Helen Ranney

One of the first to identify a genetic factor in sickle cell anaemia

Helen Ranney's career was shaped by her response to two different but closely linked challenges—one scientific and self imposed, and the other social, a consequence of her sex. The scientific challenge was to contribute to a better understanding of the nature and inheritance of sickle cell disease, which affects millions of people worldwide; the social challenge was to succeed in a medical and scientific environment where women were vastly under-represented but already constituting a presence seen by some diehards as a violation of the natural order. In both enterprises she was successful, and her landmark research showed sickle cell disease results from inherited defects in the structure of haemoglobin.

"There were families where there were both sickle and haemoglobin C, and she demonstrated . . . that the abnormalities must be due to mutations at the same genetic locus"

Born on a dairy farm in New York state, she acquired the practical problem solving outlook of her father and combined it with her teacher mother's veneration for learning. Although her initial intention had been to study law, she opted instead for medicine on the grounds that doctors also attempt to fix what they study. She applied to Columbia University, but was unsuccessful. Professor Kenneth Kaushansky, chair of the department of medicine in the University of California in San Diego (UCSD), suspects that her sex counted against her. Instead she took a job as a research technician. This turned out to be a period in which she learnt valuable lessons about science as an intellectual pursuit and as a task in which a facility for practical experiment pays dividends. She reapplied to Columbia, which this time accepted her. She became a haematologist and chose to join a research oriented department. If it was indeed sexual discrimination that had earlier impeded her progress, those who perpetrated it had inadvertently sowed the seeds of her later and highly successful career as a medical scientist.

Haemoglobin C

It was not long before she began to take a particular interest in sickle cell disease. "She went on to make some important observations on its inheritance," says Professor David Weatherall of Oxford's Institute of Molecular Medicine. "She did some of the first work on the genetics of sickle cell, and on the second haemoglobin variant to be described, haemoglobin C."

Haemoglobin itself comprises four protein subunits: two of α globin and two of β globin. The make-up of the latter is controlled by the HBB gene, mutations of which produce abnormal versions of β globin. One of these mutations causes the production of the protein variant known as haemoglobin S (HbS). The consequence is sickle cell disease. When both the β globin subunits carry HbS variants, the result is sickle cell anaemia. Sickle cell disease was recognised to run in families, and, by the 1940s, it was known to be passed on as a Mendelian recessive condition. But that was about the extent of the understanding of its inheritance.

A few years before Ranney began her own studies, Linus Pauling had shown that sickle cell and normal haemoglobins move at different rates in an electric field; in other words, that the sickle condition was caused by a protein abnormality. It was this finding that prompted his 1949 paper in *Science* titled "Sickle cell anaemia, a molecular disease" (1949;110:543-8). But his work was carried out using cumbersome equipment originally designed by the Swedish chemist Arne Tiselius. Conscious that the Tiselius machine was totally unsuited to a routine haematology laboratory, Ranney set out to devise something simpler. "Her method involved dripping the proteins in a buffer solution on to filter paper and then passing an electric current," says Weatherall. "You could do it in any lab."

Ranney also worked on the genetics of haemoglobin C. In what Weatherall describes as one of her best studies she showed that sickle cell and haemoglobin C were alleles. "There were families where there were both sickle and haemoglobin C, and she demonstrated from the inheritance patterns that the abnormalities must be due to mutations at the same genetic locus."

In 1960 Ranney moved to Albert Einstein College of Medicine, and later to the State University of New York at Buffalo. By this time the focus of her interest had begun to shift from research to the demands of managing and organising academic medicine. This reached its peak with her 1973 appointment to UCSD as chair of the department of medicine, the post now held by Kenneth Kaushansky. In getting this job, Kaushansky points out, she became the first woman to chair such a department in a US university. "One of her many firsts."

Academic physicians

Strategically, Kaushansky adds, Ranney had a distinct idea of the way that academic medicine should function. She was a great believer in the importance of academic physicians being able to work as good clinicians, good researchers, and good teachers. Her ideal was the individual who could function equally well as all three.

Helen Ranney maintained her interest in medicine into retirement. She became a consultant for a biotech company in San Diego and, until a couple of years ago, continued attending haematology lectures in her old San Diego department, and joining in weekly medical grand rounds. "Mentally she remained as sharp as ever," says Kaushansky.

Geoff Watts

Helen Margaret Ranney, haematologist (b 1920; q 1947, Columbia University, NY), died from pneumonia on 5 April 2010.

Cite this as: *BMJ* 2010;340:c2533

David Howard Casson

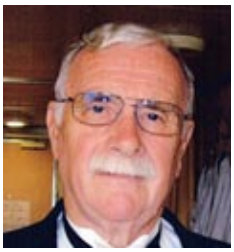
Consultant paediatric gastroenterologist Alder Hey, Liverpool (b 1963; q Oxford/St Bartholomew's Hospital, London, 1988; BA, MRCPI, MRCPCH), died from metastatic gastric cancer on 28 September 2009.

David Howard Casson ("Dave") travelled widely, including to Pakistan and Australia, and was appointed consultant at Alder Hey in 2000. He always challenged and questioned the status quo, and his commitment, humour, and dedication to his patients and service development locally and nationally were exemplary. He initiated the national paediatric inflammatory bowel disease registry. Having taken up open water swimming, he completed with colleagues a relay, cross-channel swim in 2008, just months before his final illness was diagnosed. He approached treatment with tremendous humour and fortitude, remaining interested in his department and colleagues throughout. He leaves a wife, Penny, and two children.

