
Getting Creative in Health Care

Report Fact Sheet

As daily news stories remind us, the Australian healthcare system accounts for a significant share of national expenditure and faces some unprecedented pressures. We have an ageing population and a community with greater expectations of healthcare services. We also face an uncertain future. Unusual and unexpected diseases as a result of climate change, for example, have to be planned for. There are also long standing inequities in access to services for those living in rural and remote areas and for Indigenous groups which need redressing.

The healthcare system also exists in a world with ever increasing demands for information. As the new report, *Getting Creative in Healthcare*, undertaken by the ARC Centre for Creative Innovation (CCI) argues, it is vital that the sector is able to effectively harness the power of information and communication technologies.

In its latest report, the ARC Centre of Excellence for the Creative Industries and Innovation (CCI) has found that creative expertise and services are not just an integral part of health care but they are also helping the health sector address these challenges.

For the purposes of the report, 'creative expertise and services' are delivered by those who work in a specific sector of the workforce which includes defined occupations such as professional writers, designers, filmmakers, software specialists, architects or artists. Such a definition is to aid clear analysis, and does not exclude any other occupation being considered creative in a generic sense.

People working in these occupations are found in both 'specialist' creative industries, but increasingly, they are also employed across the economy as a whole, contributing to the goods and services produced by many industries.

The ARC Centre of Excellence has been mapping the growth of creative professionals in the economy and has shown that there are more 'creatives' outside the creative industries as such than there are employed within them. These analyses show that modern societies are not only information-intense, they increasingly need the aesthetic, human-focussed and innovative approaches of 'creatives'.

But this story – of their presence in, and contribution to, the health sector - is one rarely told before.

The *Getting Creative in Healthcare* report demonstrates the ways in which our creative human capacity has an increasing role in helping the healthcare system to adapt and become more efficient, while delivering better quality outcomes for the community.

The project's primary research objectives were to take a broader approach to where and how creative inputs are involved in Australian healthcare. The research objectives were two-fold; the recent census data were examined in order to identify creative occupations within the healthcare system; and case studies were undertaken to look at key features in

the external supply of goods and services to the healthcare system, as well as creative activities embedded within the system.

Main findings of the project include:

- creative expertise is sourced in many ways by the healthcare system. For example, in addition to the embedded and external creative specialists, some creative activities are undertaken by healthcare professionals as part of their clinical work. Patients are also encouraged to utilise creativity for their own treatment and for assisting the treatments of others.
- creative employment in healthcare is growing 2 1/2 times faster (from a low base) than the sector as a whole, indicating that creativity is becoming more important to the provision of healthcare goods and services. Creative skills are widely integrated in health and they support most aspects of the operation of the healthcare system, particularly in information and knowledge management, the supply of medical skills, clinical services and infrastructure.
- many innovations involve multiple creative skills. The innovation processes appeared to be particularly effective when creatives worked closely with key stakeholders (especially healthcare professionals, but also patients or the community).

The research also identified a number of ways creative skills are utilized in the day-to-day practice of health care. These include:

- Reliable medical information is essential for quality care. And accessing the “right” information in the face of the rapidly expanding body of clinical information can be challenging for clinicians and patients. For the provision and management of clinical information, creatives such as writers and software developers are important to the sector.
- Software developers, as well as librarians, are also active in enhancing the efficiency of identifying appropriate and reliable information for clinicians. The work of web developers, animators and multimedia professionals is making complex information more user-friendly and accessible, particularly for isolated individuals and groups. This has been shown to improve health and lifestyle outcomes.
- Software is central to the collection and management of the voluminous amounts of patient data and for analysing such information for diagnostic purposes. As the complexity of this data increases, more digital tools are required to assist the clinician’s understanding of diseases and for treatment planning. Software-based data mining is also being used to enhance hospital efficiency and reduce iatrogenic disease.
- Virtual reality is being utilized in educating new doctors and nurses and for training healthcare teams to work together effectively in crisis situations. For example, young doctors can utilise tools such as the *Mediseus Epidural* to practice injections into the spine. Software in the device simulates the feel of skin, bone etc during the injection and it can be used instead of the traditional techniques which involved practising on oranges or dummies. Software skills are also being used to develop other technologies that enable other healthcare professionals to do roles traditionally carried out by doctors.
- The quality of building design significantly impacts on the ability of healthcare providers to deliver services efficiently and effectively - to provide a healing environment for patients. For example, the architectural firm, Billard Leece Partnership is part of a consortium that is designing the new Royal Children’s

Hospital in Victoria. A key feature of the new hospital will be a two storey aquarium as part of the central core of the building. This will serve to distract young distressed patients and their families while directing the appropriate flow of human traffic around key areas of the hospital.

- The visual and performing arts, film, video and digital technologies are used in healthcare services such as arts-based rehabilitation. In addition, music and the arts are also integrated into some therapies (eg music therapy) as well as being used in web-based mental health services by patients and healthcare providers. Interventions by allied health workers appear to assist in the improvement of communication skills, reduce stress and offer better quality of life for some of the most disadvantaged patients.
- In general, many arts-based creative skills add a unique dimension to traditional health services, including a more holistic approach to dealing with illness and an innovative perspective to health and well being. . However, employment in the traditional arts occupations such as the visual and performing arts within the healthcare system is diminishing in relative terms and this suggests that these skills may be an under-utilised resource
- In contrast, film, video, radio, animation and multimedia appear to be assuming greater importance in healthcare. They are enabling diagnosis, treatment planning and better monitoring of treatment outcomes, particularly for complex or one-off situations, when doctors need to understand the complex inter-relationships between several parts of the body and movement in three dimensions. For example, the software tool *True Life Anatomy* converts scans, which are in 2 dimensions into accurate 3D visualisations which can be rotated in space so the surgeon can see the relationships between bones, the joint, blood vessels etc, the movement of the joint can be modelled, bones can be "removed" and the dimensions are very accurate.
- Computer games have several uses, including for diversionary therapy and experiential learning in mental health therapies. While the most often projected use of digital technologies is in telemedicine, the speed of uptake depends on the demand for multiple innovations as well as the establishment of supporting infrastructure.
- Digital content is being used in many aspects of the healthcare system and its services, including online publishing of medical journals and lifestyle education materials, the use of games and entertainment content for diversionary therapies, and mental health services. Graphics and visual displays are used in the process of diagnosis, surgery planning and research - particularly in light of the increasingly information-rich aspects of research and clinical work.
- These technologies are significant tools for addressing some of the most difficult problems in modern healthcare, particularly in relation to the brain. In other areas, the greater technical sophistication and user-friendliness of digital tools such as animation technology is increasingly within the grasp of the mainstream health workforce, enabling them to bridge the digital divide and to shape digital health content that "speaks to them". For example, *MARVIN*, a tool developed in the Northern Territory, supports Indigenous groups in making avatars resembling aboriginal community leaders that speak in the local language and deliver health messages in a culturally sensitive way.