SHPA submission to Federal Budget 2023-24 submission, January 2023

Introduction

The Society of Hospital Pharmacists of Australia (SHPA) is the national, professional organisation for the 6,100+ Hospital Pharmacists, and their Hospital Pharmacist Intern and Hospital Pharmacy Technician colleagues working across Australia's health system, advocating for their pivotal role improving the safety and quality of medicines use. Embedded in multidisciplinary medical teams and equipped with exceptional medicines management expertise, SHPA members are progressive advocates for clinical excellence, committed to evidence-based practice and passionate about patient care.

Hospital pharmacists as medicines experts operatively manage and clinically ensure the safe, efficient and effective use of medicines within Australia's hospital system. Hospital pharmacists are responsible for almost a quarter of all Pharmaceutical Benefits Scheme (PBS) medicines expenditure, accounting for just over $3 billion in expenditure from public and private hospitals each year when providing care and supplying medicines to hospital patients.

Hospital pharmacists are skilled in providing clinical services which ensure quality and effective use of medicines for patients improving overall health outcomes which enables the federal government to mitigate unnecessary health costs by reducing medication wastage, reducing medication-related harms, optimising medication use, decreasing patient length of stay in hospital and reducing hospital readmissions and their associated Medicare costs. The value of clinical pharmacy services is well documented in literature, with an Australian economic analysis indicating a $23 return for every $1 spent on clinical pharmacy services.[1] The COVID-19 pandemic has also shown that hospital pharmacists are critical in the co-ordination, distribution and supply of critical medicines as well as in the review and governance of the ongoing treatment of complex and serious health conditions.

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Recommendations

SHPA welcomes the opportunity to provide input to the 2023-2024 Federal Government Pre-Budget Consultation Process. After the long-awaited review of Australia's *National Medicines Policy (NMP)*[2], the updated document published in 2022 affirmed the Australian Government's priority to resource equitable and affordable medication access and care that meets patient need, regardless of location or care setting. SHPA's submission outlines specific areas in the attached document to deliver on the central pillars of the NMP and achieve sustainable and optimal health outcomes for Australians in the short and in the emergent longer term which are as follows:

1. **Implement Pharmaceutical Reform Agreements (PRA) in New South Wales (NSW) and Australian Capital Territory (ACT) to achieve equitable access to Pharmaceutical Benefits Scheme (PBS) medicines, support safer discharges and transitions of care and ease reliance on primary healthcare systems.**
2. **Include clinical pharmacy services on the Medicare Benefits Schedule (MBS) to support collaborative medication management embedded into primary care, reducing the impact of the GP shortage and improving timely access to care post-discharge from hospitals. MBS funding for clinical pharmacists will allow implementation of proven service models that improve safety, efficiency, and timeliness of care, such as:**
   - **post-discharge medication review services, to reduce readmission,**
   - **embedding clinical pharmacists into GP workflows allowing pharmacists to manage medication histories, optimise prescribing and treatment decisions, educate and counsel patients and monitor response to medicines**
   - **improve the value of medication review services by strengthening the viability of hospital-initiated medication reviews.**
3. **Commission a Pharmacy Scope of Practice review to derive best value from the expanding scope of practice for pharmacists and pharmacy technicians in Australia, to assist the Commonwealth in harnessing the benefits and efficiencies these will deliver to patient care in a consistent, evidence-based, safe and quality manner.**
4. **Commission a ten-year National Pharmacy Workforce Plan to support pharmacy workforce sustainability and expanded scope of practice.**
5. **Enable public hospital pharmacists to supply PBS medicines under the Closing the Gap PBS Co-Payment Measure to Aboriginal and Torres Strait Islander people, to improve equity of access of medications and support medication adherence.**
6. **Waive HECS-HELP fees for pharmacists to address workforce shortages and support the education, recruitment and retention of pharmacists.**
7. **Fund the development of a 'Improving environmental sustainability in pharmacy and pharmaceutical industries national strategy.'**

1. **Implement Pharmaceutical Reform Agreements (PRA) in New South Wales (NSW) and Australian Capital Territory (ACT) to achieve equitable access to Pharmaceutical Benefits Scheme (PBS) medicines, support safer discharges and transitions of care and ease reliance on primary healthcare systems.**

Rationale for policy: To facilitate equitable access to PBS medicines upon discharge from hospitals in NSW and ACT, improving transitions of care and reducing the pressure on general practitioners (GPs).