Mark Dalzell

Cite this as: *BMJ* 2010;340:c2464

John Peter Duffy



Former consultant psychiatrist British Columbia, Canada (b 1930; q Glasgow 1958; FRCP, FRCPsych), died on 19 November 2009 from complications of a cerebral haemorrhage while taking warfarin.

After national service and working as a medical orderly, John Peter Duffy entered medical school at the age of 21, working as a bus driver at weekends while an undergraduate. After five years in general medicine he trained in psychiatry, emigrating to Saskatchewan in 1968. He was director of the University of British Columbia's Riverview Hospital in Vancouver, and then designed forensic psychiatry services for British Columbia. He entered private practice in Vancouver in 1983, later working in Fraser Valley mental health units and psychogeriatric services, and was an international expert on forensic psychiatry. He leaves a wife, Helen; four children; and four grandchildren.

Helen Duffy
Maria Duffy

Cite this as: *BMJ* 2010;340:c2488

Paul Grasso

Former consultant in toxicology and professor of experimental pathology Robens Institute, Surrey University (b 1923; q Malta 1949; MD, FRCPath, DTMOH), d 28 February 2010.

In 1952 Paul Grasso joined the Colonial Medical Service in British Cameroon and later Nigeria, where he headed the pathology department at Lagos General Hospital. In 1963 he joined the British Industrial Biological Research Association (BIBRA), becoming deputy director in 1972. Six years later he became senior toxicologist/pathologist with British Petroleum before joining the Robens Institute in 1983 until retirement. Paul published over 100 scholarly publications, his most notable work probably being the subcutaneous sarcoma project investigating how chemicals and drugs are tested for carcinogenicity. He was also a Chevalier of the Order of St John of Jerusalem. He leaves a wife, Adelaide; five children; and six grandchildren.

Kenneth Butterworth
James Pedersen

Cite this as: *BMJ* 2010;340:c2484

John James Griffiths

Former chest physician Powys Area Health Authority, and assistant chest physician Mid Wales Hospital Group (b 1925; q University College Hospital, London, 1949; TDD), d 30 May 2009.

Shortly after qualifying, John James Griffiths developed tuberculosis. While recuperating in Cardiff, he began his lifelong interest in chest medicine and had the opportunity to return to Wales. He worked in Cardiff and at Bronllys TB Hospital, Talgarth, and in the late 1950s he became registrar at Machynlleth Hospital and chest physician to the mid Wales area. He travelled extensively, with regular visits to the hospitals at Dolgellau, Newtown, Tregaron, and Tywyn, as well as domiciliary visits to farmers in remote areas. He loved the Welsh countryside and was for many years a keen golfer. He leaves two sons.

David Griffiths

Cite this as: *BMJ* 2010;340:c2465

Harry Kopelman

Former consultant physician and postgraduate dean, North East Thames British Postgraduate Medical Federation (b 1916; q St George's Hospital, London, 1939; DA, MD, FRCP), d 4 September 2009.

After being resident anaesthetist at St George's Hospital, Hyde Park Corner, during the second world war, Harry Kopelman was squadron leader with the Royal Air Force in the Far East. He became senior registrar/acting lecturer to Sir John McMichael at Hammersmith Hospital in 1949, and consultant physician in Epping in 1953 and Harlow in 1965, retiring in 1983. Renowned for his clinical judgment, he maintained a keen interest in medical research and education. He and his colleague Michael Hamilton published papers on the management of hypertension, co-hosting popular monthly clinical meetings. Predeceased by his wife, Joan, he leaves two sons and five grandchildren.

Michael Kopelman
Peter Kopelman

Cite this as: *BMJ* 2010;340:c2468

Basil Messer

Former general practitioner Bradford and Shipley, West Yorkshire (b 1920; q St Bartholomew's Hospital, London, 1942), d 13 February 2010.

After qualifying at the age of 22, Basil Messer joined the Royal Army Medical Corps and became captain, having served in India, Burma, and Germany. After demobilisation in 1947, he was registrar in obstetrics at Central Middlesex Hospital, and became a singlehanded general practitioner in Bradford at the inception of the NHS. After 21 years, he moved to Shipley until retirement in 1980. He also served as factory doctor to two textile mills. Basil was consort to his wife, Olivia, in 1984, when she was Lord Mayor of Bradford, and he was an active member of the Leeds Jewish Medical Society. He leaves Olivia, two children, and two grandchildren.

Ruth Baker, Laurence Messer

Cite this as: *BMJ* 2010;340:c2471

David Verel

Former consultant cardiologist Sheffield (b 1919; q Cambridge 1943; MA, MD, FRCP), d 23 December 2009.

David Verel became critically ill during the second world war but was one of the first 12 people to be treated with penicillin. Having residual left hemiplegia, he was advised to work as a medical librarian. However, he became lecturer in medicine in Aberdeen and lecturer and research fellow at the London Hospital before being appointed consultant cardiologist in Sheffield in 1959, a post he held for 25 years. He published research and a book on cardiac catheterisation and angiocardiography. He had many interests, and for three years after retirement he lived part time in Malta, travelling to and fro in a small motor home. He leaves three children and eight grandchildren.

Joan Scruton

Cite this as: *BMJ* 2010;340:c2467