

## **Regional Healthcare Organisations: Supporting communities to address and maintain resilience within health, social and environmental changes**

### **Abstract**

Recent reporting from organisations such as the Intergovernmental Panel on Climate Change show that unequivocally our climate is changing. In 2009 the World Health Organization (WHO) together with Health Care Without Harm (HCWH) affirmed that one of the largest contributors to global climate change is hospitals. Healthcare sectors spanning across the globe are noted as being energy intensive, large consumers of water and generate substantial amounts of waste. In order to help rectify this vast negative impact by healthcare organisations on the environment, seven key elements have been introduced by the WHO and HCWH. These elements include: energy efficiency, alternative energy generation, green building designs, food, water, waste and transportation (WHO & HCWH, 2009), many of these elements are already being factored into the daily operational activities of global healthcare organisations. As these seven key elements are becoming part of healthcare businesses, forefront healthcare professionals such as nurses are being identified as possible leaders in aiding the abatement of climatic conditions.

This complex responsibility placed on nurses has shown to be problematic especially within the Australian context. Australia remains embryonic when it comes to educating healthcare professionals to embrace and understand the value of sustainability, especially within nursing practice. Despite the lack of Education for Sustainability (EfS), healthcare organisations continue to maintain a slow but steady momentum in operational changes. This paper discusses: a) what is being implemented overseas and in the Australian context with respect to the execution of environmental sustainability (ES), b) why nurses continue to find ES an issue, and c) how one Australian Regional Healthcare Organisation through sheer determination and resilience, has transformed its traditional way of practice into a more sustainable mode of operation. Furthermore, this regional healthcare provider has transferred its innovative sustainable practices to include its surrounding community, thereby strengthening the bond between provider, humans and the environment.

## **Introduction**

1) The Intergovernmental Panel on Climate Change (IPCC) has indicated that limiting temperatures to 1.5°C will be more sustainable and equitable for societies than allowing temperatures to escalate to 2°C (Intergovernmental Panel on Climate Change [IPCC], 2018). Permitting temperatures to rise to 2°C above pre-industrial levels would have major implications for sustaining regional economic development as well as maintaining healthy communities. The World Health Organization (WHO) together with Health Care Without Harm (HCWH) has affirmed that healthcare organisations are negatively impacting upon the environment. Impacts are due to the voracious water use, intensive energy practices and large quantities of chemical and clinical waste (WHO & HCWH, 2009). The WHO and HCWH (2009) has recognised that changes to practice is not an easy task and has offered 7 key elements (aforementioned) to work with in aiding healthcare organisations in mitigating their carbon footprint. Global healthcare organisations including Australian healthcare services are already implementing some of the seven key elements.

## **Examples of global implementations of environmental sustainability**

The most prominent organisation implementing environmental sustainability across the National Health Service in the United Kingdom is the Sustainable Development Unit (SDU). The SDU was founded in 2008 and began with a route map for a sustainable healthcare system. The route map is constantly being updated when necessary; an example can be viewed in Appendix A (Sustainable Development Unit [SDU], 2013). Another important environmentally sustainable healthcare organisation is Global Green and Healthy Hospitals (GGHH) based in the United States of America.

The GGHH, a project of Health Care Without Harm was launched in 2011 and contains 10 interconnected goals which supersedes the seven key elements introduced earlier by the WHO and HCWH (2009). These goals include: Leadership, chemicals, waste, energy, water, transportation, food, pharmaceuticals, buildings and purchasing (HCWH, 2015). From its inception in 2011 GGHH hit a milestone in early 2018 with its 1,000th international member; the members come from 51 countries and are representative of more than 32,000 hospitals and health centres (Greenhospitals, 2017). Global Green and Healthy Hospitals also has a multilingual online platform namely GGHH Connect. The platform serves as a basis for healthcare organisations worldwide to share in the successes of implementing

environmentally sustainable activities, thus reducing global healthcare organisations' carbon footprints (New South Wales Nurses and Midwives' Association [NSWNMA], 2014).

