

LECTURE IN HONOUR

Dietitians Association of Australia 32nd national conference: Lecture in honour of Nancy Hitchcock

In search of evidence: A career in dietetic research

The DAA Lecture in Honour was established to honour those dietitians who have made a significant contribution to our profession. In turn, it is a great personal honour to be invited to deliver this lecture that honours the career of Nancy Hitchcock—one of our dietetic pioneers.

I think of Nancy primarily as a researcher and one of Australia's first nutritional epidemiologists. However, her career was much more varied than the title of this lecture suggests. My connection with Nancy began towards the end of her professional career; however, I was extremely fortunate in that she had written an entertaining memoir,¹ which gave me insight into the earlier stages of her career, and on which I have drawn heavily.

Other lectures in honour have described the previous recipients of this honour as our 'tribal elders' and 'ancestors' but I prefer to describe them as pioneers as I believe the definition of a pioneer best describes their early forays in the profession.

I found several definitions of a pioneer, the first being:

One who ventures into unknown or unclaimed territory to settle. (Source: <http://www.thefreedictionary.com/pioneer>)

Although her career certainly took her to exotic destinations and she experienced living conditions reminiscent of the conditions endured by the early settlers, I think this second definition of a pioneer is more appropriate to Nancy:

A person who is among the first to research and develop a new area of knowledge or activity. (Source: <http://www.oxforddictionaries.com/definition/english/pioneer>)

Certainly, several of the synonyms for pioneer—*trailblazer*, *pathfinder*, *innovator*, *founder*, *architect*, *experimenter*—describe Nancy and her contributions to our profession.

The early years

Nancy Eva Hitchcock (nee Kirk) was born and raised in Wagga Wagga where she excelled in high school, was dux of her school and came first in science. She went on to study science at the University of Sydney. Although Nancy had never been discouraged from studying science nor experienced discrimination in the classroom, there were few female role models in the teaching faculty, and there seemed to be an invisible door or wall that closed off certain types of science-based jobs to women. The prevailing view held by many at the time was that a university education was wasted

on a girl. This belief was fuelled in part by the fact that many female university graduates from all faculties married soon after graduation and, given in this pre-pill era that contraceptive practice and knowledge was generally poor, marriage was often soon followed by pregnancy and motherhood.

A serendipitous meeting with Nell Brian (later to become Nell Pain) in a biochemistry laboratory in the third year of her degree introduced Nancy to the possibility of a career in dietetics, which she eventually chose over pathology laboratory work for which many of the other female science graduates were destined. In 1951, Nancy was accepted to study dietetics at the Royal Newcastle Hospital, which was the only training school in NSW at the time.

In 1952, following graduation and after a short stint at Concord Repatriation General Hospital, Nancy accepted an appointment at Royal North Shore Hospital where she worked from 1952 to 1955 and gained both clinical and food service experience. In 1955, like many of the young dietitians of the time, she left for a working holiday in the United Kingdom. It is here where she had her first taste of research working for 12 months as the research dietitian in the metabolic unit of the Royal National Orthopaedic Hospital in Stanmore. In 1956, Nancy returned to Australia where she worked for a short time at the Royal North Shore Hospital in a food service role.

Unsettled and frustrated with the 'sameness' of her hospital position and the sense that there was a lot more 'out there' to see and do, Nancy applied in mid-1957 for a position in Canberra as a nutritionist at the Commonwealth Department of Health and was duly appointed as senior nutritionist commencing work in September of that year. It was here that Nancy truly came into her own in a position that offered her diversity and autonomy that was not available in traditional hospital roles. Her responsibilities were wide ranging and included

- Acting as consultant in nutrition matters to government departments and other institutions
- Assisting with preparation and collection of materials for the NHMRC (ad hoc) Nutrition Meetings
- Preparing nutrition education material
- Conducting nutrition research among groups of people in Australia and the Pacific Islands
- Editing the journal—*Food and Nutrition Notes and Reviews*

Nancy—The 'Architect'

I am going to take a chronological departure from Nancy's career to concentrate on her role as one of the architects of the journal that we now know as *Nutrition and Dietetics*, *Journal of the Dietitian's Association of Australia*. From 1957 to

1963 Nancy was editor of *Food and Nutrition Notes*, which was produced by the Commonwealth Department of Health, and this provided her with her first real experience of scientific writing and journal editing.

