually used oral rehydration therapy very effectively in refugee camps in an emergency situation, that oral rehydration therapy became widely used in practice. Mahalanabis applied it in a disaster situation for the first time, whereas others had applied it under more controlled research situations. It was this practical application which persuaded UNICEF and the World Health Organization to appreciate the clinical value of oral rehydration therapy.

**Professor John Walker-Smith:** *Intestinal Absorption*, **p. 44**

## Out-of-hours working

The intensive care unit that I started and ran for years was very much an anaesthetic unit. That wasn't because we were guarding our boundaries, but the physicians have changed a great deal since 1960. When we moved into the Royal Liverpool University Hospital, amalgamating about five small 300- to 400-bedded teaching hospitals, in 1979 and for a few years afterwards, the most senior opinion for medical patients at night, or outside the consultants' ward

days, was a senior house officer. Even the registrars were resistant to it; they certainly didn't live in. A senior registrar visit was something of a papal visit. Physicians, in my experience, didn't want to have to put in the sort of out-of-hours work that the anaesthetists were doing.

**Dr Tony Gilbertson:** *Intensive Care*, **pp. 57–8**

## Oxford academe

I found it very difficult to establish an accepted and strong identity for clinical pharmacology in Oxford. I remember treating a very well-known and distinguished professor of philosophy in Oxford after a mild stroke, who asked me: 'What's your specialty?' in the way that they do in Oxford. I replied, 'I am Professor of Clinical Pharmacology.' 'What's that?' So I said, 'Well, studying how medicines work, what they do to the body, how the body deals with them, their effects and their side effects.' 'Oh, you are the Professor of Pills.' Straight in, 'Professor of Pills.' When I first went to Oxford, I went to an induction party by the Rhodes Trust. I was introduced all round by the secretary of the Rhodes Trust as the Professor of Criminal Psychology, which, of course, is very much more interesting at a cocktail party than the Professor of Clinical Pharmacology. And then finally, just to give the flavour of Oxford and how difficult it can be, going to a private dinner and sitting opposite a very nice, very distinguished lady of the upper classes, who said, 'How did you get here, young man?' (because I was a young man). I went through the whole rigmarole and she said, 'How did they know that you would be socially acceptable?' So, these are some of the things that I came across in Oxford that are relevant to the teething troubles of clinical pharmacology.

*'Oh, you are the Professor of Pills.'*

**Professor David Grahame-Smith:** *Clinical Pharmacology 1*, **pp. 33–4**

A distinguished Professor of Medicine in Oxford was seen moving the placecards at a dinner so his wife didn't sit next to a psychiatrist.

**Professor Bill Fulford:** *Medical Ethics*, **p. 37**



P

## Pain and palliative care, 1960s

About 1961 or 1962, I asked patients to estimate their pain levels, and linked them to the nature of the analgesic that was prescribed for them. I did a study on the male oncology ward and the female oncology ward. The results were amazing, because there wasn't any correlation at all between the type of analgesic given and the level of pain recorded, either before and after the analgesic had been given. So you could have had a bucket of analgesics in the middle of the ward and said, 'Take one of these. It might work.' The second observation was that on the ward for women all types of analgesics were available, including narcotic analgesics, but on the men's ward narcotics were not available. I enquired why narcotics were not available to men and was told that men don't need powerful drugs like that. It is hard to believe that such attitudes existed, but they did. I think it is worth recording that life was very bad sometimes for people with severe pain.

**Professor Sir Michael Bond: *Pain*, p. 21**

Going to St Joseph's Hospice, which was virtually untouched by medical advance, I was able to introduce records and the regular giving of morphine, which they hadn't started, and according to one of the sisters of the ward that I was first in, it was the change from painful to pain-free. Having been given four patients to look after, I was soon looking after every admission into those 45 beds. So I began keeping records in detail, pre-computer, on a punch card system, and

Dame Cicely Saunders: *Pain*

making tape recordings of patients talking about their pain from 1960, and I realised that what we were looking at was what I described later, in 1964, as total pain. And I will quote from one patient, when I said to her, 'Tell me about your pain, Mrs H.' She just said, 'Well, doctor, it began in my back, but now it seems that all of me is wrong. I could have cried for the pills and the injections, but I knew that I mustn't. Nobody seemed to understand how I felt, and it seemed as if the whole world was against me. My husband and son were marvellous, but they would have to stay off work and lose their money, but it's so wonderful to begin to feel safe again.' And so she has really talked about the physical, the psychological, the social, and her spiritual need for security to look at who she was, coming to the end of her life. And for another patient it was, 'All pain and now it's gone, and I am free.' It is not possible to treat pain in isolation. We have to consider the whole person.

**Dame Cicely Saunders: *Pain*, pp. 6–7**

I will say that until about 1965 there was entrenched ignorance, a tremendous amount of severe pain. Patients who were in severe pain, or dying with pain, were often given the Brompton cocktail, or Mist. Obliterans, as it was politely known, and it was a matter of patients being rendered so that they didn't know what they were doing, by doctors who certainly didn't know what they were doing. They were using medicines with actions that they couldn't understand, because they had this complex mixture of cocaine, morphine, gin, sometimes with phenothiazine added. Parsimony was the order of the day, which rendered control impossible. Pain breakthrough was frequent, and intermittent control is disastrous, if only for the reason of the self-augmentation of pain. Hospice care had, of course, begun but somehow it didn't seem to have come across into the general medical and surgical field in hospitals and general practice.

*…they had this complex mixture of cocaine, morphine, gin, sometimes with phenothiazine added.*

**Professor Duncan Vere: *Pain*, pp. 15–16**

## Palliative care nurses

Nurses were put in positions usually with support from the local hospice and maybe an interested physician or anaesthetist. However, they were essentially working alone. Initially progress was slow. The nurse was referred patients who had been given 'bad news' and she would be asked to go and talk to them. This afforded her an opportunity to discuss pain relief and symptom control. These nurses, however, did not have the 'power of the pen', and consultants, registrars, and house officers would need to be persuaded to prescribe medication that they may have been unfamiliar with and which often seemed excessive and inappropriate. However, once a successful outcome was achieved, then more referrals would follow and this would swiftly snowball, particularly in the larger hospitals. These nurses soon became inundated with requests to educate fellow nurses, who were very keen to learn about palliative care as this was at the very heart of what nursing was all about and a great source of job satisfaction.

**Ms Janet Gahegan:** ***Palliative Medicine*****, pp. 97–8**

## Pancrease

Pancrease and Creon are the trade names for the two new pancreatic preparations prescribed for cystic fibrosis. The thing that was very special about Pancrease, and later Creon, was that they were not destroyed by stomach acid, so the actual enzyme was not released until the surrounding environment became alkaline in the duodenum or even a bit further down. Pancrease sounded like a gimmick initially but, by Jove, it was miraculous! I can well remember a girl of about 15 weeping when she had been put on to Pancrease, and saying that her whole life was dominated by her terrible bowels, and she said, 'Now I can live a normal life.' It was absolutely awesome, the effect in some patients. I pushed it hard because it was a very, very important area.

**Dr James Littlewood:** ***Cystic Fibrosis,*** **p. 30**

## Parkinson's disease

Those who are 25 years, or more, younger than I am have no idea of the enormous gulf of mutual ignorance between the laboratory workers and the clinicians, due to the overlaps between their trainings being so slight. There was also the tremendous prestige and self-confidence of the top clinicians, while good research scientists are cautious and self-doubting. I remember an eminent neurologist, now dead, saying quite dogmatically that pharmacology had very

*'…biochemistry or pharmacology have nothing to do with Parkinson's disease.'*

little to teach the neurologist. Then levodopa appeared and I stood up at a meeting at Queen Square saying very diffidently: 'There's this new thing called levodopa and it helps people with Parkinson's disease.' A comparably eminent neurologist, now dead, said through clenched teeth: 'If Dr Curzon had been a clinician he'd know that biochemistry or pharmacology have nothing to do with Parkinson's disease.'

**Professor Gerald Curzon:** ***5-HT*****, p. 107**

# Patients

## Patient activism

In the mid-1980s we, midwives/breastfeeding advisers, were not knowledgeable in the way that you doctors were, but working with women at the grass roots and having the pleasure of saying: 'Yes, this does help women', and seeing the satisfaction and joy that breastfeeding brought them, I think, made us all much more committed as time went on, and many of us have continued working with breastfeeding for a very long time. That was a hugely important time. I think it started a movement where mothers, midwives, and voluntary organizations started to work together and put women at the centre of what was going on.

**Mrs Jenny Warren:** ***Breastfeeding*****, p. 42**

I think activism played an important part in recruitment into our clinical trial of cannabis. The positive activism by patients was very important to recruit people on to the study, but, on the other hand, there was also the negative activism, that patients who have had a bad experience, presumably by overdose, can influence other patients, who then refuse to go into clinical trials, particularly if they have not taken cannabis before.

**Dr Anita Holdcroft:** ***Cannabis*****, p. 63**

## Patient influence

There was one British Society of Gastroenterology (BSG) meeting where we were presenting some work on *Helicobacter pylori* and its effect on physiology and gastrin. I was asked by the BSG to speak at a press conference and presented the work and then other members of the press came up to me afterwards. I

was then met by one of the secretaries of the BSG, and told I was not to speak to the press because one of the pharmaceutical companies had complained. There was a sense that pharmaceutical industries were even working through British medical societies to discourage the release of scientific knowledge that was relevant to clinical treatment. The way in which this new treatment became adopted was not from the profession down, it was from the patients up. And it was through the press getting hold of this story and through their programmes and newspapers, that the patients demanded this new treatment. I think there is a problem when introducing a new treatment that cures a chronic condition from which the pharmaceutical companies were receiving a large income due to their drugs that controlled, rather than cured, the disease.

**Professor Kenneth McColl:** ***Peptic Ulcer*****, p. 95**

## Patient records

I want to pay tribute to the large all-encompassing patient chart. It may sound like a trivial thing compared to all the equipment etc., but I think it made a huge difference to really understanding what was going on with the patient where you had your total patient physiology out there in front of you and you could really see what was happening and why.

**Ms Sheila Adam:** ***Intensive Care,*** **p. 63**

While you've got the patient there, the large paper chart is useful; everyone can have a look at it. But, of course, it is irretrievable data, because once the patient leaves, what are you going to do with it? We had filing cabinets marching down the corridor filled with charts. It is a fire hazard, that's all, so you might as well throw the charts away. But when you say you're going to dispose of them: 'Oh, you can't throw them away!' What are you going to do with them? I think the computerized records are obviously the way forward. The difficulty is that there is not a standard system anywhere, as far as I know. We're back to the early days of word processing where everybody did something differently. I used to go round to hospitals to visit intensive care units for the Royal College of Anaesthetists, and I would go to a unit where it is all wonderful and ask: 'How long would it take a new person, a nurse or a doctor, to learn how to use this system?' Sometimes it was weeks, and that raises the question of whether this is the best way forward.

**Professor Leo Strunin:** ***Intensive Care*****, pp. 64–5**

## Peak flow meter

Just after the 1955 MRC report on lung function in coalworkers' pneumoconiosis, Dr Martin Wright was appointed to the Pneumoconiosis Unit. He decided that even the measurement of FEV (forced expiratory volume) could be improved if one could measure the actual peak gas flow during exhalation instead of a volume related to time. With this idea in mind he designed the peak flow meter. That test too has become of almost universal clinical use and was later developed into the breathalyser.

**Dr Philip Hugh-Jones:** ***Population-based Research*****, p. 35**

## Penicillin

The first break in CF treatment came after the Second World War when penicillin became available. The paediatrician Paul di Sant'Agnese had access to penicillin from the US Army, which was the organization in the USA with top priority in obtaining penicillin. I don't know how Paul got the penicillin, but he had enough penicillin available to create what he called 'miracles' in response to antibiotic chemotherapy using aerosolized penicillin. Paul told me that it seemed to make no difference how the penicillin was given, whether it was given by aerosol, or by parenteral therapy. In his judgement, the *Staphylococcus aureus* was so exquisitely sensitive to penicillin that any treatment with penicillin in these children with progressive staphylococcal pneumonia could be effective. I remember vividly Paul telling me when I was his clinical research fellow at NIH in the 1970s what a wonderful feeling it was, and how exciting it was, to be able essentially to cause miracles through treatment with penicillin in these children, who otherwise were going to die within weeks or months; patients slowly dying from the chronic pulmonary disease revived in a few days. For the first time there was an effective tool to help control the lung infection as the predominant organism in the bronchi of patients with CF.

*…he had enough penicillin available to create what he called 'miracles'…*

**Dr Philip Farrell:** ***Cystic Fibrosis*****, pp. 8–9**

## Pesticides

The 1940s and 1950s were, of course, times of innocence. We all believed that science was benign and that eventually the sensible use of chemicals would set humankind free from pests and disease. But it was also, of course, a time when many new herbicides and pesticides were invented, including the organophosphates.

**Professor James Lovelock:** ***Environmental Toxicology*****, p. 4**

## Pharmacoeconomics

When the 5-HT antagonist anti-emetic drugs first came out, they were very expensive, and many of the companies were very concerned that the people were not getting the compounds because of the cost. I think it was Glaxo who actually calculated the cost of a vomit for a patient, how much the bowl cost, how much cleaning up cost, and factored that into these pharmacoeconomic models, and the 5-$HT_3$ receptor antagonists were the first examples of drugs where pharmacoeconomics played a major role in the whole marketing package.

