Article

The bottom line: Tailoring a public health elective to students' needs

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Context and setting. Academics face difficulties when trying to include public health in the medical curriculum. The first hurdle is an already overloaded curriculum and the second the marginal interest in the healthy on the part of those who are mainly concerned with the ill. One overlooked potential opportunity for inclusion in the curriculum is the elective and, in particular, the self-constructed elective of third-year medical students at the University of Pretoria.
Why the idea was necessary. Not only does public health have to compete with the powerful clinical interests among students, but students are also not in a position to identify opportunities in the community that could offer meaningful learning opportunities for an elective in public health.
What was done. An action research study design used an online survey to explore the factors that students take into account when constructing an elective experience. These factors determined the final design of a public health elective which was subsequently advertised to third-year medical students at the University of Pretoria as a possible option.
Results and impact. Disappointingly, no student enrolled for the elective. Subsequent investigation of students' actual choices resulted in a deeper understanding of students' unvoiced needs. It would appear that a successful public health elective needs to be like a mini-skirt – long enough to cover the subject, but short enough to hold interest. Academics considering innovations in public health could benefit from this complexity in design.

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Academics face difficulties when trying to include public health in the medical curriculum. The first hurdle is an already overloaded curriculum and the second the marginal interest in the healthy on the part of those who are mainly concerned with the ill.[1] The general disinterest in public health has been consistent despite the shifts in medical education over the past century from science-based approaches of Flexner to problem-based learning and most recently to system-based approaches.[2] One key influence in the system-based approach has been the Global Consensus on Social Accountability of Medical Schools – a document that holds vital clues for the inclusion of public health in the medical curriculum.[3]

Public health and social accountability

The social accountability of medical schools is defined as 'the obligation to direct their education, research and service activities towards addressing the priority health concerns of the community, region and/or nation they have a mandate to serve'.[4] The characteristic of social accountability that considers the priority health concerns of the community as the departure point for education, research and service is well aligned with the values and scope of public health (or population health). A population health perspective encompasses the ability to assess the health needs of a specific population; implement and evaluate interventions to improve the health of that population; and provide care for individual patients in the context of culture, health status, and health needs of the populations of which that patient is a member.[5] The public health values of relevance, quality, cost-effectiveness and equity of health care are the very same values that underpin social accountability.[6]

With a Gini co-efficient of 0.57 (2010), South Africa is currently one of the most inequitable countries.[7] This inequity extends to the health system, with the majority of resources being utilised by the minority of the population.[8] In a country such as South Africa where a key value of public health – equity – is under pressure, the need to be socially accountable is especially acute.

Public health in the medical curriculum at the UP

The inclusion of public health in the medical curriculum at the University of Pretoria (UP) is conceptualised as a golden thread and is included over the duration of the programme. The School of Health Systems and Public Health (SHSPH) is responsible for inclusion of public health as a prominent curriculum theme as required by the Health Professions Council of South Africa's regulations that guide the education of medical students.[9] Because the medical curriculum is characterised by a focus on individual health, opportunities to include public health topics are limited. Space in the curriculum is not the only limitation – the SHSPH is a postgraduate school with limited academic staff burdened by other academic responsibilities.

Currently, medical students at UP have an elective module at the end of their third year. Traditionally, less than a handful – and none since 2007 – do a public health elective. One reason for the low numbers is that students have to conceptualise and organise what they want to do (elective) versus the approach where students can choose from a list of pre-organised activities (selective).

Students cannot choose what they do not know. Because much of their experience has either been classroom or hospital based, they do not have the social capital to identify community-based organisations that could provide meaningful, rich opportunities for learning. Community-based organisations provide highly contextualised environments and community intimacy as well as a range of activities that address the socio-economic determinants of health. The activities of these civil society structures hold the opportunity to advance students' ability to construct meaning of the structure and function of the health system and emphasise the services that their future patients can be referred to in this sector. Community-based electives provide a unique opportunity to promote professional understanding of their 'social and public purpose' as doctors.[10] In addition, public health electives are a way of encouraging interest in public health in general and in careers in public health in particular,[11,12] as well as promoting social accountability.[13]

