

Geriatrics

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Introduction

A medical specialty devoted to old people and their disorders was first proposed by New York physician Ignatius Nascher, who coined the word 'geriatrics' in the first decade of the 20th century.¹ Nascher was particularly alert to the general vulnerability of old people and the consequent importance of environmental and social factors in health and illness. His proposal made little progress in the USA over the next 50 years, and the popular American imagination was caught less by humanitarian and palliative approaches to ageing than by Metchnikoff's notion of ageing as a disease that could be prevented and cured.² Little was heard of geriatrics until it was reconceived in the work of Marjory Warren in England in the 1930s.

Geriatrics in the UK was at first driven by practical and economic necessities as much as by compassion. In the 1930s there were two main groups of hospitals for people with non-contagious physical illness. The old charity hospitals remained dedicated to acute and curable illness while the hospitals that had been the sick wards of workhouses received the incurable, the old and the destitute. In the 1930s, both types of hospital were facing bankruptcy, the first through underfunding, the second through over-occupancy. At the Isleworth Infirmary, Warren showed that inmates of workhouse hospitals were kept in unnecessarily miserable conditions and many did not need to be there. Most, though not all, of her patients were old, and in two seminal papers published during and immediately after the second world war^{3,4} she presented the word, as well as the principles of, 'geriatrics'. Influential members of the Department of Health were so impressed with her work that consultant posts in geriatrics were created in the first few months of the NHS.

Service developments

The early geriatricians in Britain continued with the tasks of improving the care of old and disabled people and reducing the numbers confined in the old workhouse – now 'geriatric' – hospitals. The central technology of the specialty was the conceptualisation and implementation of services. The essential step was the creation of a three-phase model for clinical management. First, was a full assessment of an individual patient's problems – pathological, physical, psychological and social. Second, was a plan for alleviating those problems that were both ameliorable and relevant to what the patient wanted to achieve in life. Third,

was a regular review of progress and appropriate modification of the plan. Commonly, the plan was required to bridge an ecological gap between what the individual could do and what their environment demanded.⁵ Interventions would be therapeutic to improve the individual's function and prosthetic to reduce environmental demands. They might comprise medical, psychiatric or surgical treatments, prostheses of any kind from hearing aids to orthotic shoes, and home adaptations. This complex pattern of care led to the development of the multidisciplinary conference. Here the role of geriatricians was to chair and to accept responsibility for the decisions of teams in which they worked collaboratively with colleagues in nursing, physiotherapy, occupational therapy and social work. Inputs from other services, such as psychiatry and speech therapy, were on a more consultative model, while liaison with the often all-important local housing department fell largely to the social worker and occupational therapist in the team. A modern generation of doctors without memory of the ancient grandeur and autonomy of the hospital consultant may not appreciate the shocking novelty of the multidisciplinary team. In working effectively with colleagues from what were traditionally the 'professions ancillary to medicine' the consultant often found that it was the doctor's role that became ancillary.

This pattern of care for newly referred patients to a geriatric service led to the creation of assessment and rehabilitation units separate from the long-stay wards. In some ways the separation was unfortunate in its implied categorisation of people into the remediable and the irremediable. It was valuable, however, in concentrating the scarce rehabilitative services where they did the most good and in recognising the differences in objectives of care, especially nursing care, between the rehabilitative and long-stay wards.

Geriatric teams often had to deal with the consequences of mistakes made in the care of patients before they were referred. Mistakes included unnecessarily prolonged bed-rest that caused bedsores and contractures and also loss of physical and psychological fitness. Adverse effects of drugs were common and recognition of the hazards of polypharmacy stimulated interest in age-associated changes in pharmacokinetics and pharmacodynamics. There was an obvious need to introduce the philosophy and practice of geriatric care early in an older patient's stay in hospital, and the influence of geriatricians on acute hospital care was increased in a variety of ways depending on local resources and working relationships. The most radical model was for geriatricians to join other subspecialists of general medicine in integrated teams on the acute medical wards,⁶ but for local reasons this model was not universally adoptable.

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Geriatricians also carried the principle of early intervention into the community through the development of day hospitals. These spread rapidly after the first was opened by Lionel Cosin in Oxford in the 1950s and they came to contribute to British geriatric care in two ways. A day hospital provided an acutely available assessment and rehabilitation service thereby substituting for acute hospital care. It also provided relief and care in support of carers of patients who were on the edge of long-term institutional care. These two functions require different staffing and resource patterns, and evaluation by different criteria.

Various initiatives sought to extend geriatric expertise into primary care. The Royal College of Physicians instituted a diploma in geriatric medicine for general practitioners (GPs) to signal especial skill and interest in the care of older patients. This is increasingly important now that long-stay care has been moved out of geriatric departments into nursing homes where medical care is provided by GPs with varying degrees of commitment and expertise.

The service research base

Looking back, a striking feature of the development of British geriatric medicine was the lack of empirical evidence to underpin what was happening. The early geriatricians had been spectacularly effective in their allotted task of reducing the numbers of hospital long-stay patients and beds. Admittedly, observational evidence suggested that much of what was achieved in the early days was transfer from long-stay hospital to long-stay residential care rather than to independent life.⁷ In a few places, where there were adequate data, lengths of stay and medical waiting lists also fell. But there were no randomised controlled trials, even of day hospitals. These were seen as providing benefits so obvious that their actual effects on institutionalisation rates and patients' wellbeing were not measured, and their cost-effectiveness must vary with the price of transport. Lack of evaluation can now be used as an excuse for closure of day hospitals by cost-cutting managers, insensitive to the moral requirement that closure of a service should also be evidence based.

