

Review article

Leadership of a Clinical Academic Health Centre

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ABSTRACT

The Clinical Academic Health Centre concept involves one or more health service centres forming a partnership with an academic centre, with a primary objective of leveraging of the strengths of both organisations and to hasten the process of knowledge discovery, with accelerated translation of innovations and research outcomes into clinical practice. The underpinning leadership challenge is the creation of a unified vision and mission, ensuring that strategic direction is aligned to the strategy of the major stakeholders.

1. University dental schools

1.1. Education and training

As a general principle, dental schools are affiliated to a university and are subject to the governance of that university. The core activities of any university affiliated school or faculty are teaching and research. An additional requirement in dental schools is the need to deliver patient care as a core component of clinical training. In dental schools, teaching can be at the undergraduate or graduate level depending on the country. For example, in many European countries, primary dental degrees are undergraduate programmes, whereas in the United States dentistry is a graduate entry programme. Many dental schools also train qualified dentists in specialist programmes leading to the award of Masters or professional doctorate degrees. In addition to being awarded a degree at the end of a programme of study, eligibility to practice dentistry is predicated on recognition of the award by a licencing authority. In some countries, e.g., the United Kingdom, the degree awarded by a recognised university is accepted as evidence of fitness to practice. In other countries, e.g., the United States of America and Canada, a practice licence can only be obtained following completion of a recognised degree programme and successful completion of the relevant state board or national licence examination. There are, therefore, a number of internal and external stakeholders in the education and training provided by dental schools. One of the challenges for the leadership of a dental school is regular, meaningful engagement with all of these stakeholders.

1.2. Research

Standards in clinical practice are informed by innovation and high-

quality research. From bench to bedside to population, it is imperative that research outcomes are translated into clinical practice. A university dental school should aspire to conduct research with global impact which influences teaching and clinical practice. The capacity of dental schools to deliver this aspiration varies widely across the world. It is influenced by leadership in research, the availability of suitable laboratory and clinical research facilities and, funding. Many dental schools promote research through undergraduate research projects, projects undertaken as part fulfilment of Masters degrees by coursework, Masters by research and, doctoral level (e.g., PhD) programmes. Universities are keen to be well-placed in international rankings tables (e.g., Times Higher, QS rankings) and expect dental schools to contribute meaningfully to this effort. Quality of research in dental schools is a strong driver of international rankings.

1.3. Patient care

A key differentiator to other programmes of university study is the need to provide students with instruction in patient care in dental schools. This requires hospital facilities, access to appropriate patient pools, and clinical support staff, including dental nurses/chairside assistants, radiographers and dental technologists. In some jurisdictions dental hospital facilities are managed by the University and patients are recruited explicitly to be treated as part of a training programme. In other jurisdictions, such as dental hospitals in the United Kingdom, clinical facilities are typically operated by the local hospital services provider. In this scenario, the dental school forms an agreement with the hospital services provider for the use of facilities. Importantly, the infrastructure and human resources required to support clinical instruction in dentistry are expensive, making dentistry one of the most resource intensive programmes in the university sector.

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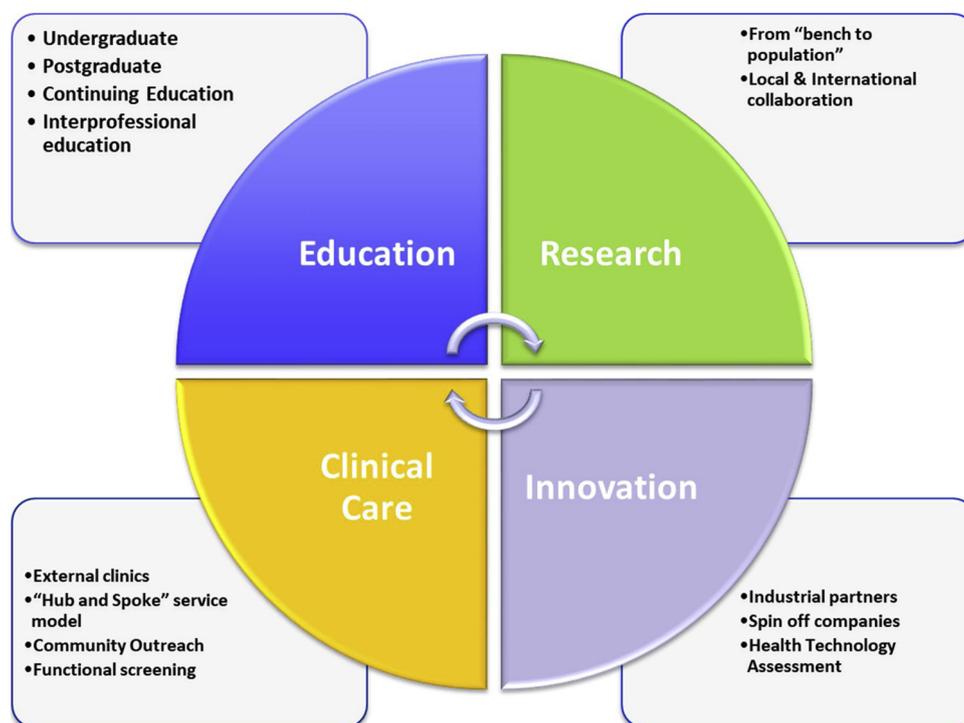


