2016 William Redfern Oration

What Would Redfern Think?

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It is 215 years since William Redfern first set foot on this land. As Greg mentioned, it is now 25 years since the Faculty of Public Health Medicine was established at the RACP ASM in Perth.

Redfern has been called the first Australian public health physician. He understood the effect of the environment on health. He had a social conscience. He took an active role in addressing inequalities in health, caring not only for his individual patients but also for communities of underprivileged people. He rebelled against injustice and he knew how to use his position to effect change.

In this oration I will consider the past and potential future development of public health medicine as a discipline in Australia, and discuss how many of the characteristics of Redfern's life have underpinned the practice of public health medicine since that time.

I will also discuss an area with which I have been closely involved. Medical Education. Not something that is traditionally considered as Public Health, but if we take the Faculty definition of public health medicine as a "medical specialty primarily concerned with the health and care of populations", it is easy to see how medical education is included. I will discuss the role of medical education in addressing the inequality in access to health services for rural and regional Australians.

William Redfern had passed the exams of the Company of Surgeons of London in 1797, at the age of 19. Interestingly, although the Royal College of Physicians was founded in 1518, the Royal College of Surgeons was not formed until 1800. In Redfern's time, the surgeons had only recently separated from the barbers and formed the Company of Surgeons. They had acquired a hall located near Newgate Gaol so that the students could dissect the bodies of the executed prisoners.

Redfern became a surgeon's mate in the Royal Navy in 1797 and that year he participated in the Mutiny of the Nore, which is at the mouth of the Thames estuary. The mutiny was precipitated by poor pay, overcrowding, lack of hygiene, and spread of disease among the sailors. His part in it was that he had advised the leaders of the mutiny "to be more united among themselves". For that role he was sentenced to death. Twenty-nine mutineers were hanged, but after 4 years in prison, Redfern's sentence was commuted on account of his youth, and he was transported for life to Australia in 1801. During the voyage he assisted the ship's surgeon. On arrival in Sydney, he was sent to Norfolk Island, where he again worked as assistant surgeon. His reputation as a doctor grew, and he was emancipated and pardoned.

Arriving in Sydney in 1808 as a free man, he was appointed as Assistant Surgeon. He spent mornings in the original hospital at Dawes Point and conducted a private practice in the afternoons. When the new hospital that became Sydney Hospital opened, he was in charge.

Conditions on the convict ships deteriorated. Arthur Phillip had cared for the convicts in the First Fleet, and the death rate was low. (1:17) But in the Second Fleet the mortality rate reached 25%. In 1814, after 88 deaths from typhus, dysentery and scurvy on 3 convict ships, Governor Macquarie

asked Redfern to review the causes of the diseases and recommend preventive measures. He wrote a detailed report, which, as Sir Edward Ford, then Dean of the Faculty of Medicine at the University of Sydney, wrote in 1953, showed that "he had a greater mastery of English than the majority of medical graduates today." His recommendations focused on five areas – suitable clothing, a good diet, access to fresh air, cleanliness and appropriate medical assistance.

Redfern's recommendations were implemented, and led to such improvements that transportation was no longer considered "an object of dread", but rather a reason for convicts to rejoice that they were going to see the world. But on the free immigrant ships, conditions were poor, and the death rate from dysentery and other communicable diseases again rose. TB and sexually transmitted diseases were common. Childhood infections followed, with outbreaks of measles, whooping cough, and diphtheria contributing to the high infant mortality. The only available vaccine was for smallpox, and Redfern is recorded in the Sydney Gazette as requesting "those desirous of availing themselves of the incalculable advantages which the Cow Pock holds out to their offspring" to attend the hospital between 7 and 9 am any morning. Quarantine of ships was the only other intervention available at that time.

Over the next 100 plus years, public health legislation and services continued to develop. Medical Officers of Health were appointed. The School of Public Health and Tropical Medicine opened at the University of Sydney in 1930, and awarded the Diploma of Public Health. The doctors who completed the DPH usually came from a background of general practice and then worked in state health departments. The major focus was on environmental health and communicable disease control.