In the 1980s, the journal underwent a name change to the *Journal of Food & Nutrition* while still being published by the Department of Health. In 1985 the Department decided that it would cease publication of the journal and DAA accepted responsibility for the management, technical editing, publication and distribution of the journal. In 1986 volume 43 (two issues) of the journal was co-edited by Ruth English from the Nutrition Section of the Department of Health and the first DAA journal editor, Beverly Wood.

From 1990 to 1995 Nancy reprised her role as editor and under her guidance the journal underwent a number of subtle and significant changes to one which closely resembles the format of today's journal. Nancy credits the transformation of the journal as one of her greatest achievements and contributions to the profession. We owe much to Nancy for the journal which today is Australia's leading peer-reviewed journal in its field.

Nancy the 'Trailblazer'—Fieldwork research

Within weeks of starting her position with the Department of Health Nancy was packing her bags to conduct a nutrition survey in Nauru. This was at a time when methodology of conducting nutrition surveys anywhere was in its infancy. Nancy's task was to visit, interview and observe 32 families (especially women) in their homes, which amounted to 10% of the indigenous households. This trip, the first of Nancy's fieldwork experiences, was made by ship and lasted for 10 weeks.

Some years later in 1962, Nancy accompanied Dr Eden Hipsley, Head of the Department of Health's Nutrition Section to New Guinea, to undertake an extensive (5-month) survey. This was to be a descriptive study, as quantitative as possible, of the energy expenditure and intake of two groups of people living in coastal and mountain locations. Basically, Nancy's role was to observe and document all aspects of the everyday lives of these groups, not only what they ate and grew in their gardens but also how they prepared their gardens, how they planted, how they mended their fences and houses, what they did with their days and the time they spent in performing the activities and tasks of their everyday lives.

Nancy—The 'Innovator'

One of the important measurements to be attempted was a 24-hour breast milk intake of the infants and it is here that my research interests first intersected with Nancy's AND where we meet Nancy the innovator. The measurement of breast milk was to prove to be a difficult task as babies in New Guinea were fed on demand and suckled at any time of the day and night. This was before the time of labelled water techniques and required the infant to be weighed before and

after feeding. It was impractical to lug scales all over the highlands and to expect illiterate mothers to use a scale. Therefore, the mothers had to come to her and were accommodated in a hut near Nancy's hut.

It is here where Nancy came up with an innovative alarm system, which she described in a 'retrospective' that she wrote for the journal.²

A thin rope was stretched from the mother's house (where the scales were located) across to my own hut, through the grass wall and attached to a set mousetrap, to the part that usually holds the cheese. To the U-shaped arm of the trap, a string was attached connecting to an empty can (with lid) in which a few stones were put (for weight and sound). This trap was located on a shelf above my bed, next to which stood an empty petrol drum (a bedside table). The theory was that when a mother wished to breastfeed her infant, she pulled the rope, which set off the trap, which hurled the can off the shelf and onto the petrol drum, the sound of which would cause me to leap from my bed and race to the mother's hut and proceed to weigh the infant before and after the feed. In fact it worked and many, many times a night if more than one mother-infant pair was in the hut. (p. 107)

Fieldwork at this time was performed without the aid of the accoutrements of research that we take for granted today. When Nancy undertook her field work in Nauru and NG, at a time when there were no computers—let alone computerised dietary assessment programmes—not even small battery-operated calculators. Initial field calculations of dietary intake were made by hand from food tables, perhaps with the aid of a slide rule or a manual calculator. Calculations had to be checked with an electric calculator on return to Canberra. Analysis of a food record could take days and not the minutes that it takes today.