Fig. 1. Ideal relationship between the four missions of a university dental school.

In summary, dental schools have three broad missions: education and training, research and clinical service provision. Arguably, innovation should be added to this, as this captures entrepreneurial enterprise and collaborative working with the dental industry. These missions should complement and create synergies with each other, as shown in Fig. 1.

When the clinical mission falls under governance of a hospital or other health services provider and the academic missions are governed by the University, there are many, different leadership challenges.

2. The Academic Health System (AHS) Concept

The relationship between academia and health services is often complicated by the different governance and funding arrangements for each of these sectors. The health service priority is service to patients, as measured by quality of patient care and clinical outcomes. There is often a conflict between service delivery exigencies and time for clinical staff to participate in teaching. On the other hand, the priorities of the academic enterprise, albeit in a clinical environment, are teaching, research and innovation. When individuals are required to work across these two sectors, they are frequently challenged by mission conflict, unaligned strategic and operational priorities and disputes over funding. Such challenges lead, amongst other things, to less than ideal integration of care provision, obstacles to structured clinical instruction and training, and, significant impediments to research translation. Ultimately, all this has a negative impact on efficiency and effectiveness, and in a healthcare setting, potentially, patient care.

In recognising these challenges, the concept of the 'academic health science system' or, as referred to in this paper, the 'academic health system' (AHS) was developed [1–3]. The AHS concept involves one or more health service centres (e.g., acute care hospitals) forming a partnership with an academic centre, such as a university school or faculty of health sciences with a primary objective of leveraging of the strengths of both organisations. In so doing, the AHS aims to hasten the process of knowledge discovery with accelerated translation of innovations and research outcomes into clinical practice. Ideally, the AHS model would be implemented by merging of the boards of management

of the constituent entities. Governance of the AHS would then be overseen by a single board of management around a common vision and mission. However, as hospitals and universities are separate legal entities, in practice, this is rarely achieved. In most cases, an AHS operates by forming partnerships which work to a common objective, whilst respecting the existing legal structures. The constituent organisations continue to operate independently, but strategic and operational co-operation and collaboration is overseen by a corporate entity with senior representatives from each of the constituents. Boards of management have responsibility for oversight of budget, risk management, audit, policy setting for IT and infrastructure and strategic planning across all domains. In public sector organisations, there is the further responsibility of alignment with the policy of the relevant government ministries.

There are many examples of AHS across the UK, Europe, USA and Australia which follow this model, and they vary in size and scope [4,5]. A large number of AHS have been in operation for many years in the US, including University of Michigan Health System, University of Pittsburgh Medical Center and Boston Medical Center. In the UK, the first AHS to be established in 2007 was Imperial College Healthcare. Other UK institutions have followed suit, including King's Health Partners and Manchester Academic Health Science Centre. There are local factors which influence the priorities of these individual AHS, but the concept is universal.

There are opportunities for dental institutions to become part of an AHS; however, to date, a relatively small number of dental schools are fully integrated into an AHS. King's College London Faculty of Dentistry and Oral and Craniofacial Sciences, formerly King's College London Dental Institute is part of Kings Health Partners, and the National University of Singapore Faculty of Dentistry is a constituent member of the National University Health System in Singapore.