### **Australia's healthcare participation in environmental sustainability**

Australia is progressively joining global organisations with the optimism that healthcare organisations here will be as strong as in other global countries. As of February 2019, the Pacific region membership to GGHH discussed earlier has reached 58 which is representative of greater than 1,000 hospitals and health services. Australian members along with New Zealand (being a part of the Pacific region) can be viewed in Appendix B (Climate and Health Alliance [CAHA], 2019). However, the wheel of progress within this area remains embryonic. Even though there is now access to online platforms aiding healthcare organisations in mitigating their carbon footprint, there remains a large gap between nursing practice and understanding the concept of environmental sustainability and its importance for health and well-being (Lewis, Moxham, Broadbent, & Fleming, 2018). Education remains the key to joining these two important areas - environmental sustainability and its value in nursing practice.

### **Education and policies for environmental sustainability in nursing practice**

A study was conducted by four universities: Esslingen (Germany), Jaen (Spain), Maastricht (Netherlands) and Plymouth (UK) over a three-year period (2014-2017), the universities were funded by Erasmus+ a European funding organisation. The result of the study is an online multilingual teaching tool for introducing environmental sustainability into nursing practice via Higher Educational Institutes (HEI) such as universities - called the NurSUS TOOLKIT (nursus.eu., 2019). The NurSUS TOOLKIT is available free of charge online to any university wishing to take up its many units. However, for use within Australia the TOOLKIT is required to be modified in order to be disseminated in line with the Australian nursing and midwifery requirements. This can be problematic as not many nursing educators within the Australian university context are au fait with environmental sustainability and its value on nursing practice.

Little (2014) emphasises that certain faculties are not comfortable with incorporating units that discuss sustainability, as the defining of the same is not widely distributed in literature across certain disciplines. Christie, Miller, Cooke, and White (2015) also assert that the slow

uptake of implementing ES into certain curricular is due to the academics' perception that ES is irrelevant to their discipline. This perception has been found to be true within the faculty of nursing and midwifery in certain universities within Australia.

Many nurses within Australia although engaged in implementing ES within their daily nursing practices, remain struggling to identify the link between ES and the benefits it holds for the nursing profession. The lack of education from HEI's on ES for nurses is such that implementations for mitigation of a healthcare organisational's carbon footprint is not being fully addressed, and nurses are unable to fulfil the part of being able to optimise their potential of becoming environmental stewards (Lewis et al., 2018). One university however is working toward being proactive in addressing EfS by trialling the NurSUS TOOLKIT. Monash University in Victoria, Australia has modified a section of the TOOLKIT to suit the Australian educational requirements for nurses. This is a positive step as it aligns with some of the Australian policies for nursing practice that advocates for an engaged knowledge between health and the environment. A few examples are provided in Table 1.

Table 1

<b>Organisation</b>	<b>Environmental Policy</b>
<b>New South Wales Nurses and Midwives' Association (NSWNMA)</b>	The NSWNMA has a 10-point policy. The first 6 points relate to what healthcare facilities need to implement to become environmentally sustainable. The other 4 points relate to engaging nurses in all facets of environmentally sustainable issues within the workplace including awareness of social and political concerns. The NSWNMA also have a position statement on climate change.
<b>Australian Nursing and Midwifery Federation (ANMF)</b>	The ANMF has a 6-point policy on climate change which centres on education, health and climatic conditions and how accreditation should target areas on procurement, energy efficiency, water use and waste management.
<b>International Council of Nurses (ICN)</b>	The ICN position statement on nurses, climate change and health has recently been revised in 2018 from 2008. Due to its contents within this area the position statement has been recognised globally.

Nursing policies on Environmental Sustainability

Despite having such policy statements as addressed in the above table, a large cohort of nurses remain unaware of their existence, and very little is being done to police such

activities within healthcare organisations in Australia. As healthcare organisations are using a more contemporary approach to their business acumen by implementing ES, healthcare accreditation services should also be updating their certification processes to include these new innovative practices. The Australian Medical Association (2019) acknowledge that there is a need for further development within the process of accreditation and a culture which supports the close relationship between environment and health.