Hospital pharmacy accounts for just under a quarter of all PBS expenditure, which the Australian Government expended $14.7 billion in the most recent financial year. Hospital pharmacy also accounts for the majority of section 100 PBS medicines, often where complex and high-cost medicines are funded under. The expansion of PBS into public hospitals through PRAs has enabled hospital prescribers and pharmacists to prescribe and dispense PBS subsidised medicines to patients upon discharge from hospital, outpatients and patients receiving care from day-treatment services.

PRAs have worked to achieve 'Ongoing access to medicines,' Guiding Principle 10 of the *Guiding Principles to Achieve Continuity in Medication Management*[3] document published late last year. They have supported the continuity of care for patients discharging from hospital back into the community by allowing for patients to be supplied the standard PBS quantity of one-months' supply of discharge medicines and eliminating the need for them to make an appointment to see their local GP for medicines post-discharge.

This contrasts with the patients being discharged from public hospitals in NSW and ACT who are currently supplied only 3-7 days' worth of discharge medicines, and are forced to seek an immediate GP appointment to access more medicines prescriptions for vital treatments that will prevent readmission to hospital.This expectation is extremely difficult to achieve with the current GP shortages where Australians often have to wait up to three to four weeks to see their GP.

PRA arrangements in other jurisdictions have also allowed more hospital pharmacists to be employed and provide clinical pharmacy activities to patients, as well as allow investment into specialised pharmacy services, such as pharmacists specialising in oncology, paediatrics, emergency medicine and geriatric medicine. These services are necessary to safeguard and maximise the federal government's investment into new PBS medicines that treat complex conditions.

Equitable access to healthcare regardless of location, is one of the principals of the NMP.[2] Truly equitable healthcare cannot be achieved without established PRA arrangements in all states and territories in Australia. SHPA therefore, strongly believes that the Commonwealth should make the PRAs a uniform policy in Australia and enter into PRAs with NSW and ACT. The ACT Health Services Plan 2022-2030 identifies establishing a PRA with the Commonwealth as a key action item[4]. This would ensure a consistent standard of care for vulnerable patients who have just had a major health event requiring hospitalisation, and reduces the need for individuals to immediately seek an appointment with their general practitioner on discharge from hospital to continue receiving vital medicines.

2. **Include clinical pharmacy services on the Medicare Benefits Schedule (MBS) to support collaborative medication management embedded into primary care, reducing the impact of the GP shortage and improving timely access to care post-discharge from hospitals. MBS funding for clinical pharmacists will allow implementation of proven service models that improve safety, efficiency, and timeliness of care, such as:**
    1. **post-discharge medication review services to reduce readmission,**
    2. **embedding clinical pharmacists into GP workflows allowing pharmacists to manage medication histories and treatments, and**
    3. **improve the value of medication review services by strengthening the viability of hospital-initiated medication reviews.**

Rationale for policy: To improve health outcomes and health service access for Australians by supporting pharmacists roles in Strengthening Medicare, reducing the economic impact associated with poor transitions of care and exacerbated by GP shortages.

Non-medical based solutions must be considered to overcoming impacts of the GP crisis. All healthcare professionals should be supported to work collaboratively, each at the top of their scope of practice. SHPA is keen to see the Strengthening Medicare process develop fit-for-purpose funding models that appropriately remunerate pharmacists and support them in delivering timely, safe and quality use of medicines to all Australians irrespective of location. The COVID-19 pandemic has transformed healthcare delivery and blurred the lines of what a hospital is, with innovative, virtual and outreach services expanding even more to truly realise NMP principles of patient-centred care. Hospital pharmacists have expanded their roles to practice outside the hospital walls in many outreach roles, some of which are discussed below. However, suitable funding models are yet to be developed to support the broader uptake of these roles. SHPA understands the Australian government is considering blended funding models and would support funding models that are efficient and support team-based care.