**Professor Paul Andrews:** ***Platinum Salts*****, p. 61**

We oncologists need to reach the point where we can face every patient and say, 'Emesis is not likely to be a big problem for you.' The 5-$HT_3$ antagonists are some of the most cost-effective drugs, or probably *the* most cost-effective drugs in oncology. They prevent hospitalization. You don't have to prevent very many hospitalizations to make them economically sound. They are a dominant strategy for many patients, again because they allow us to de-hospitalize patients. I must say, in the UK people have been slow to de-hospitalize patients.

**Professor Richard Gralla:** ***Platinum Salts*****, pp. 67–8**

*…5-$HT_3$ antagonists are some of the most cost-effective drugs, or probably the most cost-effective drugs in oncology.*

## Placentas

It was common practice, but not widely known, that maternity hospitals used to sell placentas for cosmetics. It was traditionally viewed by the midwives as a bit of a perk, and the money that was gained, I think in most hospitals, went into what was effectively a slush fund for midwives to use. It was only a small amount of money per placenta and I suspect the cosmetic companies made huge profits out of it. The important thing was that most women who delivered didn't know that that was going to happen, and the hospitals were, in my view, unethical in not telling them. So when ALSPAC came along and wanted to take the placentas away, this was a potential barrier to the midwives' participation. I'm not sure how we managed it, but we managed to pay 50p per placenta.

**Professor Alan Emond:** ***ALSPAC*****, pp. 45–6**

One of the things I was really excited about was the collection of placentas. There's still a huge amount of information in a warehouse somewhere incarcerated within the placentas, which I think could add to the study even now.

**Professor Gordon Stirrat: *ALSPAC*, pp. 9–10**

## Plastics

I think very few people below a certain age can remember our working conditions in the early 1950s. For example, nowadays people use butterfly cannulas for intravenous transfusions and they can do all kinds of things with them. In our day we had dreadful glass syringes; they had a central nozzle and there was no way you could get into a small vein – we always had to use the cubital fossa veins. If we wanted to put up a drip, for example, we had to rummage about in a great cardboard box where there were lots of rubber tubings of different sizes, and we had to fit these up and stick them into a glass rod that fitted into a hole in a cork in a bottle – we didn't have any plastic transfusion equipment. All this took a great deal of time.

**Professor David Galton: *Leukaemia*, p. 27**

*…enthusiastic young nursing staff showed that even ill babies could be fed small amounts…*

In 1962, Victoria Smallpeice in Oxford started feeding babies who weighed 1,000 to 2,000g at birth early, with expressed breast milk. The relatively newly available polyvinyl feeding tube passed into the stomach was a great advance over the teaspoon and 'fountain pen' dropper. An enthusiastic young nursing staff showed that even ill babies could be fed small amounts frequently from soon after birth with indwelling tubes strapped in place.

**Dr Pamela Davies: *Neonatal Intensive Care*, p. 69**

## Polyposis Register

**Neale:** Dick Bussey was a grammar school boy who came from a family that did not have the resources to put him through university. He started working with Cuthbert Dukes, the pathologist at St Mark's Hospital, when he was 17 years old, and Dukes soon recognized that he had someone who was both intelligent and meticulous. He encouraged Bussey to go to university to do a degree in chemistry and then later to do his PhD in familial adenomatous polyposis (FAP). He was an amazingly gentle person, I only ever heard him cross once. As much as I questioned him or didn't understand what he was saying, he would patiently


Dr Bussey's original Polyposis Register patient record cards, St Mark's Hospital, London, 2013: *Clinical Cancer Genetics*

go over it again and say that if someone didn't understand something it was the fault of the person not explaining it properly, not the person who was being a bit dim. I worked with him for many years. I became very friendly with him.

Harper: How did the register originate? Was this St Mark's patients or was it from a wider range from the beginning?

Neale: Well, the Polyposis Register started with St Mark's Hospital patients but Dr Dukes would lecture and publish in the journals of the day. He soon acquired an international reputation and so people would send pathological slides or descriptions of cases of polyposis from all over the world, and Dr Bussey would record them all and catalogue them. So sometimes we had full families; sometimes we would just have the slides titled something like 'Girl from Thailand'. But, of course, in those early days we did not know if polyposis was an international condition. Dr Bussey had cards that he called his 'cohort cards', because of course this is before computers, and the cohort cards would list the years of birth of patients who had polyposis and the part of the country that they lived in. We weren't even sure if there were cases of polyposis throughout the UK, although now we know they are all over the world.

**Ms Kay Neale, Professor Peter Harper: *Clinical Cancer Genetics*, pp. 21–3**

## Population research

It was very non-medical work in a way. I was busy learning how to read pneumoconiosis in chest X-rays, interviewing miners, Welsh miners, and my job largely was, apart from the X-ray reading, going round the houses, interviewing those who had abnormal X-rays, or who ought to be recommended to go for compensation. I was doing that sort of thing for a year or two and then we were increasingly realizing that the facility of having a general population all censused on what were then Hollerith cards, or punch cards. It was an opportunity to look at other diseases apart from miners' chest diseases.

**Dr Bill Miall:** ***Population-based Research*****, p. 36**

## Postnatal trauma

One of the things they were not measuring in the 1970s was what labour was like for the mother being induced, as against not, and what the mental health of the mother was. On the basis of the letters I got, which gave the first descriptions I had seen of post-traumatic stress disorder, which at that time wasn't described I think in the literature, and I could only correlate it with First World War shell shock, women describing nightmares, the kind of nightmares where you woke up screaming and flashbacks and so on. I telephoned the Mother and Baby Psychiatric Units around the country, in areas where I knew there was a high induction rate on the basis of published studies, and said, 'Have your mother and baby admissions gone up?' They said, 'It's funny you should mention that.' I was getting, 'We had one midwife who gave birth, who hid in the lavatory in the hospital till she was too far gone to be interfered with, and a woman GP who lied about her dates, so that she wouldn't be induced. The women who came out with least psychological damage were the ones who had had intensive support from midwives, who said, 'I had a midwife who had formerly worked on the district, and she supported me, and I couldn't have got through it otherwise.' And then I realised that you could ameliorate the effects of the technology, when you had these one-to-one midwives, but I knew that things were changing, soon you would have high-tech midwives, and high technology, and the result was going to be disaster. That was how the consumer movement in childbirth started.

*…I could only correlate it with First World War shell shock…*

**Professor Jean Robinson:** ***Maternal Care*****, p. 48**

## Pre-implantation genetic diagnosis (PGD)

The first couples were treated with pre-implantation genetic diagnosis in September 1989. We had no idea whether they would get pregnant at that stage. They were fertile couples, so we were optimistic from that point of view. However, we had no idea whether the embryo would be lost. We knew from animal experiments that this could destroy the embryo. We then had a very nervous period of waiting to have the diagnosis confirmed. We counselled all of the couples that this was very early and experimental. So they went on to have the diagnosis confirmed by CVS (chorionic villus sampling) in the majority of cases. When we had the results from several couples confirming the sex as female, I approached *Nature* to see if they would be interested in this publication, and they said that they would be very interested but wanted to make sure it was published ahead of the debate in the House of Commons. So we were literally working day and night to write the paper against these tight deadlines. The peer reviewers had already been set up, and it was probably one of the first papers to be peer reviewed by fax. It was submitted and accepted, after peer review and corrections, in only two days, because the editor was absolutely clear that the public should be aware of the potential benefits of embryo research. In the week of publication he organized a press conference and the two women who carried the first pregnancies came along because they wanted to support the work and enable other couples to benefit following PGD. I think they were very brave and both of them were heavily pregnant with twins, but it had a significant impact on the press conference and their story was featured on the front page of the *Daily Telegraph* the following day. The following week at the end of the debate, even Margaret Thatcher went through the 'aye' lobby and voted to allow human embryo research, which was carried by a substantial margin.

*…even Margaret Thatcher went through the 'aye' lobby…*

**Professor Alan Handyside:** ***Genetic Testing*****, pp. 58–9**

## Prenatal diagnosis

At this time, I had patients coming to me, young women with one child with thalassaemia, saying they wanted to be sterilized, and I said, 'No, under no circumstances because it looks as if we might be able to do prenatal diagnosis. Get your contraception organized.' So all my patients' mothers knew that this was in the wind: one of them was a Pakistani paediatric haematologist with a child who had thalassaemia major. She came in one day and asked, 'How are

you getting on?' And I said, 'It's getting very exciting. Would you like to come into the lab and see?' So I showed her results for five cases: we'd got one normal, three that looked like heterozygotes, one that looked like a homozygote, so it looked as if we could do it. She said, 'Oh, that's very interesting', and she went away. We carried on. Three months later she rang up and said, 'I'm pregnant. I want you to try and do a prenatal diagnosis because the worst you can do is cause a miscarriage, and if you won't do it I'm going to have to terminate this pregnancy.' The point I'm making here is that the patients really pushed the pace. We tried and the end result was that we were hustle-bustled into actually having to provide a prenatal diagnosis service for thalassaemia. When the news got about, people started getting on planes in Cyprus, Italy, and Greece to come for the service.

**Professor Bernadette Modell, *Clinical Molecular Genetics*, pp. 24–5**

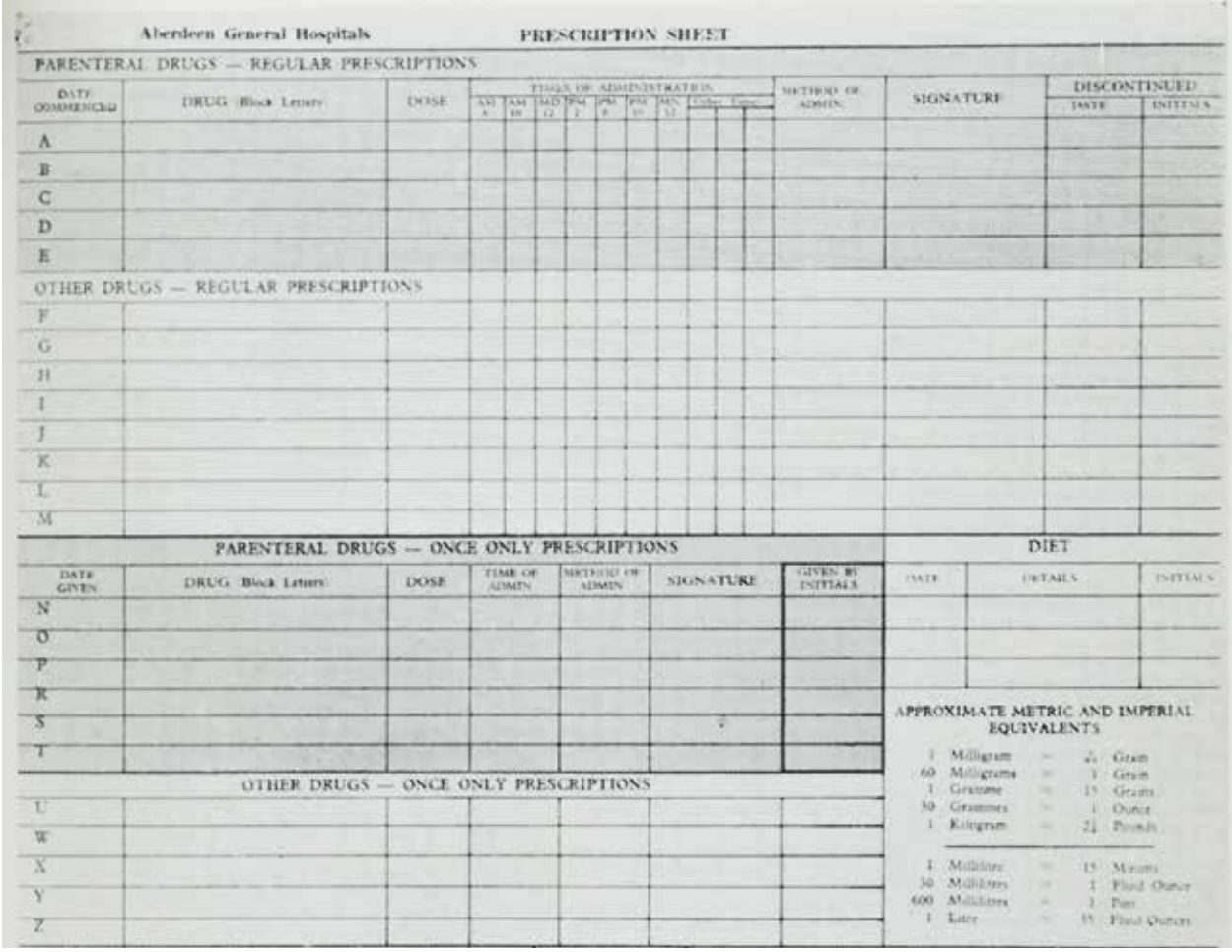
## Prescribing

There is one thing that you can do on day one as a doctor, and that is kill someone with a pen if you are not a safe prescriber or you haven't got a *British National Formulary*. You probably won't be able to kill them with your lack of knowledge of anatomy, although that's possible if you are a surgeon. It's much easier to kill people with drugs, and I think the whole prescribing arena has become so complex now that it is impossible to be safe without a very strong foundation in clinical pharmacology.