The AMA's position statement on ES further highlights that the symbiotic relationship between healthcare and the environment is paramount to improving the way the health system within Australia functions. The AMA recognises the success the UK is having with the SDU and believes that Australia should be implementing such a unit. The Association posits that the government should:

- a) Establish a National Sustainable Development Unit (SDU) similar to that developed within England's National Health Service, to coordinate efforts and maximise the impact of environmental sustainability initiatives;
- b) Enable the Australian SDU to drive increased environmental sustainability in healthcare facilities, including setting targets, measuring progress against these targets, providing advice and best-practice examples, and incentivising cultural and behavioural change;
- c) Build on environmental sustainability efforts implemented in healthcare systems at a state level, working with jurisdictions to integrate these efforts into a national SDU, and
- d) Liaise with all state and territory health departments to coordinate efforts to improve healthcare environmental sustainability. (AMA, 2019, p. 2)

The position statement put forward by the AMA is one to be noted as the SDU although being in its eleventh year has continued to strengthen its position over the years within the UK's National Health Service. Implementing such a unit within Australia can only be regarded as an asset towards guiding and educating Australia's healthcare organisations into becoming more sustainable. As previously pointed out education is an important way forward however this should be a shared process.

### **Sharing educational responsibility**

It is unreasonable to place the onus of EfS solely on HEI's due to previous statements made earlier by Little (2014), that there is a lack of knowledge for certain faculties on the topic of sustainability. As healthcare organisations are now being noted for being progressive within

implementing ES into their daily operations, the sharing of education on ES should be a collective process. The imparting of shared knowledge from both HEI's and healthcare organisations is complicated. The lack of knowledge from HEI's has already been discussed however, it has been noted that healthcare organisations are failing to inform and educate their staff on the importance of running a sustainable business which incorporates social, economic and environmental requirements.

Lewis et al. (2018) conducted a Hermeneutic Phenomenological study on 'Becoming a climate-friendly hospital: Implications for nursing practice within the Australian healthcare context'. Through a methodical analytical process, the authors were able to identify the underlying problematic areas encompassing ES in nursing practice, these included:

- a) A lack of awareness surrounding ES due to no organisational procedural frameworks on ES that could be identified by nurses;
- b) A knowledge deficit which meant nurses could not assign any value and/or significance to ES for either nursing practice or for the wellbeing of patients, and
- c) Although the hospitals were implementing environmentally sustainable activities, the nurses could not identify with their hospitals as being climate-friendly; therefore, there was a lack of ownership. (Lewis et al., 2018)

Irrespective of the above issues continuing to be problematic, Australia's healthcare organisations remain steadfast within their goals of mitigation. One healthcare organisation that has been successful in bridging the gap between education and practice is that of Kooweerup Regional Healthcare Service (KRHS). Through sheer resilience and determination, KRHS has been able to implement ES successfully into its business acumen and has educated its staff in the value of such actions on patient care.

## **Case Study: Kooweerup Regional Healthcare**

### **Hospital profile**

Kooweerup Regional Hospital Service is a public hospital containing less than 50 beds. The service provides: residential, home, respite, transitional and acute care; health support and district nursing, medical and community services (Australian Institute of Health and Welfare [AIHW], 2019).

## Geographic Location

Kooweerup Regional Health Service (KRHS) is located within the Cardinia Shire, Figure 1.



Figure 1. Koo Wee Rup suburb map. Adapted from Koo Wee Rup suburb map, Cardinia Shire by .id the population experts, n.d. (profile.id.com.au, n.d.)

The regional health service is located at the head of Westernport Bay, Victoria which is 75 km south east of Melbourne. Despite being one of the fastest growing urban communities, it never-the-less remains predominantly rural. According to Thoms (2017, as cited in Thoms & Fitcher, 2017), the area is susceptible to adverse weather events which impact upon the community causing floods and bushfires. It is because of these extreme weather events that KRHS and its community have become resilient in the face of adversity.

### Building a strong resilient community

Due to the Cardinia Shire being in a vulnerable position climate wise, the community has become resilient with the aid of KRHS. The health service felt that it was important to engage with its community members to maintain resilience against adverse weather events. A consultation took place and a communal network created to identify the needs of the community. Members of the network include:

- Senior hospital management;
- Health promotion team;
- Aged care nursing staff;
- Support staff and residents;
- Local gardeners;
- Community members;
- Local government;

- Local schools;
- Other health organisations;
- Businesses, and
- Youth groups and environmental groups. (Thoms & Fitcher, 2017, p. 4)

Post consultation with community members KRHS implemented the following to address climatic conditions, green house gas emissions and resilience. These implementations can be viewed in Table 2.

