VALUE OF A SYSTEMATIC APPROACH TO INNOVATION IN ACADEMIC HEALTH CENTERS

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A cademic Health Centers (AHCs) innovate to improve the health of the population by enhancing their global performance in care, education and research. Some AHCs have put in place a systematic approach to better manage innovation, such as innovation centers or chief innovation officers to better manage innovation. But, most of them are still thinking this approach is not necessary and could potentially be a barrier to creativity. Innovation in healthcare is complex due to multiple barriers that hinder its implementation. Academic Health Centers (AHCs) constantly innovate to better respond to their patient’s needs. Some AHCs have put in place a systematic approach to better manage innovation. However, most of them are still thinking this approach is unnecessary. This perspective presents the added-value of putting in place a dedicated approach in managing innovation in an academic healthcare setting. In addition, it explains the barriers in implementing innovation and what aspects, approaches and strategies can be put in place to overcome these barriers.

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To overcome these barriers, AHCs need to implement a systematic approach of innovation within their organization and their larger innovation ecosystem, which includes universities, nonprofit organizations, national and international knowledge and innovation networks and private industry. This approach can be an innovation center which provides innovation services inside the organization, an innovation hub to connect potential partners and expertise or a chief innovation officer leading innovation. In all cases, the goal is to facilitate the management of healthcare innovation through the whole cycle of innovation, from the problem or idea definition, to its development and experimentation, validation, implementation, impact assessment and valorization. To implement such an approach, AHCs need to work on different aspects: culture of the stakeholders, organizational structure, development of networks and partnerships.

The first human barrier to be worked on is the culture of innovation, which needs to be developed individually and collectively. AHCs should promote the creativity of their clinicians and employees since they are at the frontline of care and services. For example, CHU Sainte-Justine - one of the largest Mother and Child University Health Centers in Canada, which performs more than 3,500 deliveries, 20,000 inpatients, 80,000 ER visits and 220,000 outpatient visits - decided to implement an innovation program when they observed that creativity was strong and ubiquitous, but in silos and poorly translated and valorized. The senior management tapped into individual creativity by allowing local teams to choose both the problems to be addressed and the ways of developing the solution to be deployed in an interdisciplinary approach. Individual engagement in innovation boosts collective intelligence. Hackathon is a concept developed by Hacking Health with CHU Sainte-Justine and HEC Montreal University. These open innovation events, lasting 3 days to four weeks, bring patients and caregivers together with people from outside the institutions, such as academics, IT programmers, designers and citizens. These pluridisciplinary teams come together around one problem or idea to improve the health of the population. At the end of the event, they come up with a prototype, such as a device or mobile app, that
solves their problem or demonstrates their idea [3]. Strong, creative individuals will contribute greatly to their team through collective intelligence.

The second component that helps lift organizational barriers is an innovation-friendly organizational structure. AHCs must be agile enterprises. Health professionals within these institutions are exposed to uncertainty and must deal with concrete problems. By giving a voice to users in a bottom-up model, both health professionals and patients can develop solutions to their problems that have real value for them, their institution and society. In his article “The Hard Work of Health Care Transformation,” Bohmer (2016) emphasized the importance of encouraging detailed, low-level, repetitive redesign of local processes one at a time and stated that these local reiterative designs are the reality of improving healthcare. Frontline managers and local teams must be supported in developing, validating and implementing ideas and solutions by dedicated innovation and support teams who are key players in facilitating these innovations [4]. In 2014, CHU Sainte-Justine developed new dedicated teams to facilitate innovation and help local teams walk through the cycle of innovation one step at a time. For the internal teams, there are exploration units or living labs whose mandates are to integrate innovation and knowledge. For external industries, they have an innovation platform which understands their needs for their products and services, assures that the latter respond to the patients’ needs and help facilitate the implementation of those innovations. In addition to these dedicated teams, CHU Sainte-Justine also has support and expert teams that facilitate the innovation cycle, including a legal department, patient partnership office, performance and quality office, research and ethics committee, teaching and simulation center [3]. Since their implementation in 2014, the dedicated innovation teams have managed 46 projects, some with measured impacts on quality and efficiency. For example, we tested and validated a new technology in the provision of a NO gas, which has saved $1.25 M while maintaining safety and quality of care. Also, we developed a business and scientific plan for a new innovative immunotherapy clinical and research program to eliminate allergies in children, which received major funding from philanthropic revenue streams and other grants.

A third organizational component in inspiring and valorizing innovation is developing internal and external networks through strong partnerships [5]. Within every AHC, horizontal and vertical networks are essential to help AHCs become learning health networks to quicken knowledge transfer to the patient’s bedside. External networks, such as local, national and international academic networks are another example. AHCs in Montreal, along with their affiliated universities and consortiums in the health technologies sector, came together and applied for two major grants funded by governmental, philanthropic and industrial revenue streams. These grants range from artificial intelligence projects in healthcare transformation, to medical technologies in cancer, cardiorespiratory diseases and musculoskeletal diseases. They finance an ecosystem that includes expertise and infrastructure, facilitating innovative projects in these sectors and encouraging industrial transfer to start-ups and small or medium-sized enterprises as well as knowledge transfer. Through ecosystems, AHCs can access larger funding and contribute to the economy of the city and province. Additionally, AHCs develop and maintain community of practice on an international level, which encourages knowledge creation, sharing and dissemination in different domains. One example is the Mother and Child Network of the Francochophic, which includes 21 international AHCs sharing and developing knowledge and innovation, and an upcoming community of practice on healthcare innovation management.

To conclude, we believe AHCs must implement a systematic approach to healthcare innovation to better seize its complexity, overcome internal and external barriers and propose solutions that are directly adapted to patients’ and families’ needs. They are also most suited to do so, due to their capacity to generate creativity, innovation and knowledge on an individual and collective level. Healthcare systems and society need to count on AHCs and their learning health networks as a source of innovation. AHCs have a responsibility to support the larger healthcare network in partnership with their universities, nonprofit organizations and industries. By implementing these approaches to innovation in a larger open ecosystem, they will contribute to knowledge advancement and development of an evidence-based approach to healthcare innovation.

References