**Professor Mark Caulfield: *Clinical Pharmacology 1*, pp. 70–1**

I want to pay a tribute to Jim Crooks. He, I and Dr William Wallace, a youngster in my department, looked at errors in prescribing in the hospitals where we were working in the early 1960s. It was really after that that Jim produced the 'Aberdeen' prescribing form, which is now so widely used in hospitals. In the old days, doctors used to write a prescription in the patient's notes, and the ward sister would make a list for nurses to administer the medicines – it was all very casual, and accuracy was becoming much more important with the arrival of antibiotics and corticosteroids, etc., in the postwar period. More precision was needed, and I think Jim Crooks played a very big part in this important development.

**Professor Owen Wade: *Clinical Pharmacology 1*, p. 31**



Aberdeen General Hospitals

PRESCRIPTION SHEET

PARENTERAL DRUGS — REGULAR PRESCRIPTIONS

| DATE COMMENCED | DRUG (Block Letters) | DOSE | TIMES OF ADMINISTRATION: 8 AM / 10 AM / 12 MID / 12 PM / 2 PM / 6 PM / 8 PM / 10 PM / 12 MN / Other Times | METHOD OF ADMIN. | SIGNATURE | DISCONTINUED: DATE | DISCONTINUED: INITIALS |
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OTHER DRUGS — REGULAR PRESCRIPTIONS

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PARENTERAL DRUGS — ONCE ONLY PRESCRIPTIONS

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OTHER DRUGS — ONCE ONLY PRESCRIPTIONS

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APPROXIMATE METRIC AND IMPERIAL EQUIVALENTS

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| 1 Milligram | = | $\frac{1}{60}$ Grain |
| 60 Milligrams | = | 1 Grain |
| 1 Gramme | = | 15 Grains |
| 30 Grammes | = | 1 Ounce |
| 1 Kilogram | = | 2¼ Pounds |
| 1 Millilitre | = | 15 Minims |
| 30 Millilitres | = | 1 Fluid Ounce |
| 600 Millilitres | = | 1 Pint |
| 1 Litre | = | 35 Fluid Ounces |

Aberdeen Prescription Sheet: *Clinical Pharmacology 1.* Copyright © 1967 Royal College of Physicians. *Reproduced with permission*

## Prescriptions

If you look at the 2010 prescription sales, out of the top ten there are, I think, four or five compounds that are related to 5-HT research; we're talking about billions of prescriptions, which highlights the impact that 5-HT research and development has had on industry and academia.

**Dr Tom Blackburn: *5-HT*, p. 53**

## Prisoner of war experiences

I first met the epidemiologist Archie Cochrane in 1946 – I think I had just got out of the army. I don't know when he got back from the war, as it was very difficult, people got held up for a long time. On the whole, prisoners of war got back quicker, but I imagine he got back in 1945. I went as a student to a meeting of the Socialist Health Association, which was the Socialist Medical Association in those days, somewhere in west London, and Archie was the speaker. He was telling us all about his experiences as a prisoner of war, and what was striking

about this, it made a tremendous impression on me, I really remember it very well and I have forgotten most things from that time, but he described it in a quite different way than he ever did in anything that he has written. The biggest messages out of it were first of all the degradation that the prisoners were subjected to as soon as they were taken from Crete to Salonica, where they were systematically terrorized by the Germans; everyone had diarrhoea and so they were going all the time to the latrines to shit and the Germans would toss in hand grenades, just randomly, from time to time. They had a hospital of some sort, with a staircase with windows along the staircase, and as health personnel and patients were taken up and down these Salonica stairs, again randomly from time to time they were sniped at and shot as they went up and down these stairs. This was happening in this reception area in Salonica before the prisoners were dispersed to their destinations. The big point that Archie made was how every nationality and racial group was given a place in a hierarchy, a pecking order with the Americans at the top and the British immediately after the Americans, and then all the way down to Poles and then finally Russians. This also is a perception of order and Archie was interested in the ordering of things. I think he eventually was glad to forget about all this or at least never to bring it up again. At that time he really did want to talk about it. I think it is difficult for people to grasp really how different our view of the world is now than it was in the 1950s and the 1960s.

*I think he eventually was glad to forget about all this…*

**Dr Julian Tudor Hart:** ***Population-based Research*****, pp. 24–5**

## Prisoners

I was in Iowa City on sabbatical in 1964/5. They actually used prisoners in the University Hospital. They could come out of the prison and stay on the wards and they would swallow the tubes and be perfused, and they got off some of their sentence. It was the absorption of substances like methionine that they were doing at that particular time, but I remember seeing them. They were in pyjamas so that they couldn't escape.

**Dr Roy Levin:** ***Intestinal Absorption*****, p. 41**

It is interesting to look back at the way the experimental studies in RhD-negative male volunteers were conducted respectively in Liverpool and Baltimore. In Liverpool, it was in an atmosphere of simple altruism that the work was carried out in the Blood Transfusion Centre or at places like Vauxhall's factories or the

petrochemical factories in Ellesmere Port and so on. Such volunteers were not available in the US where it was common practice to use prisoners for medical research. In Baltimore the 'volunteers' for the experiments were inmates of the Maryland State Penitentiary. The prisoners used to receive, as I remember, a pack of cigarettes and US$3 for each injection or sample of blood. This use of prison inmates was forbidden under subsequent legislation.

**Professor John Woodrow:** ***Rhesus Factor,*** **p. 32**

## Project Whitecoat

It came as a shock to all of us to realise how the tobacco industry had been tracking us, looking at us, criticizing WHO internally, much earlier than we ever dreamt of. The documents gave us a sense of betrayal, because they showed that many of our colleagues, in public health in particular, had been paid off by the industry to deny the evidence, particularly on issues of passive smoking, and to try to obstruct tobacco control legislation. In most countries in Asia there were two or three people who had been recruited, including people I myself knew. I was shocked, really shocked, to realise that the tobacco industry had recruited colleagues. It was called Project Whitecoat in Asia. They recruited the whitecoats, that is, the doctors and scientists, and paid them to try to obstruct tobacco-control measures.

*The documents gave us a sense of betrayal…*

**Dr Judith Mackay:** ***Tobacco Control,*** **pp. 28–9**

## Psychology

Absolutely all areas of modern technological society have had psychological input somewhere along the line, and yet if you ask the public what their image of the psychologist is, they still think of Freud or something like that.

**Professor Graham Richards:** ***Applied Psychology,*** **p. 69**

Professor Monty Losowsky, Sir Roger Bannister: *Sports Medicine*

## Questionnaires

With hindsight, I would have loved to have sent questionnaires to the grandparents, because that's the generation that is very important regarding the parents of our study children, and it would have been good to capture them before they dropped off more than they had already. With work that Marcus Pembrey and I are doing, the intergenerational effects of traumas and such things that happen during one's upbringing can be passed down the generations, and that would have been good to capture.

**Professor Jean Golding: *ALSPAC*, p. 38**

## A rare tumour

In 1946, I was a senior registrar in medicine at St Mary's Hospital, London, with a vague idea about becoming a cardiologist. One day there was a patient who came in; she was 17 years of age, and she was the most breathless person I have ever seen in my life. She had crawled into the hospital. The casualty admission card read, 'hysterical hyperventilation, good teaching case'. I looked at her and, as a budding cardiologist, I found she had a biggish right heart and the chest X-ray was clear. She denied having been pregnant, but she had pulmonary hypertension. She died three days later, and the autopsy was done on a Saturday morning by the Professor of Pathology and he said, 'Oh, look, she's been a naughty girl, she's had pelvic sepsis and it's spread to her lungs.'

But my predecessor was at the autopsy, Dr Adrian Joekes, who had been a senior registrar for about 20 years, and he said, 'That's not pelvic sepsis, that's choriocarcinoma. There was a case like this at the Hammersmith ten years ago.' And it proved to be choriocarcinoma, occluding her pulmonary blood vessels. Six months later, I was called to the gynaecology ward to see a woman who had had a hysterectomy for bleeding, but the uterus didn't contain any tumour and she went home on anticoagulants and a diagnosis of pulmonary embolism – a very common event after hysterectomy. She came back to the hospital a few weeks later, short of breath, and by chance it was our admission day, and we put her back on anticoagulants, but she continued to deteriorate. I thought it couldn't be another case of choriocarcinoma, but still went to see the pathologists, and they said, 'Ken, you have got it on your brain, you're crazy, it couldn't be another case of choriocarcinoma, they are very rare anyway, and that Hammersmith case is unique, it is the only one in the literature.' So she continued to deteriorate and after about four or five weeks she was in an oxygen tent, because you weren't allowed to die in the 1950s without being put in an oxygen tent, it hastened one's departure, but that wasn't known until a few years later. There was one way of making sure it could be a choriocarcinoma, and that was to measure human chorionic gonadotropin (hCG), which is secreted by the tumour. The pregnancy tests available at that time, very crude biological tests, one called the Friedman test, measured hCG in urine by injecting it into a rabbit and looking for changes in the rabbit's ovary. So I took her urine to the lab. The man who ran the lab had lost an eye, and when he was confronted by a junior doctor asking for something that he thought was stupid, he removed his glass eye, polished it on a red and white spotted handkerchief that he kept in his top pocket. If you were still there when he put his eye back in its socket, which wasn't usual, because you usually disappeared on these occasions, anticipating his conclusion. He said he wasn't going to sacrifice a rabbit for a woman who couldn't be pregnant and the pathologists said there was no tumour in the uterus. Anyway she was obviously dying, and that was on a Wednesday. As I came back from the lab I met the medical superintendent and he said, 'Well, old so and so who runs the lab is always very interested in hospital scandal, so why didn't you send the urine under a pseudonym?'. We went through all the bits of hospital scandal we knew at the time, and one of the chief surgeons was alleged to be having an affair with one of the nurses. I found this lass, and asked if she would mind sending in this urine under her name. She thought that was a great joke. So off it went

*We went through all the bits of hospital scandal we knew at the time…*

on the Wednesday. On the Friday afternoon, the consultant came round and said, 'You had better phone the husband, she is not going to last the weekend.' That evening after the ward round, the nurse appeared with this form saying, 'I must be very pregnant, it says Friedman test strongly positive.' So this was another choriocarcinoma. I got 6-mercaptopurine from the pharmacy, and we gave her big doses over the weekend, and on the Monday morning when I went in she was out of the oxygen tent, sitting up eating breakfast. She is still alive 49 years later.

**Professor Kenneth Bagshawe: *Platinum Salts*, pp. 38–9**

## Research subjects

I remember early on that there was a time when we tested both naval ratings and Cambridge housewives at the MRC Applied Psychology Unit. I knew someone who lived across the road from the building we were in and he would leave in the morning as naval ratings came to get tested and, when he came home for lunch, they were apparently walking out as Cambridge housewives, and he wondered what on earth our research was doing to them.

**Dr Ivan Brown: *Applied Psychology*, pp. 30–1**

I remember when we were doing very early research on Human Computer Interaction, we set up a decoding task to look at command languages where we presented sentences with scrambled words, and the problem for the participant (as we now have to call them) was to unscramble the message and turn it back into an English sentence. At the end we debriefed the subjects to tell them what the experiment was really about, and why we had done it that way. One lady came into the lab, and did the task very effectively, and when we debriefed her she said, 'Well, I think you have done jolly well. You know I did work at Bletchley Park during the war!'

**Dr Philip Barnard: *Applied Psychology*, p. 69**

## Rolls Royce

As far as academic medicine is concerned in London, one has to recall that until the end of the war there were only five professors of medicine in the twelve undergraduate schools in London. So academic medicine as we now know it was very much a young and tender flower then. The other professors who had been there right up until, say, 1960 had a battle establishing themselves among the part-time consultants who arrived in their Rolls Royces. It is very difficult to

recruit people to academic medicine when they could see Lord Horder arriving in his Rolls Royce. There was a financial disincentive in academic medicine; you earned much less. You didn't do private practice, not in those days, so you were poorer as far as your lifestyle was concerned. There were problems. That was the first problem in recruitment.

**Sir Christopher Booth:** ***Dialysis*****, pp. 35–6**

## Rugby

In 1966 I was invited to assist the Scottish Rugby Union in establishing a medical service for international rugby. I was the pre-registration house officer, and they had invited my chief, Professor Sir John Bruce, who was the Queen's surgeon, the President of the Royal College of Surgeons and Chairman of Hibernian Football Club. He said he didn't know anything about rugby, but commented that I played the game and asked me to set something up for him. That was probably one of the very earliest sporting bodies to establish any form of consistent medical support. It was through that experience that it became apparent that more players were injured during training than playing, and that's where my interests developed.

*…more players were injured during training than playing…*

**Professor Donald Macleod:** ***Sports Medicine*****, p. 30**

## Rustenburg Platinum Mines

Alexander Haddow, who was the Director of the Chester Beatty Research Institute at the time, had consulted on nickel carcinogenesis in the south Wales metallurgical industry and he knew enough inorganic chemistry to know that platinum and nickel were in the same group in the periodic table. There was a paradox called 'Haddow's paradox', which said that all things that cause cancer will also cure cancer, which presumably was a statement about attacking DNA, whether you mutate it, or whether you kill it. So Haddow thought maybe the fact that platinum would appear to cure cancer, and nickel would cause it, was another example of 'Haddow's paradox'. Once Haddow had picked this up it, of course, meant that the whole power of the Chester Beatty Research Institute then became very interested in this problem. It led to the setting up of a group of people in the early 1970s in the UK, which was funded by a man called Ken Maxwell, from Rustenburg Platinum Mines in South Africa, and also by Johnson Matthey. It was a very interesting group.