Table 2

Kooweerup's commitment	Implementations
<b>District Nurses:</b>	<ul style="list-style-type: none"> <li>• Client Risk Assessment</li> <li>• Vulnerable People in Emergencies Register</li> <li>• Severe Weather Register</li> <li>• Information Packs</li> <li>• Flyers and Booklets</li> <li>• Verbal Discussions to address extreme weather events such as:               <ul style="list-style-type: none"> <li>○ Heat waves</li> <li>○ Bushfire alerts</li> <li>○ High winds</li> <li>○ High pollen counts</li> <li>○ Flood warnings</li> </ul> </li> </ul>
<b>Green House Gas Emissions</b>	<ul style="list-style-type: none"> <li>• <b>Energy Management:</b> <ul style="list-style-type: none"> <li>○ Transitioned to Light Emitting Diodes (LED) lighting to reduce cost</li> </ul> </li> <li>• <b>Installation of solar tubes</b> <ul style="list-style-type: none"> <li>○ Introduced more efficient and updated technology</li> </ul> </li> <li>• <b>Water Management:</b> <ul style="list-style-type: none"> <li>○ Water tanks have been installed</li> <li>○ Ozone technology for laundry</li> </ul> </li> <li>• <b>Waste Management:</b> <ul style="list-style-type: none"> <li>○ Rethink, Reduce, Reuse and Recycle philosophy</li> </ul> </li> </ul>
<b>Building Resilience</b>	<ul style="list-style-type: none"> <li>• <b>Hewitt Eco House</b> <ul style="list-style-type: none"> <li>○ 6-star energy efficiency working space</li> <li>○ Home of both District Nurses and Health Promotion Team</li> <li>○ Community room and TV for use by the community</li> <li>○ Self-tour via the touch screen which explores topics surrounding environmental sustainability and climatic changes</li> </ul> </li> <li>• <b>The Men's Shed</b> <ul style="list-style-type: none"> <li>○ Place for men to gather, share experiences and skills and to make new friends</li> <li>○ Place of creativity</li> <li>○ Men can access health information</li> <li>○ Provide general maintenance and build furniture for themselves or for the community</li> </ul> </li> <li>• <b>Youth Programs</b> <ul style="list-style-type: none"> <li>○ Youth mentoring programs – “Let's get started”</li> <li>○ Youth clinics for those with personal challenges</li> <li>○ Environmental sustainability is built into programs to engage youths into thinking about protecting their surrounding outdoor environments.</li> <li>○ Youths plant trees</li> <li>○ Create protective habitats for local fauna</li> </ul> </li> </ul>

Kooweerup's commitment to environmental sustainability (Thoms & Fitcher, 2017, pp. 6-8)

Beside the implementations shown above KRHS have won accolades in recognition of their Health Promotion Team who have promoted education surrounding sustainability and climatic impacts. Awards presented: Gold – climate leadership, and Silver – climate resilience. Another successful venture is KRHS's community garden.

The community garden according to Thoms and Fitcher (2017) provides health and social well-being as well as food security. The community is educated on growing, harvesting and cooking in a communal setting which aids in building resilience and social connections. Established in 2008 the garden was initially supported by philanthropic grants and was designed so that community members of varying abilities could access garden beds even when wheelchair bound. The garden continues to operate as a 'pick and pay' arrangement with all proceeds being injected back into the garden. Beside growing vegetables and herbs, the garden includes a chicken coop, a native garden area and a miniature orchard. For KRHS to maintain being a successful sustainable business, the value of its philosophy depends on maintaining a well-educated workforce, one which encompasses a culture surrounding ES.