3. Potential benefits of Academic Health Systems

Although not exhaustive, the following advantages may be leveraged in an AHS.

- 1) A key challenge with research endeavour is how to work across organisations to maximise the potential to translate laboratory findings into clinical practice locally, nationally and internationally. A frequently encountered issue is the segregation of researchers from clinicians and policy makers, limiting the translation of research findings from bench to bedside and population. By working in silos and in a disaggregated manner, translation can be severely limited. In a properly functioning common research governance model AHS, clinicians and researchers are brought together in a collaborative manner. Many of the administrative processes governing research are unified, and financial resources are prioritised to enhance the speed of research translation. The opportunity within an AHS also exists for clinicians to liaise with scientists and raise awareness of scientists about clinical problems requiring innovative solutions. These initiatives are gaining further traction through the development of “clinician-scientists” [6,7]. In this career path, the individual will be uniquely placed to work across the sectors as they have both specialist clinical and doctoral level research training, often together with postdoctoral research experience. Many top universities are now enhancing appointment opportunities for staff trained in this manner, as they are key to bridging gaps between clinical, laboratory and population health domains.
- 2) A further benefit to the health system is the increased access to expertise beyond the traditional health biosciences arena. Increasingly, we recognise that changing population demographics caused by aging, and, the high burden of chronic disease with major financial implications requires innovative approaches to population health. This includes how we harness augmented intelligence systems and “big data” for health surveillance and the design of buildings and work areas and how this impacts healthspan. Expertise such as computer science, mathematical modelling and artificial intelligence, building design and robotics engineering is available within universities. Health services can gain increased access to this expertise through the AHS and utilise it to develop solutions for these complex population health issues. Part of the leadership role in the AHS is to actively encourage and support these relationships and explicitly link them to strategic planning. This support includes using financial incentives as a driver for collaboration and cross institution co-operation.
- 3) Access to data sets for research and extra mural training sites for university students in hospital sites can be facilitated through partnership in an AHS. Students can be granted appropriate access to health records, and joint data protection protocols can be developed jointly by the academic and clinical partners in the AHS to safeguard patient information. This substantially raises the connection between future clinicians and healthcare workers and the population they will be serving. By making students more aware of the issues facing the population, it should set them on a path to being future ready clinicians.
- 4) In organisational efficiency terms, the AHS encourages and facilitates efficiencies and productivity gains. In collaboration, there is potential for pooling financial and human resources around priority areas and duplication of effort can be identified and eradicated. Cost of care may also be reduced through implementation of value-based healthcare initiatives and greater integration of care pathways across specialist and generalist levels of care.
- 5) Patient safety and clinical outcomes can be improved through enhanced team-working and sharing of best practices.

4. Leadership challenges in an AHS

There are a number of key considerations, challenges and opportunities which the leader of a dental school may face when operating in an AHS. The following views are primarily based on my own experience in leading a new entity in Singapore known as the National University Centre for Oral Health, Singapore (NUCOHS). This new entity is a new

constituent part of the National University Health System (NUHS), with the NUS Faculty of Dentistry already a constituent of the NUHS. The Dean of the Faculty of Dentistry is a member of the NUHS Senior Management Team/Executive Group.

In 2017, the Ministry of Health announced a reorganisation of the structure of the health system in Singapore and enlarged the NUHS to incorporate a number of other hospital and primary care entities. The “new” NUHS is made up of 12 entities, including a tertiary acute care hospital, two general hospitals, three national specialty centres, the NUS School of Medicine, Faculty of Dentistry, School of Public Health, integrated healthcare facility/community hospitals and, a primary care polyclinic group. The NUHS is co-owned by the Ministry of Health and the National University of Singapore, so it is a true AHS. Approximately 13,000 people work in the NUHS and it directly serves a population of approximately 1.5 million people, residing in the western half of Singapore. The formation of the new enlarged NUHS cluster enabled integration of primary, secondary and tertiary oral healthcare in the public healthcare system for the first time. In the emerging governance model, the new national oral healthcare centre (NUCOHS) will take the lead in driving the oral healthcare strategy for the NUHS cluster. A collective approach will be taken to plan care across the NUHS cluster and deliver high quality care in a financially sustainable manner. This includes balancing demand for private and publically subsidised oral healthcare.

