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An ambulance and a cliff

Medical student perceptions of population health

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From 28th May - 2 June 2007, Auckland Medical School carried out an inaugural population health intensive week amongst a 5th year medical class. The week consisted of teams of medical students being assigned population health topics (injury prevention, oral health, mental health & obesity) and finding interventions for specific problems within a population based framework. Each team was given a hypothetical $500,000 and the opportunity to liaise with a variety of community based agencies to develop a population health strategy for their topic.

This article reflects on the attitudes of medical students towards population health in medical education and how these impact on future clinical practice.

An ambulance and a cliff

I am an ambulance at the bottom of a Cliff. Or so they tell me. I fix people when they're sick. Period. In two years I will be a doctor. By definition, I am the ambulance that catches people when they fall from the heights of good health. As for preventing them from falling in the first place? Well, that's someone else's job. After all, I'm a medical student not an epidemiologist, politician or public health agency, right?

When I was first told that I would be losing a week of precious lecture time in favour of a population health intensive week I felt somewhat resentful. The pervading feeling in my class was one of exasperation. Do we really need an entire week for a population health project? Wouldn't a simple lecture suffice? Even some lecturers lacked enthusiasm for the week which had usurped their lecture time. Cynicism was rife as we entered the inaugural population health intensive week.

Why do we have these attitudes towards population health?

• The historical context

Historically, these attitudes may be the result of the dichotomy created between public health and the institution that is medicine. Public health has often been regarded as the 'poorer cousin' to medicine, a 'soft science' and being "for med school drop outs". Several studies show that medical students' attitudes to public health have been extremely negative on the whole.[1-4] Medical students tend to perceive those who pursue public health to be more timid, less independent, less ambitious and less successful.[2-5] Even students who chose public health as a possible specialization reported feeling insecure about their standing in medical school.[2] While most of the literature describing these attitudes is now dated, anecdotal evidence overwhelmingly suggests they persist today.

• Resistance to change

Secondly, these negative attitudes are part of the wider phenomenon of medical students' resistance to change. Often medical students learn in a goal orientated manner - looking towards the immediacy of exams to structure their learning content. As an example, medical student attendance at non compulsory lectures declines towards exam time.[6] The type of mindset geared towards upstream causalities and thinking 'out of the box' is at times neglected in our curriculum. For example, visiting a refugee centre to research migrant depression can be out of the comfort zone afforded by daily hospital routines.

• Job insecurity

Outdated beliefs held that preventative medicine was contrary to the commercial interests of the practitioner. However, population based preventative medicine will not put doctors out of a job. Paradoxically, preventing people from presenting at the doctor's door in the first place may make doctors more popular with patients. This may mean patients are treated more effectively as people in the context of their respective communities. There will always be the need for individual one on one care since the "doctor's touch" and diagnostic skills cannot be substituted. Hence, the population approach is not a substitute for individualized care; rather it should be an integrated part of everyday clinical practice.

• Perception rather than ethical dilemma

It is important to note that the issue of medical student participation in public health is one of perception rather than ethics. Most medical students agree with the increasing importance of population health approaches but expect another colleague to fulfill this role rather than do so themselves.[5-7] It is not simply a case of today's physicians denying a place for public health but rather failing to personally analyze clinical data in a population based way.[7] Medical students do not need new skills to initiate commonsense interventions. Rather, they require new perspectives and a change in their frame of reference towards populations.[7]

Only recently an Auckland woman dependent on her oxygen machine died when her electricity was disconnected due to unpaid accounts. How can similar incidents be prevented in the community? What population targeted interventions can address poverty and the need for essential basics such as power?

What are the principal differences between public health and clinical medicine?