### **Understanding the true value and significance**

Engaging in a culture where ES can be valued KRHS has introduced an environmental pledge as an essential part of staff inductions (Appendix C). The staff are encouraged to turn off any electrical equipment that is unused along with personal computers and lights. The Health Service also has a visiting coffee vendor, and in exchange for committing to the pledge, staff are provided with a reusable 'keep cup', this allows staff to have discounted coffee when the cup is produced (Thoms & Fitcher, 2017). Kooweerup Regional Health Service regardless of being in an area that is subjected to adverse weather events, can be classified as one of the most proactive healthcare services in Australia that has succeeded to educate its staff in ES, thus leading the way to supporting one of its healthcare's missions of mitigating its carbon footprint.

### **Conclusion**

Climate-friendly healthcare organisations are continuing to increase in number globally as well as in Australia, and as they grow in number so does the opportunity to mitigate their carbon footprint, thereby aiding in the decrease of greenhouse gases. The change in operational procedures from a traditional mode of practice to this innovative practice has not been without its challenges. This paper has discussed some of these encounters such as the

lack of education in Environmental Sustainability and finding a value for ES within nursing practice. A way forward to relinquish some of these issues has been offered such as: creating a National Sustainable Development Unit for Australia, increasing membership to organisations like the Global Green and Healthy Hospitals, and by producing a blueprint of the successful Kooweerup Regional Health Service and expanding this plan to other regional, rural and national health services for a more sustainable future.

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## APPENDIX A

**The six themes divided into three headings:**

### Behaviours, Standards and Innovation

Behaviours:	Standards:	Innovation:
<p><b>Society</b></p> <p>Work with patients, staff and the public on key sustainability issues and the future of health and social care e.g. recycling/transport/re-use of medicines.</p> <p><i>Leads to:</i></p> <p>Organisations describe services based on sustainability criteria, taking into account full life cycle costs. This is explained to public and patients.</p>	<p><b>System Governance</b></p> <p>Organisations embed sustainability into mandatory board business, annual reports, regulatory frameworks, &amp; training. Adaptation plans are developed and integrated.</p> <p><i>Leads to:</i></p> <p>Full life cycle costing methodology is developed and can be easily used for all board &amp; business decisions.</p>	<p><b>Models of Care</b></p> <p>Commission services so sustainability is part of the core criteria and invest in health and prevention. Evaluate Models of care based on environmental criteria.</p> <p><i>Leads to:</i></p> <p>Develop cross system joint sustainable service plans. Integrate with a benefits realisation process and risk assessment process.</p>
<p><b>Individual</b></p> <p>Work with individuals to choose sustainable lifestyles and products. E.g. transport, food.</p> <p><i>Leads to:</i></p> <p>People asking questions of services and providers to know how decisions are made and then make choices accordingly.</p>	<p><b>Use of resources</b></p> <p>Use food, water, waste, energy and human resources efficiently by improving measurements and procedures and installing smart meters. Build on the research needs identified.</p> <p><i>Leads to:</i></p> <p>Development of full carbon analysis for all resources and services. Health business decisions take full impact analysis into account.</p>	<p><b>Technology</b></p> <p>Encourage innovation boards, procurement processes and business cases to promote sustainable technologies.</p> <p><i>Leads to:</i></p> <p>Ensure technology developments support wellbeing and reduce inequalities.</p>