The Diploma of Public Health was not the only pathway through which doctors came to public health medicine

As a medical student, 50 years ago, I remember little of what we were taught in Public Health lectures. I think we learned how to dig a deep pit latrine, but that was certainly not an inspiration for a future career for a young medical student. At that time, I would never have imagined the directions in which my medical career would take me.

For me, and many of my contemporaries whose career moved into public health, it was clinical work in Papua New Guinea that led us to see the importance of a population-based approach. As a medical registrar on rotation to Port Moresby from Royal Prince Alfred Hospital, Ian Maddocks, then Dean of the Papuan Medical College, taught me to think about the importance of the patients' beliefs and their environment in determining their management and the likely outcome of their clinical care. I learned that the country's health problems were not going to be solved solely by doctors caring for individuals, and I learned to think about the economics of health, practising in an area where the health budget of the entire country was less than that of the hospital in which I worked in Sydney.

Ruthven Blackburn, Professor of Medicine at the University of Sydney and senior physician at Royal Prince Alfred Hospital, who died last month at the age of 102, was not a public health physician. But in the late 1960s he was concerned that a tertiary referral hospital in what at that time was a very underprivileged environment, should do more to improve the health of the residents of its local catchment area. Several years of discussions with local GPs, AMA, local and state governments led

to the development of community health services in Glebe and Newtown. This development preceded, and to some extent influenced, the Whitlam Government's Community Health Program. I returned from England to be involved in this development from the beginning. Andrew Harper, who is in the audience and had completed a Doctorate in Public Health at Harvard, introduced me to the concept of public health as a concern for a defined population – defining the characteristics and health problems of that community, identifying gaps in the services to address those problems and then developing those services. We had the advantage that being part of a large teaching hospital gave us access to specialists and integrated care that was not available to other community health services. So in addition to the full range of community-based allied health and mental health professionals working closely with local GPs, we were able to develop community-based services such as a diabetic clinic and an ante-natal clinic for pregnant teenagers. We were also able to develop services that were predominantly hospital-based, but had an integrated community outreach component, including services for alcohol and other drug problems, health promotion, palliative care and geriatrics.

We taught medical students in the community, in multidisciplinary teams, before medical schools had departments of general practice, and we gave them projects that linked the clinical care provided by GPs and specialists with the epidemiology and preventive aspects of specific diseases.

It was a time when Royal Prince Alfred Hospital registrars would ask me how to get involved in the type of work I was doing – to which there was no simple answer. The situation was complicated by terminology. Community Medicine became a fashionable term. Was it Population Health or was it Medicine in the Community?

When the Commonwealth funded the first Chairs of Community Medicine for each medical school in 1974, some universities interpreted this as General Practice, while others saw them as having a population health focus.

I was fortunate to have the great experience of completing the Masters of Public Health at Harvard. There I learned the academic discipline that underpinned what we had been doing. I talked extensively about the role of doctors in public health with my classmate, Jonathan Mann, then the State epidemiologist in New Mexico, but later the founder of the World Health Organization's Global Program on AIDS, then the Centre for Health and Human Rights at Harvard, before he was tragically killed in the Swiss Air crash of 1998. In the United States, the specialty of public health medicine has been recognized by the Board of Preventive Medicine since 1948.

Australia was one of the last English –speaking countries to formalize training in public health medicine. Both the United Kingdom and New Zealand initially called the discipline Community Medicine. In the UK, the Faculty of Community Medicine, later the Faculty of Public Health Medicine and more recently of Public Health, was formed in 1972 as a joint faculty of the 3 RCPs of the UK. New Zealand approached the RACP about forming a Faculty in the late 1970s, but when this did not eventuate, the NZ College of Community Medicine was formed in 1980. Between 1992 and 2008, the specialty was represented in NZ by AFPHM, but in 2008, a separate NZ College of PHM was re-established.

We certainly did not rush into forming a Faculty. It was the result of 10 years of discussion and consideration. In 1981, a small group of doctors working in Community Medicine met to discuss

whether or not there was a need to formalize training, and if so, as a separate structure or within an existing College. We recognized that although the Masters of Public Health, as it had then become, provided the academic base of training, there was nothing similar to a registrar position in other medical specialties to assist in the translation of theory into practice.