Transitions of care are a high-risk time for patients, as recognised by the Australian Commission on Safety and Quality in Health Care (the Commission) in their report on *Safety Issues at Transitions of Care*.[5] Transitions of care episodes typically involve complex care arrangements involving multiple care providers and interdisciplinary teams at various stages of care. Safely transitioning from hospital back to the community following a significant health event, relies on timely and clear communication between acute and primary care providers. Patients are usually prescribed multiple new medications during their hospital stay, requiring follow-up by their GP. Poor transitions of care processes, coupled with the current GP shortage and the unfit-for-purpose funding system of subsidised individual consultations through Medicare for GPs alone, is having a negative health and economic impact on Australians.

All three sections below aim to achieve quality use of medicines and medicines safety, Australia's 10th National Health Priority, and will support the Commission in informing best practice models of care during transitions, which will be a component of their Phase 2 investigation and development of the national baseline report.

2.1 Post-discharge medication review services to reduce readmission

Transitions of care pharmacists aim to collaborate and communicate medicines-related information with other healthcare professionals when patients are transitioning between healthcare settings, achieving Guiding Principle 9 of the *Guiding Principles to Achieve Continuity in Medication Management*[3]. Their role reduces medication related harm, optimises medication management and ensures best patient outcomes during the discharge and post-discharge phase of care. Transitions of care pharmacists provide additional coordination and advocacy beyond what is usually required for general clinical pharmacy services.

In Australia, there are 250,000 medicine-related hospital admissions each year, costing the healthcare system $1.4 billion annually, with many of these due to poor transitions of care that put patients at risk of readmission, especially when they are taking new, complex or high-risk medicines. SHPA recommends funding of post-discharge liaison coordinator pharmacists or transitions of care pharmacists to provide services on the MBS to bridge the gap between

healthcare providers in different settings, minimising the risk of negative and adverse medicine-related health outcomes and poor transitions of care exacerbated by the GP shortages.

2.2 Embedding clinical pharmacists into GP workflows allowing pharmacists to manage medication histories, optimise prescribing and treatment decisions, educate and counsel patients and monitor response to medicines

Clinical pharmacists in GP practices support GPs to minimise the risks associated with the use of medications and optimise their use. GP practice pharmacists help manage the day-to-day medication-related problems that arise in general practice and coordinate the medication safety and quality use of medicines activities for the practice.

In Australia around 10% of patients seeing a GP have experienced an adverse medication event in the previous 6 months. Approximately 2-3% of all hospital admissions, 12% of all medical admissions and 20-30% of admissions in patients aged 65 years and over are medication-related.[6]

SHPA believes that if appropriately targeted and funded, services provided by GP practice-based pharmacists could improve medication use by providing services tailored to the individual patient from the range of evidence-based interventions[7] such as:

- finding ways to improve ease of administration of medicines for individual patients
- identifying simplified dosage regimens for individual patients
- identifying practical management tools suitable for the individual patient (e.g. dose administration aids, self-management systems, reminder systems)
- improving patient knowledge
- undertaking reviews of local prescribing practices and participating in national initiatives to reduce inappropriate prescribing and improve the cost-effective use of medicines
- supporting GPs in the practice to reduce errors in prescribing
- improving communication across the continuum of care and between health care professionals by facilitating the continuity of medication management when a patient enters of leaves a hospital or residential care
- undertaking medication reviews

SHPA recommends funding pharmacists in GP practices to deliver clinical services via the MBS, to improve the quality of use of medicines and reduce the risk of medication-related harm.