When the USA began to develop geriatric services they looked to the UK for their models but made greater efforts to carry out randomised controlled trials of effectiveness and cost effectiveness.⁸ In a systematic review the evidence supports the importance of skilled assessment in the successful and efficient management of complex illnesses of later life.⁹ But British experience shows that assessment alone is not enough, geriatricians also need the resources and authority to put the results of assessment into effect. This harsh truth has underlain the failure of many essays in liaison geriatrics, especially with orthopaedic services.

The science base

Geriatrics in the UK has been at a disadvantage in comparison with other specialties through its lack of a clearly defined science base. Rationally, geriatrics should seek its basic science research in biological gerontology. The loss of adaptability that charac-

terises ageing is due to a multitude of structural and functional changes that arise through interactions between intrinsic (genetic and epigenetic) factors and extrinsic influences in lifestyle and environment. The hope for a medicine of ageing linked to the biology of ageing now seems closer to realisation, at least in the USA.¹⁰ The UK still needs to foster a critical mass of clinically aware biologists and biologically literate clinicians.¹¹

In some respects, geriatricians have been closer to the world of social and behavioural gerontology than to biology. An appreciation of generation gaps in culture and education, and the risk of these being misinterpreted as ageing,¹² is important in clinical practice. Awareness of age-associated perceptual changes and their relevance to the design of non-disabling environments is crucial at clinical and social policy levels.¹³ Social and behavioural approaches have had particular influence on the development of humane approaches to challenging behaviour by older people affected by dementia or delirium.¹⁴ Much of this behaviour can be managed through understanding its origin in patients misinterpreting their environment through lack of the coherent context provided by continuous memory.

Among other established disciplines of medical research, epidemiology has been particularly conspicuous in its contribution to the medicine of ageing. With care of older people divided between a range of different specialties and departments a defined population approach is essential to reliable evaluation and comparison of services. Similarly, in order to ensure relevance for their results, randomised controlled trials should be embedded in epidemiologically defined populations. Identification of risk factors and their implications for both treatment and prevention has been valuable, notable in the issue of falls and fractures.¹⁵ Epidemiology has also demonstrated that increasing longevity is not necessarily associated with increased disability.¹⁶ 'Live longer die faster' is a realistic aim for individuals and populations.¹⁷

The proper purpose of the NHS is to enable individuals to attain their personally defined life goals. Recent governments and their agencies have attempted to distort it into a branch of public health, where all that matters is what happens on average. Biologically and behaviourally, individuals age at different rates and older people are more heterogeneous than other age groups. It is illogical as well as immoral to categorise individuals on the basis of their ages. Biological, social and epidemiological gerontology can all contribute to the crucial task of finding an alternative to age as a marker of an individual's functional reserves when facing the challenges of illness and treatment. Current research into biomarkers as indicators of basic cellular and metabolic senescence, such as telomere length¹⁸ or cytokine levels,¹⁹ are paralleled by clinical and epidemiological efforts to define and measure 'frailty' as an observational indicator of functional reserve.²⁰

Clinical trials

Exclusion of older people, and especially frail older people, from clinical trials of treatments that are likely to be used on

older and frailer people has long been recognised and deplored. At one time this was justified by an assumption that older people were less likely to be able to benefit from treatments. The opposite is now known to be truer. Because most treatments work by reducing the probability of an undesirable outcome, the absolute gain in terms of numbers of patients benefiting per thousand treated will rise with age because background risk also rises with age. However, with treatments that are physically challenging this effect can be opposed by an age-associated reduction in adaptability raising the risk of ill effects. In their interaction, these trends call for individualised treatment for older people, but the data necessary may not emerge from conventionally designed clinical trials and systematic reviews.²⁰ In general, treatments relevant to older people have become less challenging over recent decades with safer anaesthetics, less invasive surgery, and more skilled prescribing of drugs.

Evaluation of rehabilitation commonly faces the ‘black box problem’ of distinguishing irrelevant from relevant components that may interact in complex ways. But specific techniques of geriatric rehabilitation have also received less attention than they deserve. This has partly been due to physiotherapy lingering longer than other professions in an enthrallment to theory-based ‘schools’. Clinical trials of (literally) hands-on treatments can be complicated by placebo effects and the impossibility of conventional double-blinding, but these challenges can be overcome by an impressive control ‘treatment’ and the use of independent assessors. Systematic reviews with meta-analysis can be difficult because of heterogeneity of trial design but progress is being made.²²

National policy

Ageist prejudice is deeply engrained in British society and since the oil crisis of the 1970s the deeds, as distinct from the rhetoric, of successive UK governments have reflected a view of older people and their healthcare primarily as an economic burden. Non-individualised quality adjusted life years inevitably discriminate against older people²³; while justifiable in some public health contexts their current use by the National Institute for Health and Clinical Excellence (NICE) to assess treatment outcomes in the health service is inappropriate and politically disingenuous. Some would also say unethical, but middle class ethicists can always be found who will devise moral justification for not doing something that might increase income tax. Geriatricians have long accepted that one of their chief duties is advocacy, and in the present political climate this is more important than ever. To be effective, advocacy has to be rational, realistic, and comprehensive, and the rising generation of geriatricians will need to add literacy in economics and pension policy

to their traditional broad expertise in clinical and preventive medicine.

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