The Early Years of the Medical Research Council’s Biostatistics Unit: The First Director

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The Beginning
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- Sir Robert Morant chaired implementation of the National Insurance Act of 1911
- As part of this, established a Medical Research Fund
- Medical Research Committee set up in 1913 to administer the fund
THE SCHEME OF RESEARCH - November 1913

- **Type of Research:** extension of medical knowledge – the actual field of research is not limited

- **Method of Conducting the Research:**
  1. investigators of highest class in permanent employ of scheme, devoting whole time to research
  2. skilled investigators in permanent or temporary employ of scheme engaged in procuring material clinically or otherwise
  3. Individual investigators not in employ of scheme helped with money or otherwise for researches coordinated with research under the scheme
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  3. Individual investigators not in employ of scheme helped with money or otherwise for researches coordinated with research under the scheme
  4. Statistical Department: mainly consist of persons in the permanent employment of the scheme — statistical investigations useful either as a preliminary to research or confirmatory of its results.
Sir Walter Fletcher

- Elected Fellow of Royal Society for work on biochemistry of muscle contraction.
- Appointed First Secretary (Head) of Medical Research Committee in early 1914.
- Took up post in July, 1914 and in post for 20 years.
- Oversaw transition to Medical Research Council (MRC) set up by Royal Charter in 1920 and guaranteed independence from any government department.
John Brownlee

Born in 1868: a “son of the manse” with his father and brother ordained as was the brother and son of his mother. Studied mathematics, natural philosophy (1889) and medicine (MB, 1894; MD 1897) in Glasgow. MD thesis: on scarlatina (scarlet fever). Sat examinations for Diploma in Public Health from Cambridge (1898). Awarded DSc in 1907: Statistical studies in immunity...
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John Brownlee

- Resident physician in Belvedere fever hospital and then briefly Medical Officer of Health in Guernsey.
- Physician superintendent at Belvedere fever hospital and then at Ruchill Hospital.
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John Brownlee

- Appointed first Director of MRC’s ‘Statistical Department’ in July 1914
- Administrative principle: ‘never (or hardly ever) reply to letters’
- Died suddenly from bronchopneumonia in 1927.
John Brownlee

- Majority of work on infectious disease
- Initial papers were reports on outbreaks but in 1904, there was a shift to more general papers (i.e. age distribution of acute infectious diseases)
- Regarded as a ”Pearsonian disciple” but unclear whether he ever attended lectures at UCL. Pearson’s methods used prominently in his papers.
John Brownlee

- Also published papers in evolution and Mendelian genetics prior to 1914.
- Had a strongly held view that epidemics died out due to a decline in infectivity of an epidemic organism.
- Ronald Ross argued for the concept of “Susceptibles”.
John Brownlee

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- Staff quickly expanded to 100 clerical staff, 225 by 1919.
  - For all the effort and money put in, the Medical Research Committee had little to show for it.
War Work

- Compiled records on sick and wounded.
- From 1917 onwards, Medical Research Committee provided staff and resources of Department while War Office paid for expenses of clerical work.
- Much used after the war to support claims by soldiers and this was anticipated at the time as an important use of these records.
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- Brownlee served as member of Enemy Personnel Sub-Committee of Imperial Defence
Epidemiology of Tuberculosis

- Brownlee’s most highly regarded paper.
- Identified cohort and generational effects in tuberculosis.
  - Only reference in short entry in Encyclopedia of Biostatistics.
  - Discussed by G. Davey Smith in *International Journal of Epidemiology* as example of poor presentation limiting translation of research findings.
Periodicity of influenza

- Brownlee’s most notable work (at the time).
  - *Lancet* ii, 1919, 856
- Argued for an interval between influenza epidemics of 33 weeks.
  - *Times* obituary: “Dr. Brownlee is perhaps best known to the general public for his investigation of the periodicity of influenza.
  - Leader in *The Times*
  - Greenwood (1929): 1919 was “the end of Dr. Brownlee’s connection with the subject; to his death he retained, I think, a half-serious faith in the 33 weeks’ rule but did not regard the matter as of sufficient epidemiological interest to justify further investigation.”
John Brownlee

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- Yuke: likened him to an “odd sort of fly” that “seem to be nearly still, ..., when suddenly flick! and the blessed fly is in quite a different position.”
Greenwood: "if one were in a hurry to get from him specific information upon a matter of fact - say, the method by which he had fitted a curve - to find that, after ten minutes’ conversation, one had learned a great deal about Highland place names, the organization of the Kirk in the 18th century, and the history of alchemy, but nothing at all about the curve, might be irritating."
Major Greenwood’s Tribute

- Shortly after Brownlee’s death, Greenwood wrote and paper titled “Laws of mortality from the biological point of view” that he ‘hoped might be accepted as in piam memoriam of my friend and colleague John Brownlee’.
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- Greenwood wrote of Brownlee: ”He approached the problem with an erudition, both biological and mathematical, to which I have no pretensions, and, had his power of exposition been equal to his natural sagacity and learning, there would have been small need for any other writer.”