2.3 Improve the value of medication review services by strengthening the viability of hospital-initiated medication reviews Strengthen the viability of hospital-initiated medication reviews

In 2020, revised Home Medicines Review (HMR) and Residential Medication Management Review (RMMR) Program Rules permitted certain hospital-based medical practitioners, in addition to GPs, to refer patients at discharge directly to an accredited pharmacist for a HMR or RMMR in the community. Whilst SHPA has long supported the creation of a hospital-initiated pathway to a government funded medication review for all patients at risk of medication-related harm, the ineligibility of GPs, who are expected to review and follow-up on the hospital-initiated medication reviews, to claim Medicare Benefits Schedule (MBS) Item 900 or 903, has impacted the viability of this pathway.

Hospital prescribers and pharmacists are well placed to identify patients who have had numerous and complex changes made to their medication regimens, and who may benefit from a medication review to reduce the risk of medication-related harm post-discharge. However, at the time the review is conducted by the accredited pharmacist, the patient is under the care of their GP in the community, and it is the GPs responsibility to review and action recommendations in the report.

SHPA recommends that appropriate MBS items are amended or created to support GPs to review and action recommendations made by accredited pharmacists from hospital-initiated medication reviews to guarantee the viability of this referral pathway and reduce the risk of medication-related hospital readmissions.

3. **Commission a Pharmacy Scope of Practice review to derive best value from the expanding scope of practice for pharmacists and pharmacy technicians in Australia, to assist the Commonwealth in harnessing the benefits and efficiencies these will deliver to patient care in a consistent, evidence-based, safe and quality manner.**

Rationale for policy: Support a safer, more efficient, and more economical healthcare system by better understanding the full scope of practice of both pharmacists and pharmacy technicians, and upscaling effective models of care across Australia to relieve the administrative pressures and clinical resourcing burdens on medical and nursing staff; improving the overall flow and pressures on the healthcare system.

Pharmacists have been identified to have a key role in the upcoming Strengthening Medicare report and reforming Australia's primary healthcare system to better respond to the needs of Australian patients and the healthcare system. To support this, SHPA strongly recommends the commissioning of a practice scoping review to better understand the full scope of practice of both pharmacists and pharmacy technicians and how this can be scaled up to support consistent, safer, more efficient and more economical healthcare delivery in Australia.

In the current health system climate, there are known pressures throughout the system and unprecedented demands on resources. Impacts of the COVID-19 pandemic over the past few years and the GP crisis in the community is resulting in a significant increase in emergency department presentations and hospital admissions. Workforce shortages across all disciplines are contributing to ambulance ramping and access block in emergency departments and impacting on bed flow management in hospitals.

With increasing emergency department presentations, and hospitalisations across the country, the flow of patients through hospital must not only be efficient but must also consider patient safety across their entire journey through hospital. Decreasing patient wait times in emergency departments and increasing the number of elective surgeries undertaken are also essential for a sustainable healthcare model. Hospital pharmacists and pharmacy technicians are well placed to provide clinical expertise and services to achieve these outcomes whilst reducing the administrative and clinical burdens upon the medical and nursing workforces.

Hospital pharmacists are medication experts who supervise and train junior doctors in prescribing and advise senior medical staff on medicine and treatment selection, dosing, medicine administration requirements, therapeutic drug monitoring (TDM), and monitoring of adverse effects. This highly skilled workforce should therefore be better utilised to alleviate pressures on the current health system.

Hospital pharmacy technicians working to their full scope of practice through more efficient inpatient medication management systems and assisting in clinical support roles, enables pharmacists and nursing staff to spend more of their time delivering direct patient care and other clinical activities, ultimately improving patient outcomes.

Compared with other similar countries, Australia is yet to maximise the potential of hospital pharmacists and pharmacy technicians with respect to prescribing, medication charting and medication supply. Whilst in some Australian hospitals, clinical pharmacists and pharmacy technicians are working at an expanded scope of practice, this is not standard practice and furthers the inequities in healthcare delivery across the country.