Traditionally medicine and public health have been viewed as separate entities; it is much more useful to regard them as different ends of a spectrum. The attractiveness of the individual approach is that there is instant gratification and less 'red tape' when implementing changes. Outcomes are direct and tangible. In contrast, a public health program requires more resources and co-ordination and the results of intervention

Public (Population) Health	Clinical Medicine
Focuses on populations	Focuses on individuals
Revolves around public service tempered by concerns for the individual	Revolves around personal service tempered by social responsibilities
Emphasises prevention. Cares for the whole community	Emphasises diagnoses & treatment. Care for the whole patient
Spectrum of interventions - environmental, behavioural, lifestyle and medical care	Predominant emphasis on medical care
Multiple professional identities with diffuse public image	Well established profession with sharp public image
Biological sciences central stimulated by threats to population health. Works between laboratory and field	Biological sciences central stimulated by patient needs. Works between laboratory and bedside

Modified from Harvey Fineberg, MD, PhD, Dean, Harvard University School of Public Health, 1990

can be harder to gauge. Initiatives like removing confectionary from school tuck shops may not have an immediately measurable effect on childhood obesity. Children will still have this confectionary available to them outside of school hours and it may take years before the health benefits of these initiatives are seen.

Why changing these attitudes will make us better doctors

• The raison d'être of the medical student

Why did we pursue medicine in the first place? If we cast our minds back to what we said at our medical school interviews, many of us wanted to improve people's wellbeing, save the odd life and give society back its basic human right of good health. Sound familiar? As we progress through medical school our initial idealisms wane and they are gradually surpassed by a cynical realism.[8] Public health serves to foster the genuine ethos that we want to have a healthy society made up of people with healthy, happy lives. Whether this is achieved by helping one patient at a time or helping thousands at once, that pre-medical school notion of changing peoples lives en mass remains.

• It works

The population health approach saves lives and prevents morbidity, simple as that. Maybe not with that instant satisfaction found in the resuscitation room but with comparable results. Treating the drowning infant who presents to you should trigger further thought about fencing pools and water safety. It is evidence based medicine. Just one mention of the word "vaccination" can appease even the harshest critic of public health. After all, it is more effective to address a cause than to temporarily fix an endpoint - it is like putting a band-aid on a gaping wound.

• Healing the masses

Population based medicine has the ability to change the health outcomes of many. Consider the successful eradication of polio or the subsidence of the Meningococcal B epidemic in New Zealand. Public health approaches have the advantage of improving the health outcomes for more people at any one time than a single doctor's consultation.

• Decreasing the burden on resources and minimising disparities

Case and point: the obesity epidemic. If we eliminated obesity we would half the number of diabetics we treat and this in turn would allow for a redistribution of resources. Obesity and its subsequent effects (including diabetes, hypertension and heart disease) are straining the health system and its scarce resources. Novel approaches to changing food habits and exercise are becoming increasingly vital to stem the obesity epidemic.

Public health also has the potential to lessen disparities by addressing particular populations. The Maori population, as an example, on average experience poorer health outcomes and poorer access to services. Examples of possible public health interventions include marae based initiatives to "grow your own" fruit and vegetables in order to overcome the barrier of healthy food being the most expensive choice.

• It is a way of thinking - collaterally and collaboratively

Thinking with a population based focus is a good way of thinking laterally and innovatively - skills essential for any problem solving profession. Public health is in touch with community agencies at a grass roots level and requires collaboration. Thus, public health encourages the team approach. Medical students can no longer be of the mindset "looking out for number one" as a good doctor works well in teams.

• It is keeping in touch with reality

Modern medical practice must be up to date and reflect the society we live in. We can't ignore what is happening right in front of us. There's an obesity epidemic looming and we have third world diseases in South Auckland. Population approaches just make sense. It is the 21st century. Today's health picture is a place where polio and measles are no longer acceptable parts of childhood and the daily reality of overeating and under excising is the norm.

CONCLUSION

A similar medical student rotation in public health was carried out at Columbia University. Population based thinking was brought about by allowing students to find solutions for real public health problems in a clerkship environment. The results reinforced that the first step in changing adult behavioural patterns is bringing about changes in perspective.[7] The authors noted that this way of thinking needs to be reinforced by continual use throughout medical training rather than being applied in a single course and subsequently neglected.

Doctors are effective yet, often underused public health tools. They are in a unique position with their specialist knowledge, access to clinical information and community standing. A Population Health Intensive Week is an opportunity that some may not fully appreciate until they enter into clinical practice. It is neither an inconvenience nor a dispensable blip in our timetables: it is what our community desires of us. It is why we are health care professionals. It is what will ultimately make us better doctors.

Am I an ambulance at the bottom of the cliff? Perhaps, but that doesn't mean I can't stop a few people from falling over the edge in the meantime.

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