In pursuit of patient care, research and health policy: today's research is tomorrow's practice and policy

Judith A Whitworth

Like most children, I had heroes, and the heroes I chose have in certain ways shaped my life. The first was fighter pilot Douglas Bader, who lost both legs in an aircraft crash but talked his way back into the Royal Air Force and became one of its most decorated pilots in World War II. I knew his life story by heart because, as a small child, I had polio and spent much of my childhood unable to walk, so I read instead. My second hero was cricketer Don Bradman. Being flat on my back in splints over a period of years, I spent a lot of time listening to the wireless and grew very fond of cricket. Bradman retired very shortly after I was born, so I never saw him play. What was important to me was that not only was Bradman the best, he was Australian. My other great hero just happened to be a woman, the scientist Marie Curie. But she was a hero not because she was a woman, wife and mother, but rather, because she triumphed over poverty and adversity to become one of the world's greatest scientists. So, from quite early on, I was fiercely Australian, fascinated by the notion of research, determined that handicap was a challenge rather than an impediment, and very familiar with the inside of hospitals.

And so I studied medicine at the University of Melbourne (Box 1).

1 Graduation, University of Melbourne, 1967

Hospitals

My residency at the Royal Melbourne Hospital (RMH) shaped the rest of my career. I worked at the RMH with some outstanding physicians, including Jock Frew, Ken Fairley, Tom Hurley and Margaret Henderson. But the most important influence was a term spent in the Clinical Research Unit affiliated with the Walter and Eliza Hall Institute of Medical Research and headed by Ian Mackay, who encouraged me to think about research.

At this time (1968–1971), the RMH Residency (the living quarters for resident medical officers) was a lot of fun and the work ethic and sense of responsibility for patients extraordinarily strong. If you had a problem, you simply rang the Residency and a resident would come and help, whether he or she was on duty or not. None of us ever had enough sleep. Life outside work and study presumably went on (I do remember watching the landing on the moon), but those junior years were when I most enjoyed medicine.

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My membership exam for the Royal Australasian College of Physicians (RACP) was held in Adelaide. At the party afterwards, Jim Lawrence suggested that, as I was thinking of becoming a nephrologist, I spend a year at the Queen Elizabeth Hospital (QEH), where he was Head of the Renal Unit (Box 2). At the time, the QEH had the only renal unit in Adelaide, and we looked after all nephrology patients in South Australia and the Northern Territory, as well as Broken Hill in New South Wales. I have a vivid memory of a young man with post-obstructive polyuria who passed 50 L of urine daily (thought to be a world record!) and our efforts to keep him hydrated and in electrolyte balance. He made the sleepless nights worthwhile.

Thanks to an RACP scholarship, I then spent a year in France at Hôpital Tenon from 1973 to 1974 (Box 3) working with Liliane Morel-Maroger, a renal immunopathologist. While there, I became enamoured of French language and culture, particularly cinema and opera — Placido Domingo was the tenor-in-residence at the Paris Opera that year. My stay in Paris was followed by a year

2 Queen Elizabeth Hospital Renal Unit, Adelaide, 1972

Back row (L–R): Graham Rowe, David Miller, Napier Thomson, Bim Biswas. Front row (L–R): Judith Whitworth, Jim Lawrence, Geoff Burfield. ◆

in London at Guy's Hospital (Box 4) with Stewart Cameron, again working in immunopathology. I took full advantage of the theatre, ballet and opera, Glyndebourne, the Chelsea Flower Show and the tennis at Wimbledon, and came back to Australia with great reluctance.

By then, in the mid 70s, feeling I was well trained in renal medicine but less so in medical science, I decided to pursue a doctorate at the Howard Florey Institute (directly opposite the RMH), opting to work on blood pressure — particularly on mechanisms of adrenocorticotropic hormone (ACTH) hypertension in sheep. My PhD supervisor John Coghlan was a splendid mentor who encouraged me to become involved with the Australian Society for Medical Research. Eventually I became the Society's first woman president. It was the beginning of a lifelong interest in research policy.