A few of us in central Sydney created some training posts that covered both community medicine and medical administration. Greg Stewart was one of the first trainees in that program.

After a few years of meetings, discussion papers, workshops on training and communication with other colleges both in Australia and in other countries, we formed the Australian Association of Community Physicians in 1985, to provide a forum in which ideas could be considered and communicated with interested persons.

It was a time when considerable attention was paid to Public Health as part of the 1988 Australian Bicentennial Health Initiative. Professor Kerr White, a very well known American public health physician and academic, was asked to review the research and educational requirements for public health and tropical health. He lamented that medical schools in the United States had been deprived of a population-based perspective, largely because Schools of Public Health had been established separately from medical schools.

He argued that there is a continuum from the molecular and cellular, though the individual or patient to the group, population or community, and that this was not fully appreciated by health services, universities and researchers.

He concluded that Australia needed not just more "public health" workers, but more "population-based" thinking throughout the health services and sciences. While many of his recommendations were controversial, his report did lead to expansion of public health training across the country and additional funding for public health. The fact that HIV/AIDS was then emerging as a major public health problem further focused attention.

The Association of Community Physicians held annual conferences and state meetings. Did we really know who we represented? Was it a separate discipline or something that should be included in the training of all medical specialists? Did it relate primarily to general practice, medical administration or internal medicine? We commenced discussions with RACP and RACMA.

When then PRACP, Priscilla Kincaid-Smith, asked if we would like to become a Faculty, we agreed that was the best option. The RACP Council accepted the proposal to form a Faculty in 1988 but decided that the term Public Health Medicine was preferable to Community Medicine. At that time of course the structure of the RACP was very different from what it is today. Although paediatricians were trained by the RACP, there was no Paediatric and Child Health Division. The Australian College of Paediatrics did not amalgamate with RACP until 1998. There were no other Faculties and no Chapters.

The next 3 years were concerned with the development of by-laws, the training program, criteria for and process of Grandfathering, before the new Fellows were admitted at the ASM in Perth.

That was 25 years ago.

What has happened since?

Many doctors who considered themselves to be Community Physicians were working in areas that had a clinical role but also a substantial public health role. This led to the development of the Chapters in Addiction Medicine, Sexual Health Medicine and Community Child Health. We did not have the problems of the UK Faculty when it was formed, that clinicians were not accepted, primarily so as not to upset the existing clinical Colleges. Nevertheless, the relationship between clinical medicine and public health and of clinical practice as a component of training in public health medicine has remained a subject of discussion.

Since the Faculty was established, the term "public health physician" is now recognised, which it was not before. There is an accredited training program. Given all the requirements of AHPRA, the Australian Medical Council and other bodies that have been introduced since the Faculty was formed, it is conceivable that if the Faculty had not existed, there would be no doctors working in public health in Australia today.

There are 722 fellows of the Faculty, 601 in Australia, 82 in New Zealand, and 39 in other countries. Over the past 8 years 90 trainees have completed training in PHM, and there are currently 82 trainees in the training program. Quite a large number for the Faculty, yet only 1.2% of the total number of the 7015 trainees of the College.

So what would Redfern think today?

1. He would note that despite all the advances in antibiotics and antivirals, control of communicable diseases remains a challenge to clinicians and public health physicians. New communicable diseases continue to emerge. Anti-microbial resistance, a subject of discussion this afternoon, is a major problem, not only with multi-drug resistant TB but also leading to re-emergence of problems such as gonorrhea and Klebsiella infections. We have Ebola, Lyssa virus, Hendra virus, Hepatitis E and now Zika virus.

2. He would note that largely as a result of the vaccinations he had promoted, smallpox had been eradicated, and that although the number of vaccine-preventable diseases had increased, maintaining high vaccination rates remains important.

3. He would not have predicted the rise in chronic diseases, and the need for integrated clinical and public health action to address them. With the recently released Primary Health Care Advisory Group report recommending Health Care Homes, the RACP discussion paper on Integrated Care and Physicians, and the NSW Integrated Care Initiative, there will be a focus on the population health approach in the control of chronic diseases.

