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Interprofessional Education, Dentistry, and the New Zealand experience: a commentary

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INTERPROFESSIONAL EDUCATION (IPE)

IPE, as defined by the World Health Organization (WHO) occurs when "two or more professions learn with, from, and about each other to improve collaboration and the quality of care" (World Health Organization, 2010). Developing collaboration between health professional students and improving overall patient care is the main focus of such programmes (Thistlethwaite, 2012). IPE programmes emphasise the importance of team work, appreciating other professions, respectful interaction and clinical exposure to interdisciplinary collaborative care, with the ultimate goal of improved healthcare outcomes. Although there is debate on the efficacy of IPE in enabling the knowledge and skills necessary for collaboration in clinical practice to be learnt, it continues to be positively received. The recognition of the importance of IPE by the WHO, and increasingly by health policymakers has made it a more common component of academic curriculums and healthcare systems internationally (Hammick *et al.*, 2007; World Health Organization, 2010; Reeves *et al.*, 2013). IPE has been in practice since the late 1960s, and since then its popularity has only increased as it becomes increasingly seen as a means of strengthening the healthcare systems (Barr, 2007; World Health Organization, 2010). Despite this, there is still a need for more clear quality evidence relating to patient and healthcare outcomes before more generalisable conclusions can be drawn about the effectiveness of IPE (Hammick *et al.*, 2007; Reeves *et al.*, 2013). Until recently, dentistry has rarely been a part of IPE programmes despite the success that IPE has enjoyed in other healthcare disciplines. The purpose of this commentary is to provide a brief review of the literature focusing on dentistry in IPE programmes, including the history and future direction of dentistry in IPE, and barriers to implementation of such programmes. The preliminary results of a recent local IPE initiative piloted by the University of Otago in collaboration with the Eastern Institute of Technology, and funded by Health Workforce New Zealand will also be discucssed.

DENTISTRY IN IPE: PAST, PRESENT AND FUTURE

To date many health professions have adopted IPE although there is a paucity of programmes including the dental professions. This was highlighted by the lack of dental professionals at a summit to discuss strategies for restructuring clinical education, which included most other health professional disciplines (Institute of Medicine (U.S.) *et al.*, 2003; Rafter *et al.*, 2006; Wilder *et al.*, 2008; Hein *et al.*, 2011). A recently published Cochrane review analysed the impact of IPE on healthcare outcomes, and again, of the 15 studies included, dentistry was not included in the papers reviewed (Reeves *et al.*, 2013). There is evidence to suggest, however, the participation of dentistry in IPE is increasing, particularly in Canadian and American dental schools, and more recently in Australia and New Zealand (McNair *et al.*, 2001; Ballweg *et al.*, 2011; Haber *et al.*, 2014; Gallagher P *et al.,* 2015). This is considered a much needed change as it is well understood that poor oral health can lead to or exacerbate other medical conditions, necessitating the input of dental professionals in a multidisciplinary approach to health care management (Haden *et al.*, 2003; Rhodus, 2005). Evidence also suggests there is limited oral-systemic knowledge amongst medical, pharmacy and nursing students (Hein *et al.*, 2011). IPE programmes aim to improve this knowledge, whilst uniting students to improve public health by managing common causes of oral and systemic diseases, such as smoking and unhealthy diets (Ballweg *et al.*, 2011; Yamalik, 2014). It is argued that dentistry is viewed as a luxury that only some can afford rather than an integral part of health (Haden *et al.*, 2003; Halstrom, 2007; Wilder *et al.*, 2008). It is widely accepted however, that dentists may be the first to detect both oral and systemic diseases, assist in treatment and prevention of such diseases and provide a knowledge base in an area where other health professionals may not be experienced (Haden *et al.*, 2003; Wilder *et al.*, 2008; Hein, 2009). Collaboration ultimately aims to improve patient outcomes, whilst also reducing health care costs as diseases are diagnosed and treated earlier (Mouradian *et al.*, 2004; Wilder *et al.*, 2008).