A couple of years later, I was back at the RMH as an outpatient physician (with Ken Fairley) and nephrologist (with Priscilla Kincaid-Smith).[1] The unit Priscilla had built from scratch was rightly regarded as a leading international centre, with a huge and very varied clinical load. I continued to do research at the Florey, while at the same time developing a rat model of ACTH hypertension at the hospital and, more importantly, beginning work on glucocorticoid hypertension in humans.

Over the years, we were able to disprove the perceived wisdom that glucocorticoids raise blood pressure through salt and water retention and to show that the mechanism actually relates to nitric oxide deficiency and excess reactive oxygen species. This had major implications for the design of synthetic glucocorticoids for clinical practice. Further, we assembled evidence implicating glucocorticoid abnormalities in some forms of essential and renal hypertension, suggesting a broader role for steroids in raising blood pressure. This work was recognised by the Smith Kline & French Award of the International Society of Hypertension in 1984.

I rarely found my gender to be a problem in medicine. My peers judged people on whether they were good doctors rather than other criteria, and I was lucky in that my own professional colleagues tended to be generous about giving women a go. One example stands out. When I was pregnant with my daughter Emma (now making movies in Hollywood), the Medical Officers Award did not contain any provision for maternity leave and so all I had was a couple of weeks of annual leave. This was balanced by the fact that my male colleagues at the RMH Renal Unit were all very supportive, both during and after my pregnancy. When I returned as a new mother, they took turns, over a period of 6 months or more, to do all my night and weekend work.

3 Hôpital Tenon, Paris, 1973

One highlight of these years was a short sabbatical at the Medical Research Council Blood Pressure Unit at the Western Infirmary in Glasgow. It was a highly productive few months that set up a number of lifelong friendships and collaborations. I did physiological studies on glucocorticoid effects in normal subjects (or more correctly, staff of the Unit). This involved putting in cannulae and starting infusions around midnight. I used to rug up against the Glasgow sleet and snow and follow the blood stains into Casualty, the rest of the place presumably being closed for security reasons. After putting in the drips, I would doze for a few hours on a trolley until the experiment proper began, around 4:00 am.

The Scots were enormously hospitable and I managed to road-test a variety of single malts. The only downside was the rugby. Watching Scotland v Ireland in January at Murrayfield, with all the excitement of kicking for touch in the mud, made me wish I was back in sunny Australia watching Mark Ella. My view of the dismal game was shared by my host, who kept standing up and yelling futilely at both sides to "run the ball".

University of New South Wales

In 1991, I joined the University of NSW (UNSW) as Professor of Medicine at St George Hospital in Sydney. It turned out that I was

4 Guy's Hospital, London, 1975

the first woman to be appointed Head of a department of medicine in Australia. I started out thinking that the main task was to recruit good people, and finished by thinking it was almost the *only* task — if you get that right, other things follow. These were very enjoyable years in which we worked to promote a research culture in the hospital. One particular highlight was the establishment of a successful renal transplant program.

At this time, again with strong support from my male colleagues at UNSW and St George Hospital, I became the first woman to chair the Medical Research Committee of the National Health and Medical Research Council (NHMRC). I enjoyed enormously the chance to help shape the nature and extent of the national research agenda and my first glimpses of how policies were formulated in practice. Funding for research was increased and the biomedical and public health efforts were reintegrated. We instituted a variety of changes to better match research funding schemes to the overall national research strategy. A particular highlight was the development of partnerships with other funding bodies, notably Juvenile Diabetes International and the Wellcome Trust.

Australians gained about 20 years' life expectancy in the course of the 20th century, and about half of that is estimated to be a consequence of research.[2] Research is absolutely fundamental to health care and, in an ideal world, would be fundamental to health policy.

Department of Health

While chairing the Medical Research Committee of the NHMRC (1994–1997), I spent a considerable amount of time in Canberra, and when I stepped down from that position I was approached about another role, as Commonwealth Chief Medical Officer (CMO). I became the first woman to be CMO. In the event, I very much enjoyed the job and enjoyed living in Canberra. The Australian Capital Territory combines all the advantages of city and bush life and is very different from the mythical location regularly featured in the media in the eastern states.