4. He would note that we still have concerns for the environment, not only the physical but also the social environment. Public health physicians have been prominent in the attention given to the health effects of climate change and the social determinants of health, both of which are topics at this meeting. The work on climate change by the late Tony McMichael was internationally recognized, as is the research on the social determinants of health by Sir Michael Marmot, a graduate of the University of Sydney. The issues of diet, clean air and water, and

overcrowding that concern us today may not be the same as those on the convict ships, but are still issues nevertheless.

5. He would note that a sense of social justice and concern for inequalities in health remain today. His major interest was convict health. Today public health physicians work in prison health, refugee and migrant health. And of course, Aboriginal Health. As Redfern did, todays doctors in these areas often combine clinical practice with a population health approach. It is not clear what Redfern did in relation to Aboriginal Health but it is recorded that he was appointed to an Aboriginal Schools Committee, and to a "committee for conducting and directing all the affairs connected with ameliorating the very wretched State of the Aborigines". And, of course, the suburb named after him, where he owned land in the territory of the Gadigal people, remains a central location for the Aboriginal community.

   He was a member of the Committee of the Benevolent Society, set up to to 'relieve the poor, the distressed, the aged, and the infirm,' by providing them with food, clothing rent and access to medical care.

6. He would be astonished to see the developments in epidemiology and data collection – another of the topics to be presented this afternoon, and how that provides hard evidence on which so much in public health depends today. Redfern died in 1833, fifty years before John Snow, anaesthetist and the forefather of epidemiology, mapped the cholera outbreak and identified the Broad Street Pump as its source. So in Redfern's day nothing much was counted apart from the numbers of deaths on ships and how many gallons of rum should be allowed to be imported in the monopoly license given in lieu of payment for the building of Sydney Hospital.

7. Redfern was concerned with medical education and the medical workforce, about which I shall talk next. He was the first teacher of medical students. He only had 2 students – apprentices - one of whom died within a year. His second student was appointed as the first hospital Resident Medical Officer.

8. Redfern was actually the first medical practitioner to receive an Australian qualification. As a convict, he had no documentation of his qualification when he arrived in Sydney. He was asked to sit an examination before a tribunal of doctors who held similar qualifications to his own. He passed, and was given a certificate. After that, anyone wishing to practice medicine was required to sit such an exam, and Redfern became a member of the examining board. However, Redfern, and the other early doctors, may have had difficulty passing the Personal and Professional Development component of today's medical courses. It is reported that he boxed his student in the ear for failing to give a patient his medicine, although it must be noted that that student himself was later dismissed for breaking into the female factory and supplying the convicts with rum. Redfern threw a log of wood and a boot-jack at a servant, and he horsewhipped the editor of the Sydney Gazette for publishing a criticism of the Bank of NSW, of which he was a Director. On that occasion, however, the editor's wife beat him off with a broomstick. He was perhaps less hot-tempered than his predecessor, William Balmain, after whom another inner-city suburb was named, who challenged his boss, the first Principal Surgeon, John White, to a pistol duel of 5 rounds each in 1788. Neither was badly injured, and after that they continued to work together for some years.

Today, one of the inequalities in health relates to people living in regional and rural Australia. Health outcomes are worse than for those in major cities and access to care is considerably less. While access to doctors and clinical care is only one of the contributing factors, it is one for which there are better solutions than some of those used in the past.

Traditionally the relationship between medical workforce and medical education and public health is not one that springs readily to mind, but the same principles of epidemiology that apply to the causes and distribution of disease can be applied to the distribution of doctors.

My own interest in medical education started in 1987 when I was appointed to the Doherty Inquiry into Medical Education and the Medical Workforce. At that time, the general view was that while it might be good for medical students and junior doctors to be "exposed" to a rural area during their training, real medical training only occurred in metropolitan teaching hospitals. Although we made a number of recommendations about the maldistribution of the medical workforce, there was little improvement.