That group worked together in the UK for a number of years with funding from Rustenburg Platinum Mines. The work of that group meant that the clinical work went much more rapidly. In the USA it didn't go quite as fast. There, progress was dependent on the National Cancer Institute, but the influence of the Chester Beatty here, working in that group, pushed the clinical work forward extremely rapidly.

**Professor Andrew Thomson: *Platinum Salts*, pp. 14–15**

## Salbutamol

I have regularly been asked how we managed to market salbutamol for asthma treatment only three years after its first synthesis. The simple answer is that in the early stages we experimented on one another, a procedure that I commend to all responsible for recommending new medicines to other people. I was first to take salbutamol by inhalation and by mouth under the supervision of Wilfred Simpson, a bold and intelligent clinical pharmacologist, who was then our medical director. He had the drug next under my supervision. Salbutamol was obviously innocuous in us but neither of us is asthmatic. The first asthmatic to take salbutamol was Desmond Poynter, our friend and colleague, who was head of pathology. Desmond had unwisely told me that he was very sensitive to sulphur dioxide. Since he knew more than anybody else about his condition and the toxicology of salbutamol, I had no hesitation in inviting him to inhale a small amount of sulphur dioxide to see if inhaled salbutamol relieved bronchoconstriction. Desmond readily agreed and we soon established that salbutamol is an effective bronchodilator with minimal cardiovascular side effects. In the next stage, salbutamol was tested on two asthmatic volunteers, Anne Ruffel and Graham Williams, who were researchers in Allen & Hanburys pharmaceutical company. Within a month we knew the effective doses of salbutamol, by inhalation and by mouth, the duration of the action and the probable use-limiting side effects. Thus it took only six months from the date of first synthesis to establish the probable efficiency and safety of the drug. Today that would take at least two years which, in my view, is an unnecessary self-inflicted wound.

*…in the early stages we experimented on one another…*

**Sir David Jack: *Asthma*, p. 38**

## Sativex

[Sativex is a licensed cannabis-based drug developed by GW Pharmaceuticals. The key active principle is tetrahydrocannabinol (THC).]

What we at GW Pharmaceuticals did was to set about growing very, very specific varieties of the cannabis plant, defined by their chemical components. We had one of the world's top geneticists to help us do that, to select what cannabinoid component we want. Once we had the cannabinoid composition in the plant, everything else in the manufacturing and pharmaceutical process to arrive at consistency stems from that. The plants are grown indoors, away from bird droppings, away from heavy metals; no chemicals are put on them whatsoever; we used biological methods for pest control. We are able to get quite remarkable consistency. The consistency of THC, for example, from a THC breeding variety when we make a primary extract, is of a higher purity than the standard the FDA would accept for synthetic THC. So we are able to produce extremely consistent extracts with known quantities of the primary cannabinoids and known quantities of at least nine other cannabinoids. We've characterized about 90 per cent of the plant entirely: so this plant is now the most highly characterized medicinal plant anywhere in the world. The plants are all identical because they are grown from clones.

**Dr Geoffrey Guy:** ***Cannabis*****, pp. 33–4**

*Sativex* oromucosal spray, 2009: *Cannabis*


I was diagnosed with MS in 1997, when I was 19, so I've had it for about 12 years. The pain really started to come in about 2001 and then got worse and worse. I was prescribed tablet after tablet: baclofen, gabapentin, tizanidine. I found that I couldn't tolerate the side effects for the amount of tablets I'd have to take. Then, a couple of years ago, I got referred to the pain clinic with Dr Notcutt, and he tried me on Nabilone, which was great. I wanted to increase the dose, but I found that I couldn't think straight, I was slurring and I couldn't have a proper conversation. It wasn't working for me, so we tried Sativex; oh, it's just changed my life. It's changed my life, it really has. I can eat and sleep and the pain is less. It's just changed my life. I went on a withdrawal study: you could have been given the placebo or Sativex, and I knew within about 12 hours that I had the placebo. The first day wasn't too bad, but the second day it was like having boiling water poured down my legs, so I came off the study.

**Ms Victoria Hutchins:** ***Cannabis*****, p. 62**

*…school milk was of benefit to the most vulnerable children, but it was never reintroduced…*

## School milk

The Ministry of Health asked us, when school milk was stopped in 1972, if we would evaluate the benefit of school milk, welfare milk. We set up two studies actually. Welfare milk in those days was supplied to all pregnant women and all children under five and to all schoolchildren, but it was very severely curtailed; it wasn't actually stopped, but it was very severely curtailed. We set up randomized controlled trials in both those groups. We selected 1,000 pregnant women and arranged for the tokens to be issued to them and to all their children under five – at Ministry of Health expense. The 'index child' from that pregnancy was followed to the age of five; half were supplied with milk tokens and half were not, and we monitored growth in those children and we collected a lot of further information. At the same time, we ran a trial in schoolchildren where we selected schools by a number of well-defined criteria to get the most nutritionally vulnerable children and we set up a randomized controlled trial in something like 600 children, 7 to 9 years of age. Half of them were supplied with school milk and half were not. To make a point in passing about the Department of Health's response to our answers, we had shown that iron added to bread was of virtually no benefit, but it is still added to white flour in this country. We later showed that school milk was of benefit to the most vulnerable children, but it was never reintroduced, so the effectiveness of that research can be called into question.

**Dr Peter Elwood:** ***Population-based Research,*** **pp. 85–6**

## Screwdrivers

During the 1960s I was appointed Sister in the labour suite at Dundee Royal Infirmary. This was when intrapartum continuous monitoring was in its infancy using Hewlett-Packard machines. Obstetricians and midwives were fascinated with the new technology and some of the midwives even began to have screwdrivers in the top pockets of their uniforms, to adjust the temperamental apparatus when required.

**Ms Ellena Salariya:** ***Breastfeeding,*** **p. 58**

## Self-experimentation

Roger Altounyan, chest physician and asthmatic, wanted to know what happened when cromoglycate was given intravenously and he asked me if I would inject him with it. I refused. But he was very persistent and said he had tried it on pretty well every animal species without adverse effect, but admitted that they hadn't tried it on primates. A few months later he said they had now given it intravenously to a marmoset without ill effect and would I please give him the injection. I felt I could resist no longer and with considerable reluctance agreed. He came to our clinical room at the Royal Infirmary where first he did skin tests on himself, blew into the spirometer to measure his forced expiratory volume in one second (FEV1). He lay on the couch, I then attached ECG leads and a blood pressure cuff and started a slow injection. Roger said I gave him 12mg; my recollection was 7mg. For about half a minute nothing appeared to happen but then he said in quick succession, 'I'm feeling something on my skin, my face is burning, I'm burning all over.' His pulse rate and blood pressure went up; so did mine. But the burning sensation quickly subsided and Roger jumped off the couch, repeated his skin tests and measured his FEV1 as if nothing happened. Later I told Roger jokingly that my main concern was what I was going to say to his wife Hella and he embellished this to 'Hella, I'm afraid I have killed Roger – with some of his own medicine.' There is no doubt that I was foolish to agree to do it, but Roger was a very persuasive, very courageous, absolutely single-minded man and I wonder how many of you in this room would have been able to refuse to give that injection to him.

**Professor Jack Howell: *Asthma*, p. 36**

## Self-poisoning

We had many foreign pharmacology students over the years in Oxford, from Russia, China, Australia, Brazil etc. We had one student from Sri Lanka who went back after getting his DPhil and when I next saw him he said, 'You have made my life a misery.' I said, 'Why's that?' He said, 'You taught me to say no.' And, of course, over there you don't say 'no'. Somebody asks you to do something and you say 'yes' and then you don't do it. But, I expected him to say 'no' if 'no' was what he meant, and that was very difficult for him to adapt back at home. The serious side of that story is when I went to visit him and discovered that there was an epidemic of self-poisoning with oleander seeds, mostly by young farmers, young men not doing well. I said, 'The pharmacology of what these seeds contain suggests to me that repeated doses of activated charcoal

*…the largest, certainly one of the largest prospective randomized controlled trials of self-poisoning in any form.*

may be beneficial.' So they did what may be, if not the largest, certainly one of the largest prospective randomized controlled trials of self-poisoning in any form. Within 8 months they randomized 400 patients and reduced mortality from 8 per cent to 2.5 per cent and that has changed practice in Sri Lanka. We are now doing another study in snakebite. I think this collaboration abroad has been very fruitful and very influential.

**Dr Jeffrey Aronson:** ***Clinical Pharmacology 1*****, p. 60**

## Sexual disorders

When we started to look for sexual side effects in patients who were receiving the antidepressant chlorimipramine, they were common. I knew a physician in Manchester who's a specialist in sexual medicine and, I said, 'look, this compound does something to ejaculation, and I know that premature ejaculation is one of the commonest problems that you see. Why don't we turn this to our advantage?' So we did a clinical trial in premature ejaculators, using chlorimipramine, and what we indeed found was that you could control ejaculation and that moreover you didn't have to take it all the time. We thought this was a wonderful discovery and I organized a symposium in Jersey, where the results of this study were reported. I didn't think the press were present, in fact I am sure the press weren't present, but somebody must have leaked the story to them, because when I got back to the office on Monday morning, the managing director of Geigy pharmaceuticals stormed into my office and slapped down a copy of one of the tabloids on my desk and said, 'George, what the hell is all this about?' and I said, 'What's all what about?' and he said, 'Splashed all over the front of the newspaper is this story about a wonder drug for your sex life.' Geigy being a very Calvinistic company, he said, 'We're not having anything to do with this, stop it.' So there and then the whole clinical trial programme on sexual disorders ground to a halt. Now it's interesting really that that was happening in 1970, because now I hear people say sexual disorders are the greatest area of opportunity for the pharmaceutical industry.

**Professor George Beaumont,** ***Psychiatric Drugs*****, pp. 177–9**

## Sexual terminology

We in SIGMA finished up having a sheet with terminology for sexual behaviour, including both medical name and 'street' name, and going through the list with each respondent before we started, asking them whether they understood what each term meant. They were also asked to give their preferred term for each. Then a set of their preferred substitutions was used throughout the interview. Yet usage was by no means predictable. There were some people who would, in their ordinary language talking among themselves, use street terminology, but wanted to be interviewed using medical terminology – that was not an uncommon response. So, what we did was to establish the preferred terminology and description first, and, yes, indeed, it was a very important issue.

**Professor Tony Coxon:** ***NATSAL*****, p. 37**

## Socio-economic diseases

We did study the genetics of gastric and duodenal ulcer, and we found they inherited differently in families. If you had gastric ulcer, you had a greater proportion of gastric ulcers in your families, and the same applied to duodenal ulcers, and they were dissociated genetically. But, of course, there are factors in common, I don't deny that for a moment, with the two types of ulcer, but there are also important differences between them. The striking one in the 1950s was the socio-economic difference. The gastric ulcer was a disease essentially of the poorer section of the community and the duodenal ulcer being a disease of the professionals.

**Professor Sir Richard Doll:** ***Peptic Ulcer*****, p. 22**

Professor Sir Richard Doll: *Population-based Research*

We should not forget that cystic fibrosis isn't only about genes and their modification. There was a paper this year [2008] in *American Journal of Respiratory Disease and Critical Care Medicine*, which said that the single biggest factor in determining the severity of cystic fibrosis for anyone with a given genetic make-up was their socio-economic circumstances. I think that's one of the factors that has contributed to the increasing lifespan since the 1940s, before we even had the NHS, that improving socio-economic conditions have, I am sure, made quite a big contribution to the survival of patients.

**Professor John Dodge:** ***Cystic Fibrosis*****, p. 64**

## Special clinics

We had a special cystic fibrosis clinic in Edinburgh for quite some time and the family doctor was often squeezed out. We had the multifactorial team policy, with physiotherapists, nurses, doctors, dieticians, everybody in the hospital environment, but when the patient deteriorated and perhaps was dying and wishing to remain at home during those last few weeks, we had a GP who had scarcely met this 20-year-old individual. I think that was something that was eventually starting to be put right, perhaps as a secondary effect of intravenous therapy at home, and certainly in the 1990s, the psychosocial effect was recognized.

**Professor Sandy Raeburn:** ***Cystic Fibrosis*****, pp. 21–2**

## Speed reading

At the Applied Psychology Unit, John Morton, among other things, used to do some research on speed-reading, at least he used to do practicals on speed reading. This would involve all the students being encouraged to bring a paperback book and to read it for *x* minutes, followed by a period when John would urge them to go faster and faster and faster, and demonstrate then that they *could* actually read a lot faster, and that there was nothing very magical about it. It was just that we tend to read slowly – it's a habit.