4. Commission a ten-year National Pharmacy Workforce Plan to support pharmacy workforce sustainability and expanded scope of practice.

Rationale for policy: To better understand the current pharmacy landscape and help futureproof the pharmacy workforce in Australia as a cornerstone of the health system working to support the healthcare needs of Australians.

A well-resourced workforce is an enabler to achieving the NMP and providing well-coordinated, integrated and person-centred care.[2] SHPA therefore, recommends an updated Pharmacy Workforce Planning study to better understand the current pharmacy landscape. The National Skills Commission's 2022 *Skills Priority List*[8] found shortages in all states and territories across both pharmacist occupation categories, sharpening focus on the urgent need for a national strategy to meet the immediate and future healthcare needs of the Australian community. The last comprehensive Pharmacy Workforce Planning[9] study was undertaken within Community Pharmacy Agreements in 2008. Since then, Health Workforce Australia released *Australia's Health Workforce Series – Pharmacists in Focus*[10] which showed that pharmacists have a relatively young workforce which may reflect difficulty in sustaining or growing an experienced workforce where some recent indications have seen student uptake of pharmacy courses declining significantly in some states leading to some pharmacy schools closing.

Further the recent *SHPA Pharmacy Forecast Australia 2021 Report* derived from a national forum survey consisting mainly of Chief Hospital Pharmacists or senior pharmacists (97% having more than 10 years of experience) covering all Australian jurisdictions, unrestrained by organisational limitations, collectively reported record low levels of morale in the profession and also uncertainty in there being appropriate candidates with the necessary capacity and expertise to undertake specialised clinical pharmacy roles in the future.[11]

A 2016 survey of Australian hospital pharmacists reported that only 44% of hospital pharmacists and only 28% of community pharmacists would recommend pharmacy as a career with both sectors having an impact on attracting 'appropriately skilled' students into studying pharmacy and undertaking a hospital pharmacy career.[12] Although, these are not qualitative or quantitative studies, they indicate a pre-pandemic consensus among hospital pharmacy leaders about not having appropriately skilled pharmacy candidates for hospital pharmacy roles. Therefore, SHPA strongly reiterates the need to gain clarity around the future of the hospital pharmacy workforce.

In recent years SHPA has established the Foundation Residency Program and Advanced Training Program for hospital pharmacists to deliver structured, formalised, and accredited national pharmacy residency programs, equipping the next generation of hospital pharmacists with the clinical skills to provide safe and quality care to patients in an increasingly complex healthcare environment. With appropriate data from across the workforce, these programs can be tailored to equip expert pharmacists in providing increased support to doctors and nurses in acute, primary, aged care and community care settings improving the delivery and outcomes of healthcare services.

Health Workforce Australia disbanded shortly after the release of the last pharmacy workforce report. SHPA is aware of considerable data held by the Department of Health and would work to bring together this with data held by peak bodies and the Consumer Health Forum to develop a clear and well-informed understanding of the pharmacy workforce. SHPA is well-placed to work with other pharmacy and health bodies to progress a workforce study as we have a unique understanding of both the diversity of practice and the emergence of highly specialised roles in hospitals. Previous statistics have shown that despite there being an overall increase in the number of pharmacists, 50% of the national growth has been in new roles within the hospital sector. More clarity is required around the projected needs and growth for pharmacy and hospital pharmacy particularly in light of the expansion and dependence of hospital pharmacy services during the COVID-19 pandemic.

5. **Enable public hospital pharmacists to supply PBS medicines under the Closing the Gap (CTG) Pharmaceutical Benefits Scheme (PBS) Co-payment Measure (the Measure) to Aboriginal and Torres Strait Islander people, to improve equity of access of medications and support medication adherence.**

Rationale for policy: To improve equity in access for all Indigenous Australians to the Closing the Gap PBS Co-Payment Measure system through all hospitals in Australia and consequently reduce the economic burden placed on the health system by improving health outcomes post discharge.