Electives as a strategy to include public health

The purpose of electives in medicine is primarily to enhance emerging clinical skills and related attributes and virtues in different environments, including community settings.[14] In the literature, public health electives are strongly aligned to global or international health electives with a focus on student preparation, risks and effect on the hosting institution.[15-20] Irrespective of foreign or local settings, public health electives hold the potential to construct meaning about health policies and services.[14] This engagement with the health system requires students to face the psycho-social issues that affect health within the community, especially health behaviours, health risks, public health issues and social, cultural and environmental factors.[14] A community-based elective promotes constructing meaning of different value systems and socio-cultural models.[14] Well-designed electives also promote generic attributes such as self-regulated learning and critical reflection as part of professional development.[14]

To overcome the lack of space in the curriculum and the theoretical overload, a strategy of developing a community-based public health elective was explored.

Objective

This study explored the characteristics of community-based public health electives that would meet the needs of third-year medical students at UP.

Methods

This descriptive cross-sectional study formed part of an overarching action research study design. A 13-item questionnaire with eight close-ended Likert scale questions and five open-ended questions was designed from the literature. The questionnaire was only available in English. Ethical clearance was granted by UP's Health Sciences Ethics Committee (73/2011).

A pilot study was done with a group of fifth-year medical students and valuable feedback was obtained with regard to both the wording of the questionnaire and the composition of the elective.

Third-year medical students were made aware of the project via a five-minute briefing that formed part of the routine briefing by the education office that co-ordinates the elective. The modified survey was created with the online Survey Monkey software and launched by sending a class-wide e-mail with a hyperlink to the survey. A total of 241 e-mails were sent. Eleven e-mails bounced, of which six were resolved and resent. When it became clear that there may have been a misconception, as students thought only those who were interested should respond to the e-mail, a second class-wide e-mail was sent. The wording of the second e-mail was more explicit and an sms message was sent to the class representative to ask students to read their e-mail. An attempt was made to include all the students by also putting up a poster outside the lecture hall. Data obtained from the online survey were exported to Microsoft Office Excel 2007 for analysis. Qualitative thematic analysis of the open-ended responses was done by hand using inductive coding. The electronic data were stored in a password-protected file on the researcher's computer during analysis.

The initial plan of designing a range of public health electives – each with a focus on one aspect, such as health promotion – was revised based on the feedback from the pilot group. It was clear that students would rather engage in a range of activities, and therefore a community-setting with wide-ranging public health opportunities was needed. A non-governmental organisation (NGO) active in the inner-city of Pretoria was identified. This NGO works with inner-city inhabitants, including the most vulnerable (street children, the homeless, the abused) and ostracised (foreigners, drug users and commercial sex workers), and services include running a clinic, crèches, etc. The choice of this NGO would allow for exploration of health systems while additional activities such as visiting the zoo for a session on zoonosis and working on mobile HIV counselling and testing units were also incorporated to provide students with a broader view of public health.

A poster campaign was designed using wordplay and the image of a popular movie. The 'First Class in Public Health: The Inner City Elective' poster was pasted on the dedicated notice boards of the third-year medical students. The poster was augmented by a breakdown of the envisaged activities and a sign-up sheet with contact numbers of the elective coordinator.

Setting

The study setting was at the Faculty of Health Sciences, UP.

Subjects

The study population consisted of third-year medical students at UP in 2011.

Results

As many as 113/236 (47.9%) students accessed the online survey. Of these, 106 completed the survey (93.8%).

Interest in an elective with a public health theme

Real interest was shown in a hands-on public health elective as 28.1% (n=25) respondents who were interested, with another 49.4% (n=44) reporting that they might be interested but needed more detail. Twenty respondents (22.5%) had no interest.

Factors that influence the choice of elective

Proximity to home (n=38; 35.8%) was not a particularly important factor in elective choice, in stark contrast with the 62.3% (n=66) who wanted to deepen their learning (Fig. 1).