Currently, the evidence regarding the long term effect IPE has on health outcomes for patients is limited due to the lack of heterogeneous and controlled studies (Reeves *et al.*, 2010; Hein *et al.*, 2011; Reeves *et al.*, 2013). It is believed, however, that this limitation is not reflective of IPE's ability to provide effective change in health care outcomes (Nisbet *et al.*, 2011; Reeves *et al.*, 2013). Rather, it may reflect the significant challenges that are presented in designing and implementing intervention studies that evaluate both health professional views and patient outcomes (Baker and Durham, 2013; Haber *et al.*, 2014). IPE is a complex initiative to undertake, with many factors such as students, curriculum, facilitators, and organisational context that must be co-ordinated for success (Reeves *et al.*, 2010). IPE is also a relatively new topic to be implemented in dentistry, and therefore time will be required to entirely understand its potential to impact patient outcomes (Victoroff *et al.*, 2014).

The benefits of IPE have been recognised and accepted internationally, hence the increased interest by academic institutions and healthcare sectors (Rafter *et al.*, 2006; Wilder *et al.*, 2008; Nisbet *et al.*, 2011). The WHO *Framework for Action on Interprofessional Education and Collaborative Practice* highlights the fundamental role of IPE in enabling better collaboration among the health and social care professions, and states that it is this collaboration that is needed by the fragmented healthcare systems to meet the increasingly complex health care demands of the 21st century (WHO, 2010). The Framework recognises the significant role IPE can play in mitigating issues related to access and coordination of care, shortages in

healthcare personnel and resources, and the essential role of collaboration in strengthening health systems and subsequently enhancing health outcomes (WHO, 2010; Reeves *et al*., 2013). Research also suggests that interprofessional collaboration optimises the use and performance of health systems, reduces tension among the health professionals, enhances patient-centred care, safety and satisfaction, and reduces cost of care (WHO, 2010; Reeves *et al*., 2013).

It has been suggested that disconnect among the dominant pattern of dental practice and the oral health needs of the nation may in part be responsible for the inequalities that exist in the oral health of New Zealanders (Jantrana *et al*., 2009). The integration of dentistry into IPE programmes may be beneficial by establishing dentists as members of interdisciplinary health teams in the primary healthcare system (Rafter *et al*., 2006; Wilder *et al*., 2008). Improving oral health is one of the health objectives of the New Zealand Health Strategy, but solutions for more accessible and affordable oral health care are not mentioned in the current New Zealand Primary Health Care Strategy (King, 2001; Jantrana *et al*., 2009). IPE gives us the opportunity to reinforce the link between oral health and systemic or general health and to overcome our profession's previous isolation from medical care and its funding programmes.

Consequently, IPE initiatives may increase accessibility to care, especially in rural areas, increase continuity of care and assure the highest quality care and safety for patients (Rafter *et al*., 2006; Wilder *et al*., 2008). The other health professions' knowledge of basic oral health is often limited, and this interaction can enhance improved screening, early detection and diagnosis of disease, increase necessary referrals to and from other disciplines, and of course, it may help to reduce cost of care (Rafter *et al*., 2006; Wilder *et al*., 2008). Dental and medical records can be more easily combined and harmonised, leading to more complete, accurate, efficient, adequate and consistent treatment of both medical and dental disease (King, 2001).