The CTG PBS Co-payment Measure designed to help Aboriginal and Torres Strait Islander Australians access low cost or free PBS medications, currently excludes medications dispensed at discharge from public hospitals. The requirement for a co-payment to receive medications at discharge from a public hospital, has resulted in ongoing inequity in the provision of medications. Without access to the Measure, individual hospital policies (which require a co-payment as specified by PBS procedures) often prevent Indigenous patients from receiving their medications at discharge to avoid incurring operational cost. If patients are unable or unwilling to pay the co-payment, they must attend a community pharmacy to receive discharge medications.

Research shows that these patients have lower medication adherence compared to other population groups,[13] and that over a quarter of patients fail to make it to a local pharmacy until days later to have their discharge prescription dispensed.[14] Poor access to medications can potentially compromise a patient's health and cause preventable hospital readmissions. This also prevents the provision of expert advice related to the new medication regimen by the pharmacist who has counselled them during their inpatient stay.

Some states and territories have implemented PBS quantities on discharge and are using their hospital budget to absorb the co-payment costs. For patients otherwise eligible for the Measure in community settings, when they are being discharged from hospitals, receiving care as day admitted patients or reviewed in out-patient clinics, are required to pay a co-payment (which may or may not be paid for by the hospital).

The current Measure does not ensure ongoing access of medications for Aboriginal and Torres Strait Islander people being discharged from hospital after a clinical episode, as stipulated in Guiding Principle 10 of the *Guiding Principles to Achieve Continuity in Medication Management*[3] document, as it relies on them having to attend their local community pharmacy for further supplies of their discharge medications. This is also an issue for those who live in remote communities who are in metropolitan areas accessing acute care. Due to the high burden of illness faced by this population, hospital inpatient care in major metropolitan hospitals is often required. Upon discharge from hospital, these patients are provided a limited supply of medications or are expected to pay co-payment if a full PBS quantity is supplied.

However, these patients regularly face delays in varying lengths when returning to their remote residential location due to transportation, ongoing outpatient appointments etc. In these cases, a substantial gap remains in access as patients are unable to receive larger quantities of medications under the RAAHS program during the interim period between their hospital discharge and the time when additional supplies can be accessed in their home communities. This inequity and lack of continued therapy often leads to an increased financial burden on the health system and results in poor health outcomes, including readmission to hospital.

The NMP's focus is on delivering positive ways to eliminate health inequities that are experienced by vulnerable population groups within the community. [2] SHPA is therefore, advocating for hospital pharmacies to be eligible to participate and supply medications under this Measure, to improve equity of access of medications for Aboriginal and Torres Strait Islander People being discharged from all Australian hospitals.

6. Waive HECS-HELP fees for pharmacists to address workforce shortages and support the education, recruitment and retention of pharmacists.

Rational for policy: To address pharmacy workforce shortages identified by the National Skills Commission by waiving HECS-HELP fees for pharmacists, incentivising more students to undertake pharmacy degrees and build a sustainable Australian pharmacy workforce to achieve National Medicine Policy aims.

The National Skills Commission's 2022 *Skills Priority List*[15] identified pharmacy workforce shortages in all states and territories across both major pharmacist occupation categories. The refreshed NMP[2] identifies workforce and education as a key enabler critical to its success. SHPA recommends waiving of HECS-HELP fees for pharmacists to support and incentivise more students to study pharmacy degrees as a means to boost the pharmacy workforce and ensure its sustainability into the future.

This is critical especially in regional, rural and remote areas where the largest workforce shortages and inequities are experienced. In recent times, the current government has implemented a similar policy for doctors and nurse practitioners under *HELP Debt Reduction for Rural Doctors and Nurse Practitioners*, which should at a minimum be extended to pharmacists practising in rural areas.

According to the *Future focused primary health care: Australia's Primary Health Care 10 Year Plan 2022-2032*[16], addressing inequities of access to health services and poorer health outcomes among people in rural and remote Australia has been a strong focus for the Australian government. However, investments thus far by government have only been made to support doctors and nurse practitioners to practice in rural and remote locations. The health system, however, cannot function optimally nor can equality in health care be achieved, without equally building the capability of the pharmacy workforce to support the provision of clinical pharmacy services and facilitate safe and quality use of medications in these areas.