The NUS Faculty of Dentistry and NUCOHS will operate in partnership with primary and secondary care oral healthcare providers within the NUHS academic health system with the objective of transforming oral health in Singapore. In the coming years, there will be a significant ramp-up of patient referrals to this new centre for subsidised (i.e., care costs co-funded by the government) specialist oral healthcare. At the same time, the number of undergraduate dental students will increase to 80 per annum from 2020 (currently 54 per annum), rising to 90 per annum by 2030. The need for a suitable patient pool for student training is going to increase significantly. All of these students will need to have placements in public sector clinics upon graduation, so it is essential to have integrated thinking in how to plan all of this with relevant stakeholders. The population of Singapore is aging very rapidly, and greater training opportunities in geriatrics and special care dentistry will need to be provided for students and graduates.

In addition to the Faculty of Dentistry and the NUCOHS, the network includes two hospital dental clinics and three community based primary care clinics. Being part of this AHS greatly facilitates the planning of the whole spectrum of oral healthcare in Singapore, as it enables:

- Clinical care paths to be developed across the NUHS network with “right siting” of patient care depending on level of complexity. These care paths are agreed at AHS level, and influence the referral pattern of patients from primary to tertiary level care and onward to maintenance care.
- Greater harmonization of shared care between medical and dental professionals; this includes increased opportunity for collaborative research.
- Placement of students and new graduates for training purposes across the hospital and primary care sites in the network; greater opportunities for inter-professional training
- Access to patient pools in all the clinical sites for clinical trials and primary care-based research; it also increases the opportunities for training in outreach facilities such as intermediate and long-term care facilities.
- Improved feedback to the Faculty on training needs and how to make clinicians’ future ready’.
- Data monitoring for patient care outcomes and disease surveillance, and, value-based care initiatives. Greater efficiency in use of human and financial resources, with system wide planning of manpower and avoidance of duplication of services in the public system.

5. Establishing a common vision and mission for oral health in an AHS

The initial leadership challenge is in creating a unified vision and mission, ensuring that strategic direction is aligned to the strategy of the two major external stakeholders, namely, the university and the health system. In formulating the vision and mission, it is wise to adopt a “bottom-up” approach. The leadership needs to engage directly with the clinical, academic and administrative staff across all of the grades of employment to hear their views. Using a facilitator to co-ordinate these discussions and to collate the feedback is a very useful means of being seen to have listened to the staff. Leadership needs to understand clearly that staff may have reservations about losing some of their professional identity in making trade-offs to work under an AHS model. They have to be persistent and persuasive in articulating the benefits of the AHS to ensure moving to this model of governance is not seen as a “hostile takeover” by one or other entity. Key concerns tend to be terms and conditions of employment, lines of reporting, allocation of physical, financial and/or human resources. Over time, many of these issues can be resolved with discussion, and the leader can offer a clear sense of direction having addressed key concerns. At this point, it becomes easier to have a constructive discussion about the vision and mission statements. Once these are agreed, the leader then should communicate this formally to all the staff and rally them to work collectively.

6. Importance of strategy and priority setting

In any new organisation structure, it is vital to have a short to medium term strategy, with objectives and key performance indicators. This enables the leadership to identify priorities for attention, and, to negotiate for resources with external stakeholders. Within an AHS, there should be an expectation of better team-working across health service and research domains in particular, and these need to be carefully monitored. The use of key performance indicators allows the leadership to track progress of key objectives over time, and to use this information in a transparent way to feedback to staff on organisational performance. It also helps to show if a key initiative is likely to work, or

if it needs additional measures to make it work better or faster. By identifying early successes, the anticipated benefits of being in an AHS can be clearly identified and act as an additional incentive for staff to work across previous institutional boundaries.

7. Conclusion

By reducing the number of silos in the healthcare landscape, intuitively, improved synergies between clinical service and academic institutions should benefit those organisations and the people they serve – patients and students. The AHS model offers the potential for greater co-operation and widening of the horizon for training and research collaboration. It requires considerable input of time to secure the “buy-in” of the majority of colleagues in a variety of institutions to work together toward a common goal. Clarity of purpose and development of trust between the institutions is critical to success. Ongoing communication with all staff in the development phase through to implementation and performance monitoring is critical. For dental institutions, including dental schools, there are many benefits to harmonising the clinical service, education and research missions. There is strong potential for improved collaboration with other domains within and beyond healthcare.

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