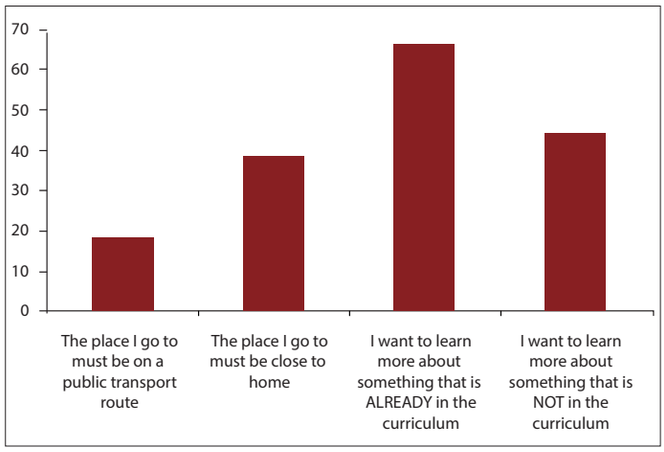

Fig. 1. Importance of location and content when choosing an elective (number of responses).

One factor that has to be kept in mind when designing an elective is the financial burden that a community-setting elective could pose for students in terms of travel and accommodation expenses – another benefit of using an inner-city location. Twenty-two (24.7%) respondents thought an amount less than R500 would be reasonable for the one-month period. A similar proportion (*n*=27; 30.3%) thought that an amount larger than R1 000 was reasonable, while 46.1% (*n*=41) opted for the middle range of R500 - R1 000.

Other factors that influence their choice

Respondents were invited to share any other factor(s) that they personally consider important when choosing an elective. Three themes emerged from the data: institutional factors that support learning; the learning setting; and the opportunity to practise.

Respondents were vocal about the need for institutional factors that support learning: 'It must be well organised, and the staff at the relevant facility where we will do our elective must be well informed of our presence and reason for being there.' The learning setting was also important in that 'I would like to do my elective in a friendly environment where it is conducive to learn and has enough equipment for me to use.' The need to put into practice that which has been learnt was evident: 'I would like to choose an elective that will allow me to actively participate, as opposed to simply observing various procedures, and 'Somewhere where I will be able to do something and not just told to watch.'

Area of interest

Respondents were invited to give detail of their specific area of interest and among the 68 respondents who provided more detail it was notable that the majority (*n*=47) named a clinical specialty such as paediatrics and in many cases more than one specialty. Eleven respondents were interested in the practical application of theory: 'Anything. The point is that we understand a lot more if we already understand the theory and then experience the clinical aspects of it.' Some were more adventurous: 'Something that is not in the curriculum but is promising in the evolution and improvement of medicine will teach on how to break new ground and to think outside of the box.' A single respondent identified a need for positive role-modelling as part of professional identity formation: 'I want to be with a helpful doctor not a person who is going to make me feel awkward and stupid.' Two respondents mentioned public health topics: 'I want to know the indirect impact of HIV on the living conditions of children heading households in Namibia' and the 'interaction between the patient and the health care system.'

Number of settings

Variation existed in the opinions of respondents concerning single versus multiple settings (Table 1).

Previous community experience

A substantial proportion of respondents (*n*=40; 44.9%) recorded experience working in a community setting prior to their medical studies and in some cases recorded more than one previous experience. A handful reported exposure via a previous degree or via school: 'Went on community based camps with my school where we helped out in rural schools, old age homes and homes for disabled people.'

What was prominent was the early exposure for their studies through voluntary work in a wide range of clinical settings or in social projects/ outreach:

- 'I volunteered at an HCT clinic during holidays.'
- 'I volunteered in the accident and emergency unit at [hospital] during high-school.'
- 'Girl child project in [country] where we assisted in orphanages.'
- 'I was involved in a youth development programme (our own initiative) back home.'

Predictably, respondents were generally positive that they had a good understanding of the health-related needs and problems facing the community in which they live (Fig. 2).

Discussion

The initial interest in a public health elective among the respondents was encouraging. Important information for the design of the elective was that although there was no clear preference for an elective that was close to home (35.8%), there were limits in that the associated financial cost was an important factor with the majority of students (70.7%), indicating

Table 1. Percentage of respondents' elective workplace choices

Statement	Yes	No	Does not matter	Number of responses
I would prefer to work in only one place during the elective	32.1 (*n*=25)	30.8 (*n*=24)	37.2 (*n*=29)	78
I would prefer to work in more than one place during the elective	54.1 (*n*=40)	14.9 (*n*=11)	31.1 (*n*=23)	74

