

William Einar Miall
Epidemiologist
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Bill Miall, whose name will always be associated with his long-term friend and colleague, Professor Archie Cochrane, was a pioneer in the methodology of chronic disease epidemiology. Though remembered mainly for his research on blood pressure, Bill, like Archie, took a distinctly holistic approach to his studies of the health of communities. To this end, he collaborated with experts in other areas of medicine to generate dependable estimates of the distributions of common disorders in his chosen populations, thereby presenting opportunities for in-depth studies of mechanisms and causation. Nowhere was this approach typified more so than in Jamaica.

Born into a Quaker family in Yorkshire, Bill's higher education commenced with a course in scientific instrumentation at London University in 1937 – 1938. After the outbreak of World War II, he registered as a conscientious objector and joined the Friends Ambulance Unit, serving in Norway, Finland, Egypt and Greece before eventually finding himself in a camp for prisoners of war. There he met Archie Cochrane.

With demobilization in 1945, Bill enrolled at St Mary's Hospital Medical School, London, qualifying in 1950. Meantime, in 1948, Archie joined the recently established Medical Research Council Pneumoconiosis Research Unit (PRU) at Llandough Hospital, South Wales, where he had responsibility for epidemiology. In November 1951, Bill joined Archie and benefited from the highly stimulating environment at PRU where the two men enjoyed a highly fruitful collaboration over the following decade. In many ways, Bill's standards and approach were moulded during these years, when with Archie and statistician Peter Oldham, he described the epidemiology of common diseases in a series of well-regarded investigations in the local mining and agricultural communities, which at Bill's suggestion included electrocardiographic surveys and studies of blood pressure.

Archie was keen to see his approach to epidemiology usefully propagated. By early 1959, arrangements had been made for Bill to join Professor John Waterlow at the Tropical Metabolism Research Unit in Jamaica, where he demonstrated the value of techniques developed at PRU when applied in the far less developed rural community of Lawrence Tavern and the population of Greenwich Town in Kingston.

The results of this preliminary year were thought to be so encouraging that Archie asked the MRC to take steps to

exploit the research opportunities afforded by Jamaica and the Caribbean. Studies of heart disease, blood pressure, tuberculosis, arthritis, diabetes mellitus and other conditions of local importance were proposed, an approach very similar to that of PRU. However, permanent facilities would be needed.

The outcome was the opening of the MRC Epidemiology Research Unit (ERU) on The University of the West Indies Mona campus in May 1962. The Wellcome Trust had provided the funds for the Unit and staff accommodation, MRC provided the staff, and the Government of Jamaica supported a university lecturer in preventive and social medicine and a medical officer of health. The British Colonial Office and WHO also rendered financial assistance. Bill had arrived in Jamaica as Director in March to oversee the opening, assemble his team, and launch a new survey in Lawrence Tavern.

Bill and Archie anticipated speedy social and economic development in Jamaica during the lifetime of the Unit. Their original intentions were therefore to document the frequency of common diseases in rural and urban island communities, to compare the findings with those in South Wales and to 'study the influence of the expected rapid changes in living conditions on the pattern of diseases (especially cardiovascular diseases)': in other words, to document and learn from the epidemiological transition. Bill soon found, however, that the task was going to be more problematical than first thought. Far from there being little evidence for heart disease in Jamaican communities, unexpectedly high frequencies of electrocardiographic changes and reports of exertional chest pain were documented, findings which in the United Kingdom (UK) would signify a high prevalence of ischaemic heart disease (IHD). This pattern, not understood (for clinically and pathologically, IHD was very rare on the island) demanded redirection of the thrust of research, and troublingly would obscure the detection of IHD during any epidemiological transition. Similar problems arose in the interpretation of the chest radiograph and lung function tests. One message became clear: the use of standards and criteria devised for Caucasians in developed communities needed careful scrutiny before application to other ethnic groups.

The Epidemiology Research Unit's work on blood pressure provided support for the theory of George Pickering, namely that the distribution of blood pressure was unimodal in all populations, and if inherited, it would be determined polygenetically. Arterial pressure in Jamaica did

not appear to be as high as in Afro-Americans but hypertension was nevertheless the major cause of cardiovascular morbidity and mortality on the island.

In addition to numerous papers on blood pressure, Bill co-authored more than 30 papers on various aspects of health and disease in Jamaica during his nine-years there. Topics covered included child growth and development, diabetes mellitus, haematology, parasitology, tuberculosis, arthropathies, yaws and deafness, in addition to cardiovascular epidemiology. By the time he returned to the UK in 1971, Bill had established a standard of epidemiological rigour in the Caribbean that has been his lasting legacy.

Back in London, Bill joined the MRC Epidemiology and Medical Care Unit at Northwick Park Hospital where he remained until retirement. His main job was as scientific secretary to the MRC working party on the treatment of mild hypertension with bendrofluazide and propranolol. Once again, Bill's genius for methodology came to the fore when he oversaw the recruitment and randomization into this clinical trial of more than 15 000 adults through 176 general practices scattered around the UK. Not content, he then went on to organize a second trial in older people, this time

involving 226 general practices. These proved to be landmark studies, demonstrating the value of screening for mild hypertension and treatment in primary care. His legacy this time was the assembly of many hundreds of doctors, nurses and practices in what became known as the MRC General Practice Research Framework, used up to today for epidemiological research into many common disorders, a reminder of the original philosophy of Bill and Archie back in the days of PRU.

Bill and his wife Mary retired to the English Lake District. There they continued to pursue their interests in oil painting, pottery and sculpture, just as they had done when living in College Common at ERU House on the Mona campus, Jamaica. Predeceased by Mary, he took ill in 1997 but remained active thereafter despite declining health. He leaves a daughter, four sons and 12 grandchildren.

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