**Professor Alan Baddeley:** ***Applied Psychology*****, p. 56**

## Spinhaler

On the development of Intal for asthma, one for me was a very salutary lesson in the importance of the basic scientist sitting in on clinics. I remember one of the early trials on Intal and I was talking to the clinician and he called the child and his mother in and I said, 'Well, how did you find the result?' 'Oh a wonderful drug, very good.' I then said, 'Well, what about the Spinhaler? Did you have any difficulty with that?' The child looked at his mother and neither knew what to say, as they hadn't been given the Spinhaler, they had just taken the capsule as it was. There was no way that they could have got a result.

*…they had just taken the capsule as it was.*

**Dr Jim Cox:** ***Asthma*****, p. 31**

## Sports medicine

You had coaches sending their boys to elite clinics in Munich or other fashionable places to semi-qualified people who gave eccentric treatments, and that was together with the belittling propaganda by journalists and coaches – even national coaches – against the deficiencies of British sports medicine. It slid gradually into this new attitude: 'Oh, well, sport is rich now so it can pay for its own special needs. There's no real justification for spending public funds on free medicine for top athletes.' It was the athletes and a few doctors who pretty well forced sports medicine upon reluctant governing bodies, whose attitude was: 'If someone doesn't sponsor it, you can't have the service.'

**Professor Peter Sperryn:** ***Sports Medicine*****, pp. 45–6**

## Statisticians

I must say that the most significant point about the early leukaemia trials in the 1950s was the way in which the statisticians were involved. The first meetings were attended by Sir Austin Bradford Hill and Sir Richard Doll. The trouble they take is immense, their efficiency is terrific, and I was tremendously impressed from the start by the trouble the young disciples of Richard Doll and later Richard Peto were prepared to take, to understand something about the disease.

**Professor David Galton:** ***Leukaemia*****, pp. 55–6**

## Stillbirth

There was, of course, one important aspect of the ALSPAC study that we must not forget and that is that quite a few women were recruited early in pregnancy and not all those pregnancies proceeded. Of course, even when they went to term, there were, unfortunately, some tragedies and some stillbirths. A huge amount of effort was put in to make absolutely certain that that was dealt with extremely sensitively, trying to balance the importance of information that might be obtained from such sad events. These unfortunate women were facing this grief and tragedy, and we had to avoid forcing ourselves on them and adding to their grief. We had to be very careful to make sure that we didn't include someone in the continuing study who had unfortunately lost their child. I think it is important to mention that.

**Professor Gordon Stirrat:** ***ALSPAC*****, pp. 31–2**

## Streptomycin

My function in the first streptomycin trial was a very junior one. I had been three months as a registrar at the Brompton Hospital and was then asked to coordinate the Brompton side of that trial. The control trial was ethically acceptable, because there was a limited amount of streptomycin, so it was ethically reasonable to randomize these advanced pneumonic tuberculosis cases to a streptomycin and non-streptomycin group. The original idea was that they should be treated for six months, but in fact resistance developed quite quickly with subsequent deterioration in many patients. Before the trial was finished the Medical Research Council decided that this was only an adjunct to treatment of tuberculosis and they reduced the treatment period to three months. It's interesting looking back at that. It's interesting also to look at when resistance developed. The World Health Organization now accepts people into trials and regards them as new patients if they have had less than a month of treatment, assuming that no resistance could have developed. But if you look back at the original streptomycin trial several of the patients developed resistance really quite early towards the end of the first month. That is something, which we ought to remember.

*…resistance developed quite quickly with subsequent deterioration in many patients.*

**Sir John Crofton: *Post Penicillin*, pp. 10–11**

## Streptomycin patents

**Eveleigh:** The implications of the Merck-Rutgers agreement are important. In brief, the pharmaceutical company, Merck, supported the university, Rutgers', research and, for that support, Merck had the rights to university results: as it turned out, for actinomycin and streptomycin.

**Booth:** Can I just get something clear here, because the patenting side of streptomycin was rather important. Who held patents, were there any patents? Where were Rutgers involved in that?

**Eveleigh:** The initial aspect was the agreement that Merck held the patents for all rights. However, when streptomycin came along Selman Waksman went back to Merck and simply noted that conceptually 'this discovery is major and could you change the patent agreement?' It was changed in two senses. One, the university became the beneficiary and, secondly, the university set up a non-exclusive licence. As such, seven companies actually took out the licence at that time.

**Booth:** So, it was free for anybody to get in on any act if they wanted to?

**Eveleigh:** Absolutely. Waksman said that he felt streptomycin was so important that he wanted to ensure that it could be widely developed on a humanitarian basis. As there could be a problem with production, he wanted development via a non-exclusive rights agreement. This was practical at that time. Subsequently, in hindsight, the non-exclusive rights decision has been criticized as not necessarily a well-founded, wise decision. Thus when neomycin was discovered, there were several other competing antibiotics ready for commercial development, and naturally an industrial company wanted exclusive rights. In spite of that competitive commercial status, the Rutgers patent policy did not change from a non-exclusive basis until 1976.

**Professor Douglas Eveleigh, Sir Christopher Booth:** ***Post Penicillin*****, pp. 8–9**

## Sudden infant death syndrome

I do think that disease-specific charities have a particular role. I saw it in relation to sudden infant death syndrome. A wealthy businessman lost his child and, as a practical man, in addition to grieving, he and his family decided to start a foundation. In starting the foundation, they said they would spend half their money dealing with the bereft parents and the other half would go into research, because they believed it was a real problem. At that time, many parents were dealt with as criminals and there was a lot of argument as to whether there really was a syndrome, or whether it was child neglect. They needed to put a small research group together themselves, because they couldn't find any of the research bodies, the big research bodies, who were prepared to take any interest. They started a small group and I was privileged to be part of it and its work. For example, some epidemiology was done, documenting cases that were occurring in places like Sheffield and in other parts of the country. The point that impinged on our present topic was that they thought it would be a good idea to go to the MRC and say they had these data, that there are real problems and that they might be due to infection, to respiratory disturbances, or immaturity at a physiological level; would the MRC be interested to work on this? We had an informal meeting with members of the board who said that the MRC did not work on non-existent diseases. They had decided that this wasn't a real problem. It was therefore very good that the charity went back to their office to find more funds to support more research.

*…the MRC did not work on non-existent diseases.*

**Dr David Tyrrell:** ***Clinical Research*****, p. 46**

## Suicide/attempted suicide of patients

I first encountered CF in Windhoek in South West Africa, Namibia, as it was called at the time, in 1967. I inherited a patient who had been looked after by the paediatrician who had left there two years before, and his care had been neglected and I admitted him to hospital almost at death's door. On active antibiotics, pancreatic enzymes, and physiotherapy, he gained 4 kg in ten days in hospital. This particular boy was then for many years one of the less ill patients in our CF clinic, because, although I was on the edge of the medical world, I read a lot and I realised the importance of setting up a clinic. But unfortunately at the age of 16 he attempted to take his own life. Why? Because he and his parents had been told that he would not survive beyond the age of 12. He finally did die at the age of 24.

**Dr Maurice Super:** ***Cystic Fibrosis,*** **p. 23**

Can I draw attention to something that only recently, and after great consumer pressure, is getting adequate consideration, and is not adequately recorded for historical statistics, and that is suicide. It is of substantial importance, but still under-recorded because the figures only go up to a year after delivery. Dealing with suicidal women is the bread and butter of our consumer group work, particularly those who have had postpartum, post-traumatic stress disorder, and we now know from our work day to day that these women are very high suicide risks. So we really don't know how much that was the cause of death in earlier days and how much it is the cause of death now.

**Professor Jean Robinson:** ***Maternal Care,*** **p. 18**

I am amazed that home dialysis was as successful as it was. The patients took an awfully long time to train; they were very highly selected in the early days of dialysis. In the early days we never took anybody over 50. We took one at 55 who was a GP, but most of them were white, intelligent, and relatively young, and even then it was an enormous stress on them. The social consequences were enormous, the marital breakdowns were quite considerable. I used to show a slide of a 'typical' successful home dialysis couple. The wife was absolutely gorgeous, the husband was wonderful. She eventually died and he came up to me and said: 'Frank, thank you for everything you have done, but home dialysis really is a nightmare.' And for many patients it was. Not only were there worries about blood spills, but it also provided an opportunity for some patients to commit suicide. I remember being called by the police to one patient in the Southend area and they said that she had died, having disabled the alarms on her monitor. I went down post haste

to her dialysis room and I literally waded through an inch of blood on the floor in galoshes. It was horrible. So we did put our patients through an awful lot. They were chronic dialysis patients and there was relatively little hope of transplantation in those days. Later on there was greater hope of transplantation and home dialysis fell out of favour for a number of reasons, including that. Now, of course, transplantation is a major problem because there aren't enough transplants to go round. But I think that the nursing staff, the hospital administrative staff, the home dialysis administrators, the technicians, and the patients really deserve a gold star.

*…I literally waded through an inch of blood on the floor in galoshes.*

**Dr Frank Marsh:** ***Dialysis*****, p. 65**

## Support groups

**Rodeck:** I think it is relevant to point out that the activity of prenatal screening and diagnosis is controversial in some areas and there are opponents on ethical grounds, and indeed the people who are involved in that activity have been accused of eugenics and of 'search and destroy' and that kind of thing. That is in very sharp contrast to the attitude of most of the patient support groups who, in my experience, have nearly always welcomed advances in prenatal diagnosis for the families with their particular conditions, because they see it as simply another medical facility that is made available to their members.

**Povey:** I was just going to reiterate about the support groups. For example, in tuberous sclerosis, the support group there really started out as a smallish group of articulate parents and that group has been responsible for genetic testing being ten years ahead of where it would be by their pressure and their support for the work.

**Professor Charles Rodeck, Professor Sue Povey:** ***Genetic Testing*****, p. 70**

## Surgical training

The orthopaedic surgeon John Charnley had an arrangement with Thackray's, the manufacturers of his hip prostheses, whereby they would not supply a Charnley replacement unless the surgeon had actually spent three days at Wrightington Hospital and learned how to do the operation.

**Mr Alan Lettin:** ***Hip Replacement*****, p. 33**

## Survey fatigue

Survey fatigue particularly affected the Rhondda Valley, in Wales. There was a Mr Jones who came up for the fifth time in a survey and he saw Archie Cochrane because he was one of the refusals, and he said, 'How is it that my name has been drawn so many times?' and Archie said, 'Well we put all the names in a hat, and we shake them up very, very well, and then draw out a certain percentage at random.' 'Oh I see', said Mr Jones, 'A bloody funny hat!'

**Dr Jean Weddell: *Population-based Research*, p. 95**

## Survey interviewers

Sometimes it was a bit of a problem when it was a man who was to be interviewed and one of the interviewers was a young lady, and the wife was not particularly keen on her husband discussing sex with this lady who has just knocked on the door, but when you actually got in and were doing the interview it wasn't too bad. Normally you would establish rapport with the subject quickly so that they would give us any information, but, in this survey, there had to be a distance between you and the interviewee. Not so much with the women, but if it was a male subject and a female interviewer.

**Mrs Wendy Williams: *NATSAL*, pp. 36–7**

## Syringe driver

I don't think we have said much about other ways of prolonging drug action and have focused a great deal on the short-acting drugs. I thought it might be right to mention Dr Martin Wright's contribution at the MRC, who not only designed the peak flow meter, which made it possible for us to measure respiratory depression in some ways, but also designed the syringe driver pump, which has made such a difference to continuous pain control. One can certainly remember what a splendid thing it was to see patients at Northwick Park Hospital, for example, who had been out shopping that day, who had had a metastasized tumour for two years with severe pain, and had continuous diamorphine treatment for two years, with a syringe driver pump, going about their daily business.

**Professor Duncan Vere: *Pain*, pp. 63–4**

## Syringe exchange

The real opportunity to put the new public health on the map came with the arrival of heroin and HIV/AIDS. We brought the San Francisco Director of Public Health, Dr Glen Margo, over to Liverpool to run workshops to set an agenda for action. This he did with incredible drive over a two-week period, exposing several hundred people to the facts, the realities, the urgency, and the practical way forward. This led to the establishment of the first large-scale syringe exchange programme in the country some months before the Minister of Health authorized pilots of this approach.

**Professor John Ashton: *Public Health*, p. 34**

## Taking blood from children

**Golding:** We had this 10 per cent sample of Children in Focus from the ALSPAC cohort that we took heel prick samples from. Now heel prick samples are actually very painful. When we started using venepuncture, we used an anaesthetic cream and that worked much better, and was much less of a hassle and less painful for the child, and the parent. So blood samples were possible, the Ethics Committee approved of them, and we've collected other biological samples from the children as well. Some of the offspring give blood every time they come nowadays.

**Pembrey:** I absolutely want to reiterate my admiration for the system the ALSPAC team had for taking venepunctures from children. This was probably the first time EMLA cream was used in epidemiological scale studies. Of course, in hospital EMLA cream, the anaesthetic cream, got a slightly bad reputation. The child usually had it put on for too short a time, and it was clearly linked psychologically with having the needle, whereas the way they sorted it out in the clinic for ALSPAC was absolutely admirable. The magic cream would be put on and then they would be doing all sorts of other things and exactly three quarters of an hour later, or whatever it was, they then came back. I understand that more often than not the toddlers cried because the video of *Postman Pat* had been turned off than during the venepuncture, so it was brilliant.