Despite what many of us would consider to be deprivations, Nancy writes very fondly of her time spent in New Guinea. She walked, talked, climbed mountains, sailed in outriggers, went fishing and attended weddings with the local people and felt privileged to have been allowed to be part of their lives for a short time. Along the way Nancy met expatriates, some of whom might have stepped from the pages of a Somerset Maugham novel. She also met one young male technical college teacher, Mervyn Hitchcock, who was to become her husband in 1963 after a long distance, and somewhat whirlwind, courtship.

Nancy returned to Port Moresby with Mervyn where she worked on a 6-month contract tidying up the previous year's project and studying the nutrition of the people of the migrant or squatter settlements that were springing up on the town's fringe. Nancy and Mervyn and their growing family spent from 1962 to 1967 in New Guinea where Nancy worked first as a research nutritionist and later as a biochemist in a hospital in Lae. They then came to Western Australia and Perth which was Mervyn's home town. Over the next 10 years, Nancy had a variety of jobs and experiences including working as a part-time clinical dietitian. Although she had not worked as a clinical dietitian for 17

years, Nancy could not see that much had changed since her time at the Royal North Shore Hospital and had restless feet.

Nancy—The nutritional epidemiologist

It is in her role as a nutritional epidemiologist that I consider Nancy to have made her biggest contribution to our profession and in particular her contribution to the evidence based of my field of research, infant feeding practices. It was in Perth where she met Dr Michael Gracey, a paediatric gastroenterologist who was the newly appointed head of the Channel 7 Telethon funded Princess Margaret Children's Medical Research Foundation. Michael had a particular interest in the health and nutrition of Aboriginal children and he offered Nancy the kind of nutrition work, albeit unpaid, that she liked. The first project involved Aboriginal people in the southwest of WA and this was the start of a highly productive research collaboration that spanned many years until Nancy's retirement. Results of this work were published in the *Medical Journal of Australia*,³ and are among the first on the topic of aboriginal malnutrition.

Around the same time Nancy became involved in the Busselton Population studies which began in 1966. By the mid-70s, the health of the community had been documented in more than 50 scientific publications, none of which were about nutrition. This deficiency was rectified when, between 1975 and 1979, Nancy conducted several nutrition studies on Busselton inhabitants that generated a number of peer-reviewed publications.^{4,5}

In 1976, Nancy received a Telethon-supported grant to work part time as a research nutritionist at Princess Margaret Children's Medical Research Foundation located in the grounds of Princess Margaret Hospital (PMH) in Perth where she worked until her retirement in 1989. It was in 1979 as a student dietitian when I first came into personal contact with Nancy. A highlight of the PMH dietetic placement was a day spent shadowing the research dietitian—Nancy Hitchcock—who we knew only by reputation.

At this time, Nancy and Michael had just commenced a longitudinal study of growth and feeding of healthy infants from birth to 5 years of age, which involved 200 infants randomly selected from the WA birth records of 1979. I observed Nancy weighing and measuring some of the first participants of the study and perhaps it is my imagination but I even recall having the chance to weigh and measure some of the infants. Although I am sure that these participants were remeasured for the purposes of the study records.

Breastfeeding was making a big comeback in the 1970s and it was particularly high in WA and Australia generally. Nancy's work was ground breaking being among the first internationally to show the differences in the growth of breastfed and formula fed infants and was part of the evidence that informed the World Health Organization (WHO) Multicentre Growth Study and the subsequent WHO growth standards. The results of this study were received with great interest and several papers were published in prestigious journals such as the *Lancet*⁶ and *Acta Paediatrica Scandi-*

navica.⁷ Nancy was able to use the prospective study as a master of science degree project, and in 1983 she was awarded her MSc which, knowing the quality of her work, was no doubt worthy of a PhD.