Having signed the "Official Secrets Act", I am not at liberty to reveal the really interesting bits about my time in the Department of Health, but I did learn very quickly to admire the professionalism and work ethic of the Australian Public Service. In all my jobs I have worked with smart people, and certainly doctors work hard, but the quality that sets a good bureaucrat apart is not just intelligence and hard work, but also excellent judgement.

Certainly, in stark contrast to the perceived wisdom outside Canberra, the work ethic was strong and the workload immense. One morning early on in my term, the Department of Health Secretary, Andrew Podger, drove me to our Senate Estimates hearings. On the way I chatted about my plans for the afternoon. He seemed to think my afternoon would be spent in Estimates, so I showed him my program where it said "Senate Estimates 9–11". He smiled slightly and explained that the finishing time was 11:00 pm, not am!

The particular barrow I chose to push during my term as CMO was evidence-informed policy, a counterpoint for the bureaucratic interest in evidence-based medicine.

The work was extremely varied. As CMO I had executive responsibility for two divisions (the Office of NHMRC and the Public Health Division) and for all medical professional matters. I was one of the three members of the Vos Committee, commissioned by the Treasurer to determine how the Goods and Services Tax (GST) would apply to health, education, religion and, surprisingly, used cars. I was later publicly reviled for determining that tampons were a sanitary product (thus attracting the GST), not a medical device, and people doing feminist studies still send me angry letters. I chaired a committee for Defence and Veterans' Affairs on the health effects of the deseal/reseal program in F-111 aircraft, which meant climbing over one at the Royal Australian Air Force (RAAF) base at Amberley to see for myself and left me with a great respect for the RAAF. I chaired an interdepartmental committee on quarantine and another on biotechnology. A tangible outcome from the former was the blending of two forms (customs and immigration) into one, to the delight of many arriving travellers. We promoted a reform agenda at the World Health Assembly and contributed to major policy initiatives relating to the National Health Priorities, quality and safety, and medical research. The theme for me was promoting consistent use of research and evidence to assist policy development.

The Pharmaceutical Benefits Advisory Committee had long been regarded as a world leader in the use of evidence for rational prescribing, and the Medical Services Advisory Committee was set up to introduce a similar evidence base into provision of medical services. However, it was less clear that the same rigour was being applied to developing new policies in other areas. Health policy questions are influenced by the political context, particularly health system financing, local culture, community values, and history and geography. Realistically, the best we can hope for is that policy is informed by research and evidence. Policymakers often look for evidence to justify policies developed on other grounds, rather than using evidence to develop policy. As one former state Chief Health Officer put it, "we want evidence-informed policy, but what politicians want is policy-informed evidence".

Some years ago, the satirical magazine *Punch* (now sadly extinct) ran a competition for the most misleading advice to foreigners. A number of entries, as you might expect, gave misleading advice on how to behave at the cricket, most of which unhappily has come to pass, but the winning entry said "Try the famous echo in the British Museum reading room". Misleading advice has even more serious consequences in health care and health policy. An example is the advice to parents, from Dr Spock and others, to sleep babies on their stomachs, on the basis of zero evidence, when this in fact increased sudden infant death syndrome.

Not all health policy development requires systematic review of the available evidence: for example, equity of access and universal health coverage are self-evidently desirable policies. The difficulty, of course, is that we all want access, quality and affordability. In practice, we can pick any two.

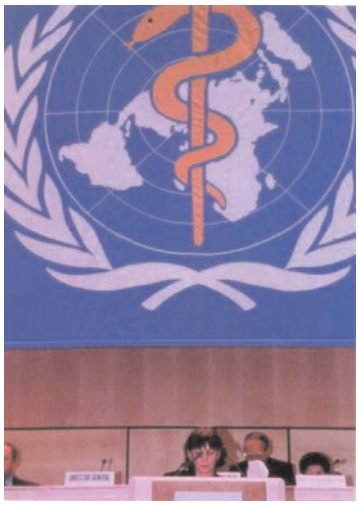
John Curtin School of Medical Research (JCSMR)

I was very ambivalent about leaving the Department of Health, having thoroughly enjoyed my time there, but, given my background and interests, the Directorship of JCSMR was an offer I could not refuse. It had an outstanding reputation for medical science.