Regional SHPA members report extreme difficulty in recruiting pharmacist positions in rural and regionals hospitals, with recruitment often needing to go beyond three rounds of recruitment regardless of the role, and often being unsuccessful altogether.

Data from the National Health Workforce Dataset demonstrates that whether you look at pharmacy workforce statistics on a per capita or per 100 hospital beds metric, regional and rural Australia pharmacy workforce numbers are far from metropolitan pharmacy workforce statistics. The geographical dispersion of Australia presents a constant workforce and recruitment challenge, and SHPA expects waiving HECS-HELP fees to not only attract training pharmacists to rural and regional areas, but to also retain them to build the rural and regional pharmacy workforce to be closer to workforce levels experienced in metropolitan Australia.

7. Fund the development of a 'Improving environmental sustainability in pharmacy and pharmaceutical industries national strategy'.

Rational for policy: To improve and develop the environmental sustainability of pharmacy and pharmaceutical industries by setting best practice aims and strategies for hospital pharmacy, community and industry to reduce pharmaceutical wastage and ensure the harmful impacts of climate change are therefore reduced.

To help deliver on the NMP's central pillar focused on building a sustainable medicines industry [2], SHPA recommends establishing a pharmacy and pharmacy industry aligned environmental strategy to develop key objectives, aims and goals to improve sustainability, mitigate and reduce the known environmental impacts from the pharmacy and pharmaceutical industry. This will support the Australian Government in realising their commitment to reduce emissions by 43% below 2005 levels by 2030 and reach net zero emissions by 2050.

Pharmaceuticals and hospital care jointly account for the majority of Australia's healthcare-related emissions, an intersection of immense will help develop engagement across the pharmacy and pharmaceutical sector to actively create goals and methods in which organisations can implement to progress towards improvement. SHPA submits that a united and co-ordinated approach with each of the pharmacy sectors will help provide a unified and wholistic approach to reduce waste and drive sustainability and become leaders in driving a more environmentally aware sector. Ultimately, this is crucial for building a sustainable pharmacy and industry sector in the future.

In 2009 and repeated in 2018, the *Lancet* made a clarion call to address climate change in healthcare. Healthcare is estimated to generate 7% of Australia's CO_2 emissions in 2014-2015, this includes pharmaceuticals and waste.[17] It is known that pharmaceuticals in healthcare generate enormous waste annually with much going to landfill or incineration causing a significant carbon footprint. A study undertaken by Western Health in Victoria found that packaging accounted for 90% of total carbon emissions in manufacturing. Pharmaceuticals accounted for 19% of Australia's healthcare carbon footprint. In addition to hospital workplaces which use energy, other areas specific to pharmacy and the pharmacy industry are waste from packaging and disposal of the pharmaceutical's themselves which may enter the environment from administered doses and the incineration unused medications and chemicals.

To date the pharmacy and pharmaceutical industry have yet to align environmental goals and commitments to reduce the negative impact and overall wastage which goes into landfill. SHPA identifies that environmental sustainability is required to be addressed across all healthcare settings, organisations and healthcare sectors. Pharmacy and the pharmaceutical industry however, have particular challenges in dealing with pharmaceutical waste and packaging itself as well as developing an awareness so as to best achieve environmentally sound practices in clinical settings such as switching from IV to oral antibiotics as soon as clinically indicated as advocated by stewardship programs which has not only shown to reduce medication costs and improve patient outcomes including morbidity and mortality but it has also been shown to reduce pharmaceutical waste in the environment.

Pharmacy needs to work with industry and waste management companies to utilise environmentally sound waste management systems and to work with industry to achieve products that assists pharmacy to identify recyclable products and to minimise incineration which is caloric rich when burnt and to reduce overall landfill.

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