*…toddlers cried because the video of Postman Pat had been turned off than during the venepuncture…*

**Sadler:** As Marcus said, the venepunctures worked brilliantly. We took a lot of trouble getting it right, though. We had a play leader from the hospital to talk about playing with the children, distracting them during the procedure. We also took a lot of trouble over the technique. We ended up using Sarstedt Monovettes, which I don't think were much used in the hospitals, but with butterflies. We had the company rep down and one of his assistants thoroughly trained the staff in using them because I don't think many of them had actually used them before. We very, very rarely used a syringe. It was exceptional if one of the people used a syringe. The other thing is, we chose our blood takers with enormous care. For many, many years these were very experienced paediatric phlebotomists; we only used them for most of the time I was there. Towards the end of my time, which was in 2008, we had spent a couple of years using them to train up one or two of the staff and several of them became also extremely good phlebotomists. Phlebotomy in children is a real art: you really need people who are expert at it, and we had a team who could get blood out of anything, I swear. They were absolutely brilliant and it was so rare for a child to be in the least bit bothered.

**Professor Jean Golding, Professor Marcus Pembrey, Mrs Sue Sadler: *ALSPAC*, pp. 51–3**

The other thing that we did, when the children were aged four or five, was to start allowing them to make the decision themselves whether they were going to give blood. This was no longer purely a parental decision. At that age, children are clearly not old enough to give consent in the legal sense, but we allowed them to say 'yes' or 'no', in a meaningful way, that we took seriously from quite an early age.

**Mrs Elizabeth Mumford: *ALSPAC*, pp. 55–7**

## Technicians

The technician in an intensive care unit has to be a polymath. We found a wonderful polymath in a man who'd been injured in a mining accident; some of his fingers were missing, and he wanted to do something. He came into the intensive care unit and was taught on the job, to clean, service, and to sterilize equipment and he became an expert at mixing the right solution for dialysis, for example. I don't know whether there is a training course for intensive care technicians now, or whether each of the specialties must have its own, but this man did absolutely everything. Even better than that, he was a wonderful dancer and taught the nurses how to dance.

**Dr Joe Stoddart: *Intensive Care*, pp. 70–1**

Our theatre technicians sterilized our ventilators and always had one ready when we wanted it and did a myriad of things that they weren't paid for at all. They were actually theatre technicians and because I was in charge of the anaesthetic department as well, we were able to persuade a couple of them to take an interest in intensive care, and they were absolutely invaluable. They had no career prospects, no career structure, but they did it out of the goodness of their hearts.

**Dr Tony Gilbertson: *Intensive Care*, p. 71**

## Television

From my experience, we are now far less paternalistic than in the 1980s; decisions used to be made on behalf of the patient but now there is far more involvement of the patient and his/her family. I think this is absolutely right, but now, if anything, it is perhaps swinging too much the other way. I spend a large amount of time trying to manage the patients' and relatives' expectations. They see the majority surviving on television programmes such as *House* and *Holby City*. Medics also talk up what is possible, especially the '-ologists'. The change has not been particularly subtle, but more of a quantum shift in the way we manage patients and the way we manage death.

*Medics also talk up what is possible, especially the '-ologists'.*

**Professor Mervyn Singer: *Intensive Care*, p. 80**

## Tetanus

I was a medical student in Newcastle from 1956 onwards, and there they used to ventilate patients with tetanus by hand. As medical students, we got paid to do it, there was great demand, and you could tell when there was a tetanus patient, because they were ventilated in a side room off one of the wards on the ground floor, and carpets would appear in the corridor to cut down the noise to prevent any seizures. When the carpets appeared, everybody would queue up because one could get paid.

**Professor Leo Strunin: *Intensive Care*, p. 18**

It all started one night in December 1958 as a result of a chance meeting with the Clinical Reader in Pharmacology at UCH, who told me that he had just come back from South Africa where he and the Professor of Medicine in the University of Natal were running controlled trials on the treatment of tetanus in Durban. Jokingly I said to him: 'Well, why don't you get an anaesthetist to go out and treat the patients with curare?' I thought no more about it and about two months later

I got a letter from the Wellcome Trust saying they were going to pay my fare out to Durban and were offering me £1000 for equipment. I sold my car to pay for the travelling expenses of my wife and young family and spent six months in 1959 setting up a small respiratory unit to investigate the use of curare and mechanical ventilation in the treatment of adult and neonatal tetanus. Two years later we were able to report a reduction in mortality in neonatal tetanus treated with curare and mechanical ventilation from 85 per cent to 40 per cent. Over the next six years mortality was reduced to 34 per cent.

**Professor Sir Keith Sykes:** ***Intensive Care*****, pp. 11–12**

*…a reduction in mortality in neonatal tetanus treated with curare and mechanical ventilation…*

## Thalidomide

The thalidomide disaster brought home to the public and hence politicians the thorough inadequacy of the control of medicines in the UK. Inevitably, the reaction was the setting up of a committee and, either by wisdom or good fortune, the Minister of Health appointed the late Lord Cohen of Birkenhead to chair the Committee. Even looking back from this distance, one can't fail to be impressed by the perceptiveness and the practicability of the recommendations of the final report, which was submitted in March 1963. The main features were that there should be comprehensive legislation on the control of drugs, but in the meantime the Committee on Safety of Drugs should be established to review the safety of new drugs, to monitor adverse reactions to existing drugs and to keep medical practitioners informed. Submissions by manufacturers should be voluntary and the committee would have the responsibility of advising the Minister if a drug did not receive the approval of the committee.

**Mr Wilfred Turner:** ***Safety of Drugs*****, p. 108**

## Time to market

The orthopaedic surgeons Ken McKee and John Watson-Farrar, although they started doing 'large volume' hip replacements in 1961, did not publish until they had five years' data. In their words 'to see how they went'. Nowadays it is possible to put things in to the market more quickly.

**Mr Keith Tucker:** ***Hip Replacement*** **p. 38**

**Doyle:** The antibiotic methicillin was an interesting case. We actually made a in the lab, I think it was the May of 1959, and it was on the market in the

September of the following year and being prescribed. It took about 18 months, a bit less than 18 months. Now that was before the Dunlop Committee, it was before the Committee on the Safety of Medicines, before thalidomide, I think we did two weeks of toxicity studies. It was very minimal.

**Booth:** Could you do that now?

**Doyle:** No, of course you can't. Today, it would take between eight to ten years.

**Dr Peter Doyle, Sir Christopher Booth: *Post Penicillin*, pp. 31–2**

## *The Times*

My colleague Christopher Poulton was doing work on speed-reading and recognition of lower case versus capitals and, as a result of his research, they completely changed the front page of *The Times* newspaper, which you recall was incredibly boring and almost illegible in the early days.

**Dr Ivan Brown: *Applied Psychology*, p. 56**

## Tobacco control

I would say that we are all rather reluctant to identify some of the real baddies here. I have often said that I thought the Framework Convention on Tobacco Control (FCTC) got through because of them. Some of the big countries were very overbearing, very bullying, and offered inducements. There was a groundswell of feeling among the low- and middle-income countries that they didn't want to be bullied in this way. In fact, we'll have to look back at the record, but I think it was the Indian Minister of Health, who said at one point on the floor that 'public health could not be bought'. In a sense, the real big baddies helped us, because many nations felt that they were not going to be browbeaten: they were going to get this treaty through. So, in a funny sense, I think they were quite helpful to the process.

*…we are all rather reluctant to identify some of the real baddies…*

**Dr Judith Mackay: *Tobacco Control*, p. 55**

From the Kenyan angle, I will say that we suffered some of the very early pressures from the industry when it came to the negotiation of the FCTC. The first days when we were developing the initial positions, our technical boss, then the permanent secretary in the Kenyan Ministry of Health, received visitors one Friday evening. A tobacco industry member came to his office with a raft of proposals on how Kenya would handle the negotiations, which were tilted

towards the general codes of self-regulation. He was very insistent that global frameworks like the FCTC would not work. Our boss informed us at about 7pm that Friday evening and said that he was not very sure that he was going to be in post on Monday. We were very curious why he thought so. And he said: 'You see, the industry representative came and tried to influence us.' The Kenyan voice was pretty significant in the African group. If the tobacco industry could influence the group's position in certain areas, they could tilt them towards this self-regulating position. They were very clear with him: 'You know, if you don't take the money and influence your team, then you'll not be in a job come Monday.' For sure, come Monday, on the 1 o'clock news – usually the time when people were sacked from or appointed to government in Kenya – he was no longer the permanent secretary, but was sent to a country as ambassador, which is a step down in the civil service. Before countries engaged at the regional and global level, there were a lot of challenges at country level.

**Dr Ahmed Ezra Ogwell:** ***Tobacco Control*****, pp. 39–40**

Professor Ronald Bradley: *Intensive Care*

## Travelling first class

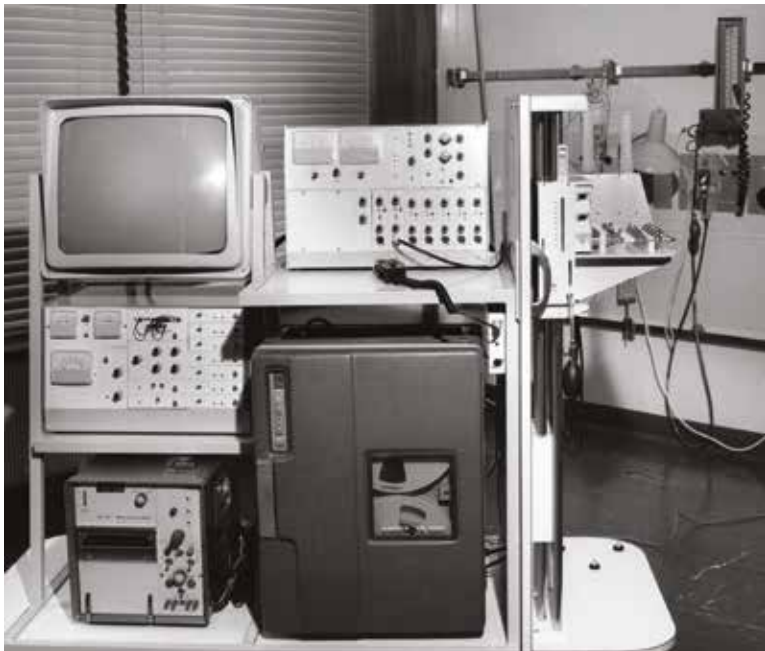
This was my first job with the MRC and in my briefing they said, 'Oh, by the way, you'll be travelling by train, I'm sure, in Wales. Travel first class'. So I said, 'That's very nice, why?' So they said, 'Well, we don't want you to have too many conversations with the miners'. We didn't carry out that rule, we saved a bit of money and we had some quite interesting conversations.

**Dr Philip D'Arcy Hart:** ***Population-based Research*****, p. 12**

## Trolley for intensive care

A large trolley was wheeled around the wards, which had the monitoring apparatus, the ECG, the blood gas analysis, and so on, and much recording apparatus. Ron Bradley and I were deemed the 'death watch beetles', because unfortunately we weren't always successful.

**Dr Margaret Branthwaite:**
***Intensive Care*****, p. 30**



Equipment that Ron Bradley and Margaret Branthwaite used to wheel round St Thomas' before the designated ICU, the Mead ward, was opened in 1966: *Intensive Care*

## Tropical medicine

For those who don't know the Will of Henry Wellcome, the answer to why the Wellcome Trust has been involved in tropical medicine from the very early days is that Wellcome's Will enjoins the Trust to support research relating to the health of mankind in the tropics and elsewhere, and 'in the tropics' comes first rather than the 'elsewhere'.

**Dr David Gordon:** ***Clinical Research*****, p. 36**

## Tuberculosis (TB)

There was a general feeling, especially among the old chest physicians, who had seen tuberculosis patients lying about in sanatoria for years, to regard tuberculosis as something that needed very prolonged treatment. They had seen a number of apparently wonderful breakthroughs like gold therapy and they had seen all that fail, so there was a great deal of scepticism about short-term chemotherapy in the later 1960s.

**Dr Kenneth Citron:** ***TB Chemotherapy*****, p. 68**

## Tuberculosis in communist Poland

I went to Poland in about 1956, but their system there was that they had one major postgraduate training centre for tuberculosis. The head of that unit, Professor Marion Zierski of Lodz, spent quite a long time with us in Edinburgh and went back convinced about the ordinary good chemotherapy. Under the Communist regime, all chest physicians had to attend a revision course in Zierski's unit every five years. So it was very easy to spread a good chemotherapy regimen quite quickly. Then they went on to do their own trials.