Since that time, we have twice as many medical schools producing nearly 3 times as many graduates and there are nearly 3 times as many registered medical practitioners. There is increasing evidence that students trained in a rural area want to remain there, and that they are returning to practice in a rural area. If we continue to service rural Australia by importing international graduates, as we have been doing for many years, it may be very difficult for the increased numbers of Australian graduates to find meaningful work.

I was fortunate to be involved in the feasibility studies and establishment of most of the University Departments of Rural Health and many of the Rural Clinical Schools. Those initiatives, conceived by Jack Best and funded initially by then Health Minister Michael Wooldridge, have for years been the envy of rural doctors in many countries around the world. The fact that they were national initiatives enabled them to have considerably greater influence than any single local initiative would have been able to exert. The University Departments of Rural Health were specifically placed in rural and remote locations where, if possible, there was a combination of mining, pastoral, and town populations, with a substantial Aboriginal Community. Thus Broken Hill and Mt Isa were the first to be established, with the goal of helping students not only to learn clinical medicine but also to understand the concept of delivering services to a varied but defined population.

Although initially there were concerns that students would be forced to go to rural clinical schools, this has not been a problem and they are generally oversubscribed. Students enjoy the more personal experience, gain more practical experience and gain confidence. Academic results are consistently at least as good and often better than those of students who remain in the big cities.

More than a third of medical students each year are now undertaking a minimum of 1 year's clinical training in rural and regional Australia, and quite a number are spending two and even three years. For those interested in remaining, the lack of rural pre-vocational and vocational training places means the need to return to a metropolitan area. To me, that is the current challenge, and a far greater need than the need for a new rural medical school.

Clinical medical training has traditionally been offered in blocks, usually of 10 weeks, but as the numbers of medical sub-specialties grows, the length of the block often decreases. "A speed-dating

introduction to the major disciplines of medicine and the issues patients face", as has been described by a New York Surgeon, Pauline Chen. Many of the Rural Clinical Schools are now moving away from block teaching to what are known as Longitudinally Integrated Clerkships, where the students gain clinical experience in a number of disciplines at the same time over a longer period. There are many variations of how this approach is implemented, but it is very useful in rural areas where the volume of patients or health problems in any discipline may provide insufficient experience over a short block period. It is also increasingly being introduced in metropolitan areas in both Australia and the United States. Longitudinally integrated programs allow greater continuity of teachers and patients across the year. There is greater student engagement with the community. Students appreciate working with one teacher across time and caring for patients at different stages of the same illness. They are less likely to suffer from the so-called "ethical erosion", a negative consequence of clinical training that has been well researched, in which students become less empathetic towards their patients, and less morally sensitive and ethically aware. Supervisors appreciate seeing students develop, and there is greater ability to assist students with problems, rather than handing them on to the next rotation.

If longitudinal integrated training is proving successful in undergraduate study, why can it not work in the prevocational years? As the recent review of intern training, conducted by Andrew Wilson, a public health physician, concluded, the emphasis of the current standard on time-based terms is unnecessarily inflexible and is not supported by the evidence. One recommendation was to move to an integrated two-year transition to practice model. I know of many rural centres where such an integrated program, not bound by the rigidity of 10 week rotations, could provide excellent training across the full range of medical practice, thus supporting more informed career decision-making.

So the next step is vocational training. Regional and rural Australia needs specialists as well as GPs, and specialists who maintain a generalist focus. At last this seems to have been recognized in the form of the Integrated Rural Training Program, announced in December, which will create 30 regional training hubs to support the pipeline as well as 60 FTE Junior doctor positions, that hopefully will include at least 20 weeks in an integrated general practice/hospital rotation along the lines of Murray to the Mountains and other similar Victorian internships. There will also be 100 more rural vocational positions. Perhaps the networks proposed in the RACP discussion paper on selection into basic training will include networks that rotate from regional centres into metropolitan areas, not only the reverse?

So what of the future?

While communicable disease control and environmental health remain core components of public health, public health medicine to me is a far broader discipline. It provides a breadth of skills and a perspective that can be applied across many areas of the health system.

Implementation of the plans for better chronic disease management and integrated care that are currently receiving considerable attention will be challenging, although I have to say that much of what I read sounds remarkably like what we were doing in Glebe 40 years ago. A public health physician undoubtedly has much to contribute in this area, not only in research but on the ground. The exact roles will need to develop, and public health physicians will need to get involved and contribute to that development.