The old JCSMR building was very extensive. I spent my first week wandering around meeting people and then discovered I had entirely missed one wing. Armed with directions, I made my way into the previously undiscovered lab and held out my hand to a woman in a white coat, saying "Hello, Judith Whitworth". "No", she said, and went back to work.

At my interview, I was clear that the School needed to join the national competitive grant scheme, to engage further with the Australian medical research community, to design and build contemporary laboratories, to re-engage with clinicians, and to attract a medical school to Canberra. Before I took up the job as JCSMR's first female director, I was given a copy of Machiavelli's *The prince*. His 15th century view may be politically incorrect, but it contains insights that are as true now as then. The one maxim that stood out for me was that, in trying to effect change, you will have lukewarm support, at best, from those who will benefit and vigorous opposition from those who will not. Another aphorism I took to heart was variously ascribed to Edith Cavell and Harry Truman: you can do anything as long as you don't care who gets the credit. In the event, these things have come to pass and, more importantly, the School has continued to make cutting-edge and important discoveries.

5 Addressing the World Health Assembly, Geneva, 1998



International Health

During my stint as CMO in the Department of Health, one of my tasks was to take the Australian delegation to the World Health Assembly in Geneva (Box 5).

On the first occasion, I had only recently joined the Department of Health and was still very "wet behind the ears". Happily, the team (from Health, AusAID and Foreign Affairs) were all highly skilled, and my main tasks were sitting behind the flag, making interventions from prepared briefs and eating and drinking for Australia.

At one point in the debate, a question came up about quarantine. I was hazy on our position and so, in the best bureaucratic tradition, I tried to pass the buck, asking our people who was in charge of human quarantine. "You are!", they said in unison. Weakly I asked what it meant and one junior officer helped me out, explaining that I had the power to close the borders but I couldn't pat the sniffer dogs, because they belonged to another department.

We used the vehicle of the annual Australian speech to the World Health Assembly to advocate for research on health practice and health policy. At that time, despite some very notable World Health Organization research successes, there was little evidence of a strong research culture within the organisation, or of a valuing of research by member states at the Assembly.

Perhaps as a consequence of these interventions, I was invited to chair a consultation on the role of the WHO's Advisory Committee on Health Research (ACHR) and then to join the Committee. I am now in my second term as Chair, the first woman and first Australian to hold that position. The role of the Committee is to provide the Director-General with advice in relation to research. The ACHR is committed to a leadership role for WHO in the use of evidence from research to inform decisions about prevention, practice or policy in health and to bridge the "know–do gap" (ie, turn knowledge into action).

The research culture in the WHO has changed substantially in the past decade. Established programs such as TDR (Tropical Diseases Research) and HRP (the Human Reproduction Programme) continue to perform strongly, but strength has also been built in health systems research (Alliance for Health Policy and Systems Research). One very promising initiative is EVIPNet (the Evidence-Informed Policy Network), which seeks to promote the systematic use of health research evidence in policy making, focusing on low- and middle-income countries and promoting partnerships at country level between researchers, policymakers and civil society. Also in the present decade, WHO ethics and guidelines review committees have been instituted and a clinical trials registry established. A code of conduct for research is being developed. Most excitingly, WHO is developing a research strategy that looks both to position the organisation as a standard setter and to use its stewardship role and convening power to promote and foster research relevant to the needs of low- and middle-income countries.

Currently, I also co-chair the WHO/International Society of Hypertension Liaison Committee. The 1999 guidelines on hypertension[3] have been cited over 2000 times, and the 2003 statement updating those guidelines in key areas[4] has been cited over 400 times.

Conclusion

My life in medicine has been fortunate. I have moved from a focus on individual patients to populations and policy, and from medical research to research for health. Medicine has been good to me. And my philosophy: today's research is tomorrow's prevention, practice and policy.

Competing interests

None identified.

References

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