**Sir John Crofton:** ***TB Chemotherapy*****, p. 29**

Mrs Wendy Williams: *NATSAL*

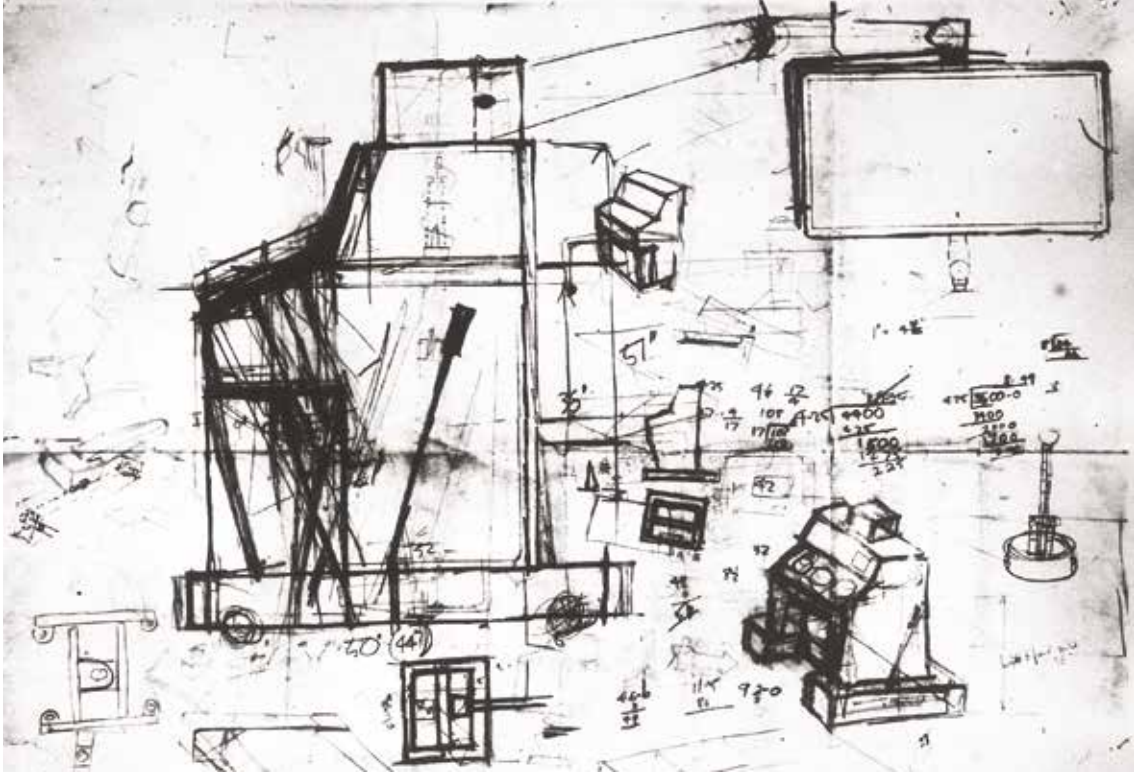
UVW

## Uganda

I want to tell you about one difference between the six years I spent in Uganda (1950–1955) and the subsequent six or seven years in Kenya. When I arrived, Bob Hennessey, the Director of Medical Services in Uganda, said to me, 'Nelson, you have only one job to do in this country, and that is to train an African to do the job better than yourself.' This was a philosophy that Murray Baker and I both followed and our assistant, and the man who was the joint author of the first paper that I ever published, was Dr Semambo, who succeeded us as District Medical Officer and went on to become the Medical Superintendent of the Mulago Hospital in Kampala, then Director of Medical Services and later Minister of Health. It was quite different in Kenya, which was a colony and not a protectorate like Uganda. Uganda had one of the best medical schools in Africa, whereas Kenya didn't even have a medical school. When I arrived in Nairobi in 1955, I was shown around the Division of Vector-borne Diseases by the Director, who said, 'If an African puts his head above the ground, stamp on it.' Most of my research was actually done in Kenya and I was forbidden to include Africans or European technicians as joint authors of my scientific papers from Kenya at the early stages of my period there.

*'...train an African to do the job better than yourself.'*

**Professor George Nelson: *Africa*, pp. 9–10**

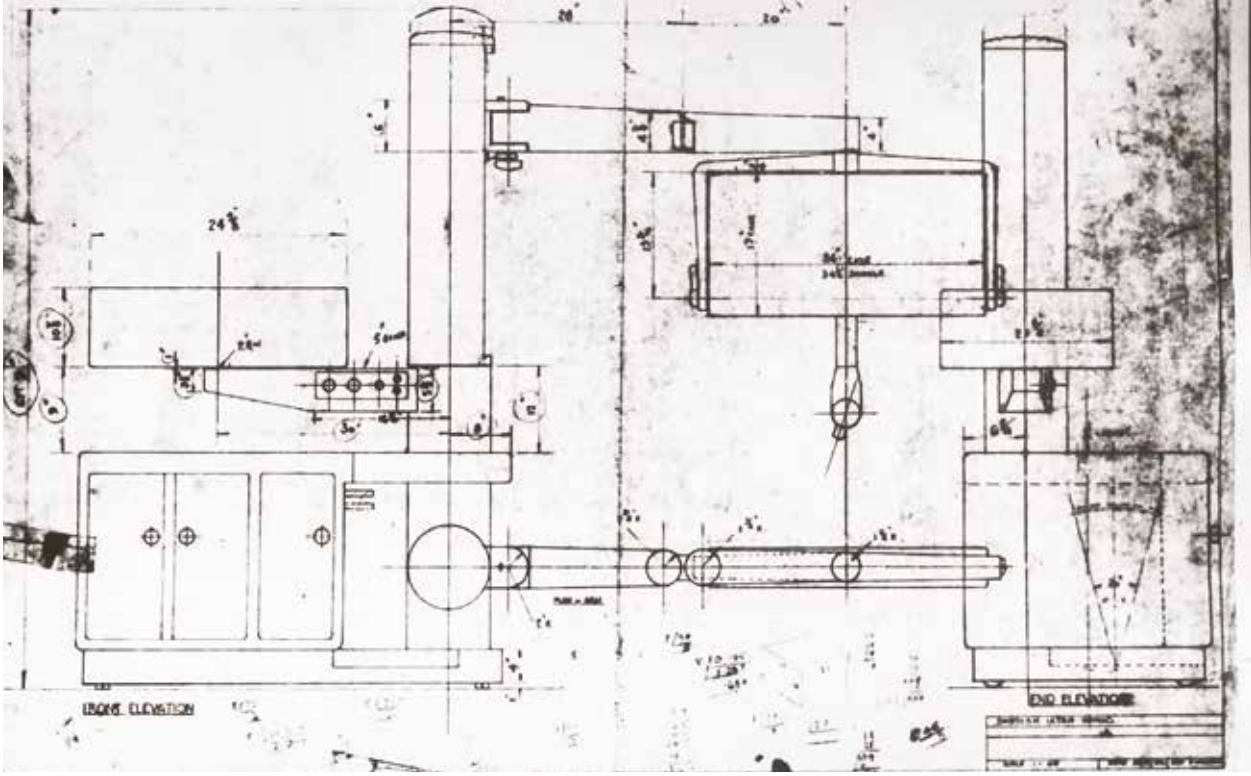


Professor Dugald Cameron's sketch ideas on an original proposal for the Lund machine *c.*1960: *Ultrasound*

## Ultrasound scanner: first designs

I was a final-year art student at the Glasgow School of Art and, like a number of my colleagues, we all fell in love with Tom Brown's sister-in-law, Elsa, who was a first-year art student at the Glasgow School of Art. She had told me that her brother-in-law was developing this new machine at Kelvin & Hughes and that he didn't think much of industrial designers. That gave me the spark, because I was a very cheeky so-and-so then and I was determined that I would meet this chap and we would talk about it. I have actually kept the records of it all, including my first order for drawing, probably the first artist's drawing of an ultrasonic machine. That's how I got involved in it and got fascinated by it. I knew nothing whatever about the whole business, but had a desire to make the thing ergonomically better so that the approach to the patient was better and the doctors would find it easier to use. Indeed, Tom's view was to make it 'doctor-proof' and we tried to do this.

These, in fact, were the first sketches done on Tom's dining room floor. This is the automatic contact scanner that we were talking about. And that was the proposal that Tom had – to make the Lund machine. I remember saying that I thought it looked like a gun turret and that it was thoroughly inappropriate for pregnant ladies. This was the design drawing: Tom and I were arguing over how to make it so that it could be used by a seated or a standing doctor, but we determined, in fact, that you couldn't. That was my attempt to give a three-dimensional view of what that machine was going to look like. That was the first drawing which I




General arrangement: the redesigned Lund machine as it was actually built and delivered. Drawing by Dugald Cameron *c.*1960: *Ultrasound*

had been commissioned to do, and for which I received an order for £21. You will notice one thing: in the history of engineering drawings there are very few that have been drawn to a scale of one-sixth. This one was because it was the biggest bit of tracing paper that I had and I couldn't afford any others.

**Professor Dugald Cameron, *Ultrasound*, pp. 21–22**

## Under-medication

Under-medication is the main problem for two billion people who can't get the essential drugs they need. Improved access to medicines could save 10 million lives a year.

**Dr Andrew Herxheimer: *Clinical Pharmacology 2*, pp. 40–1**

## Unripe time

I cannot help but recall very well the time, in the 1970s, that President Nixon had decided he was going to throw a lot of money at cancer in the United States to cure it within five years. I remember your comment, Douglas (Sir Douglas Black) in your Rock Carling lecture when you said that 'lavish finance is impotent in the face of unripe time'; and that is a quote that I have used on a number of occasions since..

**Lord Walton: *Clinical Research*, p. 53**

## Vaginal examination

**Maclean:** When I started as a medical student in the 1960s, midwives were not allowed to perform vaginal examination; the patient was rolled into a left lateral position and examined by a rectal examination. I remember at that time among New Zealand obstetricians and midwives, there was a long debate as to the safety of rectal versus vaginal examination in assessing progress for labours that went on for several days. I suspect there are people present in the room who would be able to enlighten us as to why these practices developed and why they changed in the 1960s.

**Savage:** I was taught as a medical student to examine rectally, because it was thought that this would reduce the risk of infection. It was just at that point when we were changing from rectal to vaginal examination.

**Tait:** I trained at Bart's and we did our obstetrics on the district. I remember doing what I was told and doing a rectal examination and the patient turned to the midwife and said, 'Tell the young doctor he's in the wrong hole.'

**Professor Allan Maclean, Mrs Wendy Savage, Dr Ian Tait:** ***Maternal Care*****, p. 12**

## Ventilation

I very soon discovered that there were some babies who, after they had been resuscitated, stopped breathing again when you stopped ventilating. Most of them were all right and breathed on their own but there were always some, especially the very premature, who could not breathe on their own. The problem was how to go on ventilating them for hours if not days. Fortunately, we had an endless supply of immensely fit medical students at St Thomas' and we put them to work, which they did willingly. I am not quite sure what they got out of it, but they sat there for hours finger-ventilating apnoeic babies, and before mechanical ventilators this worked well. However, after 24 hours and up to 36 hours, we began to run into problems. We didn't run out of medical students but into problems of humidification, which I didn't realise for a time. It was also obvious to me that this was not the best use of medical students. However, I am still in regular contact with someone who is now 35 and who, as a premature infant in 1964, was ventilated for some four or five days. The 1960s can best be summed up as the decade when effective resuscitation led to intensive care in special centres to which babies would have to be transported with all the new problems that this entailed.

*…they sat there for hours finger-ventilating apnoeic babies…*

**Dr Herbert Barrie:** ***Neonatal Intensive Care*****, pp. 19–20**

## Venturi mask

In the late 1950s and early 1960s during heavy fogs and smogs, it was not unusual for there to be 20 or more patients with respiratory failure on trolleys in corridors of the Central Middlesex Hospital in north-west London. The majority were chronic bronchitics, many of whom had chronic $CO_2$ retention. Quite a few of these patients would have been killed by the administration of unrestricted oxygen. That they survived was largely due to the work of a single man: Dr Moran Campbell. He studied the effects of chronic $CO_2$ retention, which led to the development of the Venturi mask, which delivers precisely graduated percentages of oxygen in to the patient's inspired air.

**Dr Peter Hunter:** ***Environmental Toxicology*****, p. 63**

## Vicks

I joined the Committee of Safety of Medicines, the main committee, in 1980. At my very first meeting we had before us a transfer of a licence from one manufacturer to another. It was for Vicks, the stuff you rub on your chest. It was just about to go through on the nod and I said, very pompously, 'Chairman, what's the evidence for efficacy there?' And he gave me a sort of withering look and said, 'Rawlins, we have a long tradition at this committee of granting licences to products the public have enjoyed for many years. So while you're looking out of the window and not paying any attention, we're going to give it a licence.'

**Professor Sir Michael Rawlins:** ***Clinical Pharmacology 2*****, p. 61**

## Visitors from the Soviet Union

On the question of industry and academic funding, when I used to have visitors from the old Soviet Union in my lab, I'd say to them: 'The best thing that I can do for you is let you look along the shelves and if there are any compounds of interest to you there, take a little of them.' The fine chemicals industry was much, much more advanced in the West than in the East – an advantage of capitalism with the competition between drug companies leading to all these nice, new compounds.

**Professor Gerald Curzon:** ***5-HT*****, p. 89**

## Volunteers in hospice care

I'd like to say a word about the volunteers because they actually became a very important part of the early hospice. This was part of Cicely Saunder's vision too, and she needed somehow to connect with the local community. I remember someone reporting passing the hospice in a bus and the bus conductor had turned and said: 'You don't want to go in there. You'll never get out of there alive.' This was in the first year or so, and all sorts of myths were being developed about this strange place where people went to die. We felt that the volunteers were not only a very important resource and point of contact with the community but that they could become an important part of the hospice, not arranging the flowers in the wards as they did in most hospitals, but be actively involved in supporting patients and families, working closely with the staff on a wide range of things: ferrying patients to and from the hospice; looking after the garden; and also some very challenging things. I was aware that we desperately needed a bereavement service but there was no way we could afford to pay a team of psychologists to work in the hospice, but I'd already worked with volunteers in other settings and I had the feeling that, if we could pick and choose our volunteers, we might get some very good bereavement counselling out of them and in 1970 we started the first hospice-based bereavement service.