## APPENDIX B

Victoria	New South Wales	South Australia	Queensland	Tasmania	Western Australia	National	New Zealand
<a href="#">Austin Health</a>  <a href="#">Australian Nursing &amp; Midwifery Federation - Victorian Branch</a>  <a href="#">Bairnsdale Regional Health Service</a>  <a href="#">Dental Health Services Victoria</a>  <a href="#">Department of Health and Human Services, Victoria</a>  <a href="#">Epworth Healthcare</a>  <a href="#">Goulburn Valley Health</a>  <a href="#">Hepburn Health Service</a>  <a href="#">IPC Health</a>  <a href="#">Kooweerup Regional Health Service</a>  <a href="#">Manningham Day Procedure Centres (MDPC)</a>  <a href="#">Melbourne Health</a>  <a href="#">North Eastern Sustainability and Health Group</a>  <a href="#">Northeast Health Wangaratta</a>  <a href="#">Northern Health</a>  <a href="#">Peninsula Health</a>  <a href="#">South West Healthcare</a>  <a href="#">Tallangatta Health Service</a>  <a href="#">Western Health</a>  <a href="#">Victorian Allied Health Professionals Association</a>	<a href="#">Hunter New England Local Health District</a>  <a href="#">New South Wales Nurses and Midwives Association</a>  <a href="#">Prince of Wales Private Hospital</a>  <a href="#">Queanbeyan Hospital</a>  <a href="#">South Western Sydney Local Health District</a>  <a href="#">St John of God Burwood</a>  <a href="#">St John of God Richmond</a>  <a href="#">Sydney Children's Hospitals Network</a>  <a href="#">South Eastern Sydney Local Health District</a>  <a href="#">Sydney Surgical Centre</a>  <a href="#">Uniting War Memorial Hospital</a>  <a href="#">Western Sydney Local Health District</a>	<a href="#">Australian Nursing &amp; Midwifery Federation - South Australian Branch</a>  <a href="#">Women's and Children's Hospital</a>	<a href="#">Children's Health Queensland Hospital and Health Service</a>  <a href="#">Darling Downs Hospital and Health Service</a>  <a href="#">Far North Queensland Sustainability in Health</a>  <a href="#">Mater Misericordiae Health Services Brisbane Limited</a>  <a href="#">Queensland Nurses and Midwives' Union</a>  <a href="#">Princess Alexandra Hospital</a>  <a href="#">Uniting Care Queensland</a>	<a href="#">UTAS Rural Clinical School</a>	<a href="#">WA Country Health Service, South West Coast Region</a>	<a href="#">Australian Healthcare &amp; Hospitals Association</a>  <a href="#">Australian Medical Students' Association</a>  <a href="#">Healthy Futures</a>  <a href="#">Institute of Healthcare Engineering, Australia</a>  <a href="#">Mercy Health</a>  <a href="#">Southern Cross Care (NSW &amp; ACT)</a>  <a href="#">St Vincent's Health Australia</a>	<a href="#">Auckland District Health Board</a>  <a href="#">Capital and Coast District Health Board</a>  <a href="#">Counties Manukau District Health Board</a>  <a href="#">Hawke's Bay District Health Board</a>  <a href="#">Northland District Health Board</a>  <a href="#">Southern Cross Hospitals Limited</a>  <a href="#">Waitemata District Health Board</a>

## APPENDIX C

### The way forward: The pledge

I pledge to do my part to meet the challenge posed by climate change by taking the following steps:

**1. To demonstrate my commitment to sustainability at KRHS, I pledge to:**

Behaviour	YES	N/A
<b>Energy</b>		
Turn off my computer when I leave work at the end of the day		
Turn off my monitor when I leave work at the end of the day		
Switch off lights when not required (including over bed and night lights)		
Turn off air-conditioning (if applicable) overhead fans and portable heaters		
Turn off printers when I leave work at the end of the day		
Turn dishwashers off when dishes are not being processed		
Use blinds to help regulate the temperature		
<b>Water</b>		
Use a refillable water bottle instead of purchasing bottles of water		
Only use the dishwasher when it is fully loaded		
Turn off taps while soaping up hands where sensor activation is available		
Use harvested water for watering the garden where available		
Turn off or report dripping taps		
<b>Transport</b>		
Reduce the number of car trips by using public transport, walking, car-pooling, and/or riding a bike (bike rack in A/H carpark)		
Use teleconferencing to reduce work-related car where possible		
<b>Waste</b>		
Reduce paper consumption by printing on both sides		
Reduce printing by only printing when necessary for example circulate one report rather than multiple copies		
Recycle used paper for notes		
Use electronic media wherever possible		
Bring my "Sustainable Keep Cup" for my drinks		
Segregate general waste from clinical waste		
Segregate recycling waste from general waste		

**2. Are there any behaviours that you would like to pledge to? Suggestions can be: Purchasing fresh vegetables from local growers such as community garden or the South East Food Hub. Participation in the community garden - by picking out a few weeds or purchasing vegies helps keep it sustainable.**

**My suggestion:**

.....

**3. I am interested in becoming a sustainability supporter at KRHS? This would entail you being a team leader for sustainability in your department/area. Training to support you in this role will be available and you will receive sustainability information for you to share within your department/area on a regular basis. Yes No**