BARRIERS TO ACADEMIC INSTITUTION PARTICIPATION IN IPE

Academic institutions are a critical factor in implementation of IPE programmes, and there are several barriers that may hinder long term sustainability. Current research suggests Universities, including dental schools, do not always recognise the importance of IPE for their students (Kassebaum *et al*., 2004; Rafter *et al*., 2006). A study of the North American dental education system reported that only 55% of schools in this region reported increased collaboration with other health professions and only 52% had the desire to increase future collaborations (Kassebaum *et al*., 2004). The barrier to adoption or implementation of IPE programmes seems to be the already full curriculum that is present in dental schools (Rafter *et al*., 2006; Davidson *et al*., 2008). For IPE co-ordinating and teaching a range of students from differing disiplines presents unique challenges as students each have their own experiences and expectations (Barr, 2013). The geographical locations where disciplines are taught may act as obstacles, as professional groups taught in different Universities or campuses may find it challenging to provide education to all groups at one time (Barr, 2013). Outplacements that include collaboration between different professions are one of the more successful methods of providing IPE as students are able to interact not only during learning times, but also informally, allowing deeper relationships to form (Barr, 2013). This, however, may present challenges for Universities that have to co-ordinate these programmes, as there must be willing parties to host students and to be able to fund the programme (McNair *et al*., 2001; Barr, 2013; Haber *et al*., 2014). These barriers have been the focus of much debate in the US with a task force examining the status of IPE in US and Canadian dental schools. Their report emphasised the need to produce graduates who are "fully prepared to maximise patient outcomes through interdisciplinary patient care" (Formicola et al, 2012). IPE competencies have now been introduced into the current US dental accreditation standards and graduates must be competent to communicate and collaborate with other health professionals (CODA, 2008).

IPE IN NEW ZEALAND

The implementation of IPE has been shown to be feasible internationally although not without its barriers (Rafter *et al*., 2006). Whether this would work in New Zealand was considered by Health Workforce New Zealand (HWNZ) in 2011 with the programme funded and piloted in two regions in 2012. Dentistry was only incorporated into one of these; the Tai Rāwhiti IPE model. *Te Tai Rāwhiti* is the Māori name for the East Coast region of New Zealand's North Island. The Tai Rāwhiti IPE programme takes place in Gisborne and its rural suburbs of Tolaga Bay and Ruatoria further up the coast. Otago University's Te Tai Rāwhiti IPE initiative involves a mixture of undergraduate students from dentistry, medicine, physiotherapy, dietetics, pharmacy, occupational therapy, Bachelor of Oral Health (2015) and nursing. It is a rural immersion programme that aims to train healthcare professionals to work together towards better health outcomes in a region with some of the country's poorest health statistics. The programme comprises a 5-week immersion clinical placement during which time the students are exposed to IPE within a rural and Māori health context and for which Long Term Condition management is the selected clinical focus. This programme offers the chance for students to practice in meaningful, real-world contexts. Students not only practice in their own health professions, but also contribute towards a community health project in multidisciplinary teams. Modalities such as this clinically based approach to IPE are more complex to design, organise, deliver and sustain than classroom based education. However, arguably as authentic "situated learning" experiences these approaches have a very powerful impact on learning (Frenk *et al*., 2011; Gallagher *et al*. 2015).

A dense Māori population also allows for the understanding of Māori culture and customs and how they impact health and health care delivery. The Tai Rāwhiti initiative provides accomodation for students to live together, allowing for an informal setting to understand different professions. Many organised and unorganised recreational activities give further opportunity to interact with students of other professions, allowing for a relaxed learning atmosphere. This type of learning engages the whole person and may be regarded as an authentic and entirely appropriate learning experience for an aspirant health professional (Frenk *et al*., 2011; Gallagher *et al*., 2015). Additionally, focus group interviews have shown that students participating in this IPE programme, can successfully achieve their academic outcomes as well as engage in a scoially

accountable activity. This unanticipated finding of increased social accountabilty "giving something back to the community" is a key to engagement with future communities and the sustainability of these programmes (Gallagher *et al*., 2015).

The Tai Rāwhiti IPE has just completed the final year of its initial 3 year pilot with findings from an independently conducted review used to inform HWNZ. Findings from this evaluation will be published in time, but to date have informed HWNZ, and allowed for the continuation of funding of Tai Rāwhiti IPE with the future implementation of two more sites within New Zealand.

It is encouraging to see the New Zealand government engaging in the WHO *Framework for Action on Interprofessional Education and Collaborative Practice* to enable better collaboration among the health and social care professions. New Zealand government policy must address the need for collaboration by the fragmented healthcare systems to meet the increasingly complex health care demands of the 21st century (WHO, 2010). It appears IPE is here to stay.

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