*'…You'll never get out of there alive.'*

**Dr Colin Murray Parkes: *Palliative Medicine*, pp. 21–2**

## Volunteer drug testers

It so happened that I took ten drugs myself for the first time in the course of drugs coming into the medical department. Another thing, which would cause a gasp now but didn't cause a gasp in those days, was that I didn't pay any of the volunteers. We had 1,500 people on site and everybody was keen to take part. It never occurred to us to offer to pay anybody, everybody was very pleased to take part.

**Dr Arthur Fowle: *Clinical Pharmacology 2*, p. 18**

## War

I joined the MRC on the auspicious day of 1 September 1939. As it was a Sunday and the day war was declared, I didn't turn up until the following day. But this fact did, of course, have an influence on all the subsequent activities that we indulged in. At the start of the war, there was considerable concern about the possibility of epidemics following the disruption and air raids, and this was the sort of thing that set us off onto cross-infection problems.

**Dr Owen Lidwell: *Common Cold Unit*, p. 228**

When I return to the time when the interest in ethics started in Denmark and in the other Nordic countries, I would say that we had brought something from the Second World War. My father's younger brother, a vicar, was severely tortured, but survived three German concentration camps. My father was involved with the underground, another uncle received the weapons that the Royal Air Force dropped to the Danish resistance movement, and I was in a military group, partly underground. We took these experiences with us, and I heard from the concentration camps about the experiments on prisoners, learnt that it took place in the gulags and Japanese prisoner of war camps, and this knowledge was there when I was a young doctor in 1952, and still it was a motivation for changes. Do not just say 'never again' after the 1930s and the 1940s and the Third Reich, but also say: 'Is it now time for creating a new society without being a fascist or a communist?' This motivation created a need for a new language, a new structure, a terminology, and by thinking about: 'What is research?' 'What are the rights of the citizens, the patients?', it started from the bottom at that time.

**Professor Povl Riis:** ***Medical Ethics*****, p. 24**

## Water management

Is it absolutely too late, in investment terms, to reverse this idea of putting all our solid wastes into water? It has always struck me as being a most extraordinary idea that we do it, but is it possible to imagine going back to a pre-Edwin Chadwick system? Are we condemned to have a situation where sewage management and drinking water supply management are always combined?

**Mr Stanley Johnson:** ***Environmental Toxicology*****, p. 58**

## Websites

I think that the MAFF/DEFRA website that was in action during this recent foot and mouth disease epidemic has been an exceptional example of a website giving authoritative information, quite exceptional. But I remember manning the hotline one day and a farmer's wife was asking for information on disinfectants and I said, 'Well, if you go to the MAFF website, you will find an enormous amount of helpful information there.' She said, 'So, what is a website?' I think that's quite typical. It is wrong to assume that everybody has access to modern information technology.

**Dr Tony Garland:** ***Foot and Mouth*****, pp. 40–1**

## 'Whippet disease'

**Callender:** In the 1930s during the Depression, I know from my own experience of 'district deliveries' in Dundee, many women had multiple pregnancies, increasing iron requirement, and also they were existing mainly on diets of bread and tea. Tea exerts an inhibitory effect on iron absorption.

**Booth:** When I was in Dundee we used to call it 'whippet disease'. Certainly when the miners in Fife kept whippets in food-rationing time, the meat was given to the whippet and nobody else got it, so we used to call it 'whippet disease'.

**Callender:** In my time before the war they were existing on the dole of 30 shillings a week, and if ever there was a scrap of meat, it was given to the men in the family, because they had to keep their strength up!

**Dr Sheila Callender, Sir Christopher Booth: *Intestinal Absorption*, p. 64**



XYZ

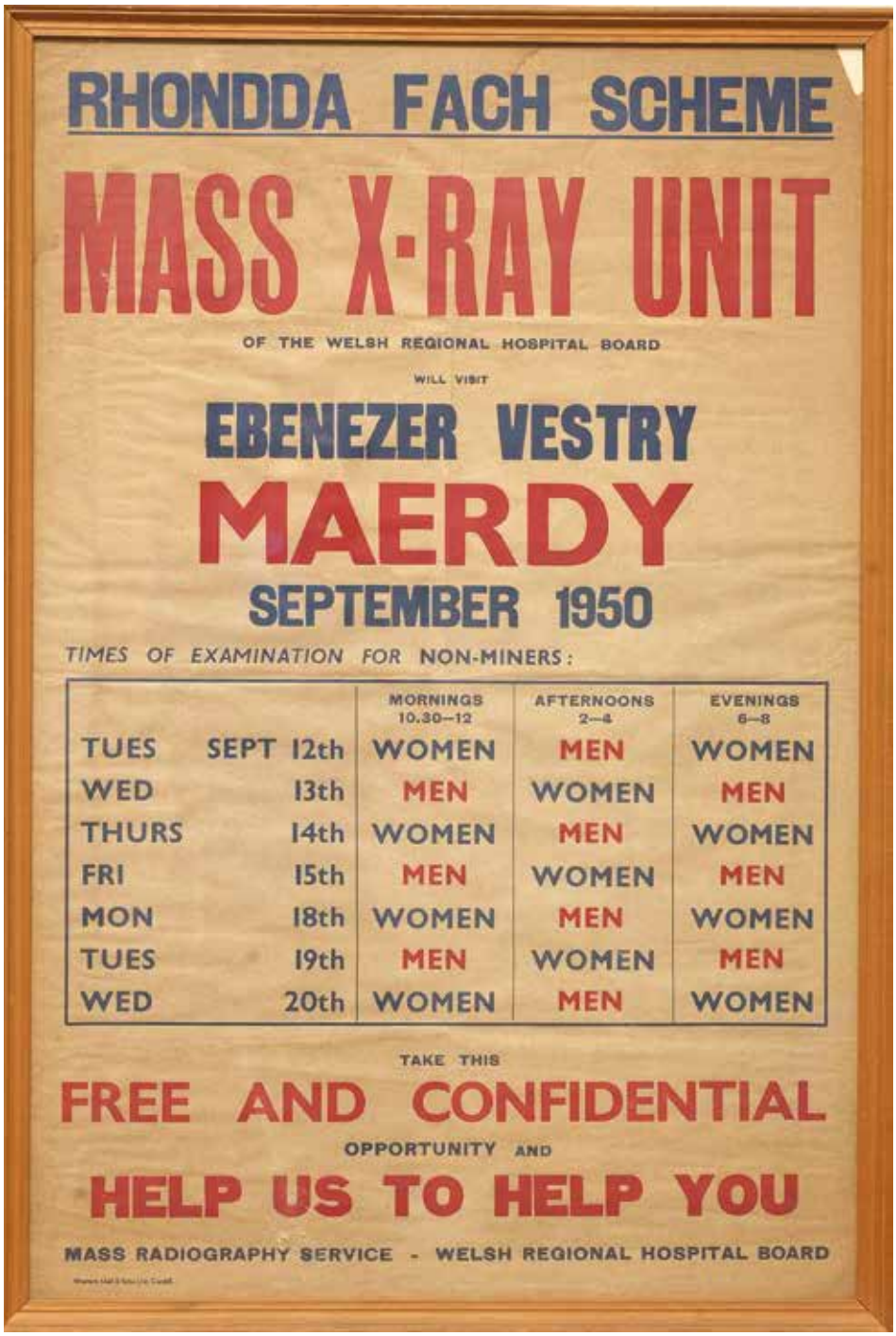
## X-ray

Two chest X-rays could be taken of the same patient and one would look hazy, showing evidence of early pneumoconiosis, and the other would be much clearer and normal. The reason for this was that the definition of a radiograph is related to the number of peaks of alternating voltage that occur during the very short exposure time. Our radiographer modified the X-ray machines so that the current always switched in at exactly the same phase of the alternating current, so that in identical exposure times there would be the same number of peaks of current voltage. This was important because so much of the work of the unit depended on an accurate assessment of the degree of radiological change caused by pneumoconiosis.

**Professor Owen Wade:** ***Population-based Research*****, pp. 29–30**

We worked from a schoolroom, which was lent to us and did clinical examination of the miners, X-rays, some sort of respiratory disability tests, rather crude ones I have to say in retrospect, was all we could do, and history taking. There was no X-ray set-up there and we used a mobile van, Portable X-rays Limited, which trundled round the valleys, and it is amazing what beautiful X-rays they took for the period. We confirmed by X-rays and by post mortems that coalface workers who had not worked in hard rock did have serious, disabling lesions. And they did not look

*…we used a mobile van, Portable X-rays Limited, which trundled round the valleys…*




Recruitment publicity poster for MRC Pneumoconiosis Research Unit, 1950: *Population-based Research*

like classical silicosis. So this confirmed the suspicions that had been around. Secondly, we were also able to trace the progression of these lesions according to the length of exposure to their work in the coal-seams. We were able to do that, not by following people along, of course, but by taking people who had been for different periods at Ammanford colliery, and matching them against the lesions they showed in their X-rays. And we were able to describe the character of the lesions, as it appeared on X-ray, starting with a reticular appearance, then a nodular appearance, and then big masses, with increasing disability. In contrast to silicosis we didn't find tuberculosis to be a leading feature of pneumoconiosis of colliers.

**Dr Philip D'Arcy Hart:** ***Population-based Research*****, pp. 5–7**

One of the interesting differences between the survey work I did in south Wales, and my later work in Belfast was the names. I don't think we realised how difficult it was going to be when surveying miners in south Wales where so many men had names like Jenkins, Jones, Thomas, or Williams. Archie Cochrane solved this by ensuring that every man X-rayed was also photographed holding a board with his X-ray number and his name. When the unit returned four or five years later to re-X-ray that pit, it was possible to identify and radiograph the right Mr Jones. Of course, the miners all know each other by Jones 'longtuff' or Jones 'big nose' or some phrase of that sort, but that wasn't very useful to the survey team.

**Professor Owen Wade:** ***Population-based Research*****, pp. 49–50**

## Yellow cards

Now the story of the yellow card, I think, is typical of the many administrative complexities that we faced. The Adverse Reactions Subcommittee needed a method by which doctors could report adverse reactions. A list of questions was prepared by the Medical Assessor from which I produced a draft card. We agreed that the card must be post-free for doctors, if we were going to get them to submit it to us and I tried to negotiate what, in those days, was an 'On Her Majesty's Service' frank, which appeared on all official correspondence. The Stationery Office wouldn't have it, so I then tried the idea of the post-paid business reply rate which businesses used. Now you must remember in those days the Committee had no budget of its own and the Ministry of Health Finance Department didn't like the idea of using money to pay the necessary fee for a business reply envelope. We had to work very hard indeed in persuading

*…this very simple form, which is still used today, experienced a difficult gestation.*

the Ministry to go to the Treasury and get the Treasury actually to allow that bit of money that we needed to pay the fee for the business reply envelope. So we got over that. Then there was the problem of distribution, which in theory sounded easy, but we had to negotiate with several parts of the Ministry, those responsible for general practitioners, for hospitals, and the health committees, to get this yellow card out to the people who ought to be using it. There were difficulties and obstructions all the way. Thus, this very simple form, which is still used today, experienced a difficult gestation. And the reason for the card being yellow is also amusing, because it arises from my own colour blindness. Each Subcommittee wanted a colour-coding for their papers and as I kept the Secretaryship of the Adverse Reactions Subcommittee to myself I chose yellow as the house colour, because this was a colour that I could most easily identify. Greens and pinks, which were the others, were quite beyond me. Hence, with the house colour of yellow, inevitably the card that we used was a yellow card and that's why it's known as the yellow card.

**Mr Wilfred Turner:** ***Safety of Drugs*****, p. 110–11**

## Zantac and Tagamet

[Tagamet was the name under which Smith Kline and French (later SmithKlineBeecham, later part of GSK) marketed cimetidine, an $H_2$ receptor antagonist that inhibits acid production in the stomach. Tagamet was the first ever 'blockbuster drug' to achieve sales of more than $1 billion a year. Ranitidine, a rival $H_2$ receptor antagonist, was marketed as Zantac by Glaxo (later Glaxo Wellcome, later GSK).]

Tagamet made an enormous contribution to patients' lives. I have spent about 15 years of my life working on trials and other studies with ranitidine, and the newspapers used to portray us as adversaries and I guess indeed we were adversaries. Ironically we are now (2000) about to merge, Glaxo Wellcome and SmithKlineBeecham, but in those days we were competitors and we conducted a large number of studies to compare the relative benefits of Tagamet and Zantac. Zantac eventually took over from Tagamet as the leading drug on a global basis being prescribed for the treatment of peptic ulcer and stayed up there as the world's top-selling ethical pharmaceutical for 11 years, which is quite an achievement. At the peak of its sales, the drug was selling to £2.3 billion per annum on a global basis.

*…the drug was selling to £2.3 billion per annum on a global basis.*

**Dr John Wood:** ***Peptic Ulcer*****, p. 75**

# Index: Subject*



* Please note that general date entries have not been included for all extracts.

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