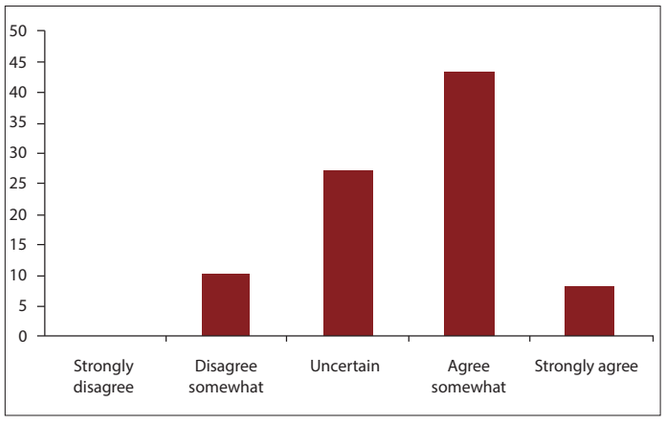

Fig. 2. Responses regarding good understanding of community health-related needs and problems.

a preference for less than R1 000 for the month. The decision to use only one setting was strengthened by respondents' weak responses that did not show any clear preference regarding working in only one place during the elective. This finding suggested that the number of settings was less important than the content. This provisional conclusion was overthrown by the actual final choices of students. Similarly, the marginal majority (54.1%) who, in response to the converse question regarding preferences of number of settings, stated a preference for working in more than one place, held an unexpected meaning that was not clear at the time.

Respondents preferred electives whose content offered an opportunity to deepen their learning of what is already in their curriculum (62.3%). This preference is especially problematic for designing public health electives, as the subject is not prominent in the curriculum and unlikely to be uppermost in students' thoughts. The preference for electives with clinical content was supported by the responses to the question what they were currently considering as a choice. Almost 70% (47/68) of respondents listed a clinical discipline. This pattern of clinical preference is to be expected. It can also be found elsewhere, with the majority (54%) of American medical students delivering medical care to underserved populations as a prevention elective.[21] These findings strengthened the argument for a pre-designed public health elective.

The responses to what other factors are considered important in their choice of elective the theme of 'institutional factors that support learning' unwittingly echoed the findings of a study that reported the pivotal link between satisfaction with the learning environment and burnout of medical students.[22] The implication for elective design was clear – avoiding haphazard arrangements for learning would be vital.

Ostensibly many students had already had previous community experience beyond the scope of their medical studies and the majority (58%) agreed that they understood the health-related needs of the communities in which they live. Clearly, any public health elective would have to challenge students to revise their view of their competence regarding public health.

Enrolment in the elective

Ultimately, no student enrolled for the local public health elective (one student chose a public health topic but did this in Mauritius). Upon review it became clear that one significant barrier was the design that followed the pattern of a one-month period. Although the university documents refer to a four-week period for students to learn about *one* area of medicine, this is not enforced.

A review was done of the 230 submitted forms and it was found that 77 (33.5%) students did not want to be hemmed in by the stated restrictions and divided their electives into two, three and even four different activities. In contrast to the online survey where approximately 70% of students listed a clinical choice, the actual final choices revealed that 97.5% of choices were clinical. Emergency medicine was the single biggest choice (57 students). Disciplines with multiple sub-specialties such as surgery had 75 students and internal medicine (and sub-specialties) had 74 students. General practice was reasonably well represented (38 students).

Conclusion

The respondents' view that they would like to work in more than one setting was misunderstood as meaning within multiple settings of public health. The analysis of actual choices revealed a different meaning – a need to work across disciplines. The sharp decline in interest in a public health elective from when the online study was done to the actual choices made is strongly suggestive that the one-month design was a barrier. It is now clear that public health needs to tuck into a space among the clinical electives and it will be necessary not only to design an elective that meets the needs of students (distance, price, hands-on, well-planned and well-executed) but will also pose less of a commitment of time.

As a result of this study the design of the 2012 public health elective has undergone significant changes and a one-week elective with a one-week optional extension is planned.

This attempt at bringing about change by introducing an innovative strategy to promote public health might have some significance for other academics who are contemplating the call in the *Lancet* for the 'expansion ... into primary care settings and communities, strengthened through external collaboration as part of more responsive and dynamic profession education systems'.[23] This research suggests that meeting the call for a systems-based approach requires health educators to simultaneously understand what students might consider a good fit.

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