To see if the results of this study were typical of the community at large, at least in the first year of life, Nancy later collaborated on a study with Johanna Coy from Tasmania collecting and collating data on 900 West Australian and 450 Tasmanian infants who attended Child Health Centres.⁸ The numbers were large enough to look at infant feeding and growth in relation to social group⁹ and to document the growth and catch-up growth of infants of low birth weight.¹⁰ The latter being topical given the relationship of accelerated growth in infancy and later obesity in childhood.

Nancy continued to research the growth of children until her retirement in 1989. Little did I realise at the time that I first met Nancy and observed her weighing and measuring those infants that I would go on to conduct a prospective infant feeding study in 1992 which formed the basis of my PhD and the foundations of my research career. My thesis literature review and discussion chapters were liberally peppered with references to Nancy's studies and to a series of papers that Nancy wrote on the history of infant feeding to celebrate Australia's bicentenary in 1988.¹¹⁻¹³ Nancy's research has informed my research and that of countless other national and international researchers in the field.

Although the equipment and resources we have at our disposal to conduct dietetic research may have changed, I think the attributes required of a successful research dietitian, and which Nancy clearly demonstrated throughout her career, remain the same. These are an enquiring mind, critical thinking, a 'can do' attitude, preparedness to take risks, problem-solving skills, meticulous attention to detail and an ability to interpret and communicate the relevance of findings to a variety of audiences.

Revisiting the careers and achievements of our pioneers affords us the opportunity to acknowledge their contributions, to see just how far the dietetic profession in Australia has come in the last 80 years and to reflect on how our personal contributions benchmark against those of our pioneers. I am not sure how well my research contributions benchmark against those of Nancy's but I know that her research has stood the test of time and certainly benchmarks well against the best of my contemporaries.

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Conflict of interest

The author has no conflict of interest to declare.

Authorship

Jane Scott is the sole author of the paper.

References

- 1 Hitchcock N. *Legs like a Canary: a Memoir*. Garran: ACT, 2004.
- 2 Hitchcock NE. Retrospective. In the field—earlier days, earlier ways. *Austr J Nutr Diet* 1995; **52**: 106–7.
- 3 Hitchcock NE, Gracey M. Dietary patterns in a rural aboriginal community in south-west Australia. *Med J Aust* 1975; **2**: 12–16.
- 4 Hitchcock NE, Gracey M. Nutrient consumption patterns of families in Busselton, Western Australia. *Med J Aust* 1978; **1**: 359–62.
- 5 Gracey M, Hitchcock NE, Wearne KL, Garcia-Webb P, Lewis R. The 1977 Busselton children's survey. *Med J Aust* 1979; **2**: 265–67.
- 6 Hitchcock NE, Gracey M, Owles EN. Growth of healthy breast-fed infants in the first six months. *Lancet* 1981; **2**: 64–65.
- 7 Hitchcock N, Gracey M, Gilmour A. The growth of breastfed and artificially fed infants from birth to twelve months. *Acta Paediatr Scan* 1985; **74**: 240–45.
- 8 Hitchcock NE, Coy JF. Infant-feeding practices in Western Australia and Tasmania: a joint survey, 1984–1985. *Med J Aust* 1988; **148**: 114–17.
- 9 Hitchcock NE, Coy JF. The growth of healthy Australian infants in relation to infant feeding and social group. *Med J Aust* 1989; **150**: 306–8, 310–301.
- 10 Hitchcock NE, Coy JF. Growth and catch-up growth of Australian infants of low birthweight. *Aust Paediatr J* 1989; **25**: 134–37.
- 11 Hitchcock NE. Infant feeding in Australia: an historical perspective. Part 1: 1788–1900. *Austr J Nutr Diet* 1989; **46**: 62–66.
- 12 Hitchcock NE. Infant feeding in Australia: an historical perspective. Part 2: 1900–1988. *Austr J Nutr Diet* 1989; **46**: 102–8.
- 13 Hitchcock NE. Infant feeding in Australia: an historical perspective. Part 3: Australian aborigines and recent migrants. *Austr J Nutr Diet* 1989; **46**: 108–11.