There will be opportunities for involvement in international health, with WHO, government and non-government funded programs especially in Asia and the Pacific. Perhaps the links that were established with colleagues in the South Pacific early in the Faculty's life, but not maintained, will be renewed.

Increasing numbers of public health physicians are now occupying senior roles in medical education, and not only in the teaching of population health. I am sure there will be increasing opportunities in this area. Discussions about the lack of a career path for medical educators have been ongoing for some time, and continue today. I believe that the population health perspective will increasingly be applied to medical education, to ensure that the graduate has the personal and professional attributes that the courses require and is not merely the product of a series of short rotations into the ever-increasing numbers of medical sub-specialties.

Communication skills, both written and oral, are important. The public health physician should be well equipped to communicate with clinicians, and to me this is a very important role. The clinician is concerned with the numerator, the public health physician with the denominator. Improving health requires a complementary and cooperative relationship between the two.

The public health physician needs to be able to communicate with politicians, government and the media if they are to influence policy change. They also need to be able to communicate with the public, to explain the risks of a perceived health problem, be it a cluster of cancer diagnoses, an outbreak of legionnaires disease or an environmental health concern such as tunnel exhaust stacks or wind farms.

The question of whether the Faculty should be one of Public Health Medicine or of Public Health will no doubt continue to be discussed. Public health is clearly multidisciplinary, but these days there are very few medical specialties that are not. The Faculty can only survive if there are training positions. This has been a problem from the beginning, recently greatly helped by the Commonwealth Specialist Training Program, which funds training positions in settings outside public hospitals. If the public health medicine trainee cannot demonstrate how the skills and knowledge they gained through medical training and clinical practice can enhance their role in public health, employers are unlikely to pay a medical salary.

The role of policy and advocacy must remain important. It is interesting to note that the the College Policy and Advocacy Unit, previously known as the Policy Unit, only came into existence as a result of pressure on the College Council from Jack Best, when he was the second Faculty President. But policy and advocacy are not just about putting out media releases and policies. So public health trainees need to learn how to effect change.

Redfern was prepared to stand up for what he believed in. He could be called a rebel. Governor Macquarie recommended that he be made Principal Colonial Surgeon, but the English authorities were opposed to the employment of ex-convicts in high positions, and a Navy surgeon was appointed instead. Redfern resigned from the government service.

When an English Court decided that emancipists should have few rights, not even the right to acquire property, Redfern travelled to London to petition the King himself. The ruling was reversed.

Are Australian public health physicians rebellious today? Maybe that is too strong a word, but public health physicians do need to be able to be strong advocates for causes that can be backed with evidence. In the past, the Faculty was vocal in support for anti-gun laws following the Port Arthur massacre. Supported by colleagues from the South Pacific islands, it caused quite a stir by placing a full page advertisement in the French newspapers, Le Monde and Liberation, opposing the French nuclear testing at Mururoa.

Recently, the Faculty has lost its independence to act on such issues, although the College itself is taking a more active role. After some initial differences of opinion about actions to address climate change, the College is now more vocal in expressing the need for action. It has been vocal in the need to release children from detention. No doubt Redfern would have been proud to see College and Faculty fellows recently on television again risking gaol sentences by commenting on the lack of access to appropriate medical care for asylum seekers. Hopefully the perspectives of public health physicians in standing up for injustice will continue to be recognized by the broader College.

So what would Redfern say if he were standing here today?

He would say that most of those of us here would have found the conditions under which he worked very challenging and confronting. He would remind us that his world was one in which floggings were common, capital punishment was a public festival, women had no rights and death was just a sneeze or a drink of water away, yet some of those conditions and some of the attitudes faced by him still exist in parts of the world today.

And if he has left a legacy, perhaps it is that in a world where medicine has become increasingly sub-specialised, there is still a role for the doctor to play many parts, as he did - to contribute to the care of individuals, to the care of populations and to ensuring that those who come after us are trained in a way that will best equip them to address whatever health problems arise in the future.

Source Material

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