

SHPA Pre-Budget Submission 2022-23

1. Develop a more sustainable and resilient hospital pharmacy workforce by:

- Extending the national COVID-19 pandemic response workforce sub-register for pharmacists through AHPRA beyond April 2022 and September 2022 to deal with the ongoing escalated hospital demands.
- Increase the uptake of students in accelerated graduate-entry pharmacy courses.
- Waive HECS fees for training pharmacists in regional, rural and remote areas.
- Update the 10-year National Pharmacy Workforce plan by undertaking a national workforce study.



Rationale for policy: To facilitate a sustainable and resilient hospital pharmacy workforce in light of the current pandemic pressures upon the Australian healthcare system and to ensure the viability of the hospital pharmacy workforce into the future in a declining health workforce environment.

Hospital pharmacists as medicines experts operatively manage and clinically ensure the safe and effective use of medicines within Australia's hospital system. This equates to hospital pharmacists operatively managing 24% of the \$13.5 billion spent on hospital Pharmaceutical Benefits Scheme (PBS) medicines in the last financial year and accounts for the majority of section 100 complex and specialised PBS medicines used in Australian Hospitals.

Hospital pharmacy enables the federal government to mitigate unnecessary health costs and economic pressures by reducing medication wastage, ensuring appropriate supply of medications, reducing medication-related harms and hospital readmissions and its associated Medicare costs in the delivery of medication-related health services and improving overall health outcomes of Australians. The Federal Government's efforts to tackle the challenge of Medicines Safety to improve the Quality Use of Medicines and review the National Medicines Policy is to be commended. The four pillars of the National Medicines Policy support timely access to safe and quality medicines, recognises the importance of Quality Use of Medicines and the importance of a viable medicines industry.

The current COVID-19 pandemic has seen an unprecedented demand for hospital pharmacists throughout the healthcare system with pivotal roles in the supply of critical medicines, assisting extending the delivery of appropriate health care, and vaccination programs amongst some of the critical roles. In order to continue to achieve the national medicines policy's objectives SHPA recommends extending the national pandemic response sub-register for pharmacists practising within their full-scope beyond September 2022 and beyond April 2022 for the COVID-19 vaccination sub-register. SHPA strongly supports the current sub-register established by AHPRA and the National Pharmacy Board of Australia which fast tracks the return of experienced and qualified pharmacists to the workforce due to outbreaks of COVID-19 variants. SHPA also congratulates the Health Minister's involvement in this, however, SHPA foresees the ongoing need for this sub-register beyond 2022 and requests the government urgently act to facilitate an extension to increase the degree of certainty around workforce planning within the healthcare system.

SHPA also recommends support for increasing the uptake of accelerated graduate-entry pharmacy students in Master of Pharmacy courses, which is essential for a timely increase in the output of pharmacy students through these accelerated and validated education programs which typically can throughput successful students in 2 years compared to 4 years. SHPA recommends increasing student subsidies for these accelerated university placements to attract student candidates and strongly recommends the waiver of HECS fees for all regional, rural and remote areas where currently there is a large shortfall and difficulty in recruiting students in these regions where in recent times Pharmacy schools have had to close.

SHPA recommends an updated Pharmacy Workforce Planning study. The last comprehensive Pharmacy Workforce Planning² study was undertaken within Community Pharmacy Agreements in 2008. Since then, Health Workforce Australia released *Australia's Health Workforce Series – Pharmacists in Focus*³ 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.⁴

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.⁵ 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.

Cost of investment: ~ \$300,000 to undertake a pharmacy workforce study



2. Provide funding for regional and rural health services to implement Virtual Clinical Pharmacy Services



Rationale for policy: Provide equitable access to clinical pharmacy services for communities in regional and rural areas across Australia.

Clinical pharmacy services for inpatients are limited in rural and remote areas. Patients in rural and remote settings lack the ability to access the same level of high-quality clinical pharmacy services and review available to Australians living in metropolitan areas. Pharmacists are experts in medication management, facilitating and promoting the quality use of medicines as is widely established in the literature and as endorsed by the Australian Commission on Safety and Quality in Health Care within its National Safety and Quality Health Service Standards.

Critically ill Australians in rural and remote areas requiring acute care in hospitals are not shielded from medication-related problems where medical resources and healthcare access is relatively limited in comparison. It is reported that over 250,000 hospital admissions are a result of medication-related admissions. A study across seven public hospitals in Victoria from 2016-17 showed that 66% of patients admitted to general medicine units had at least one medication error during the medication charting process completed by prescribers upon admission.⁵ Similarly, 61.5% of patients discharged after an inpatient stay in a general medicine unit had at least one medication error in their medication management plans upon discharge from hospital.⁶ Over 90% of patients have at least one medication-related problem post-discharge from hospitals, with one in seven discharges resulting in an unplanned readmission within 28 days, some occurring within one day of discharge.⁷ It is reported that pharmacist intervention in medication charting alone can reduce the proportion of patients with errors on their chart by 64.4% and reduce the length of stay by 10.6%.⁸ Given the known gaps in the delivery of clinical pharmacy services in rural and remote areas it is summated that the costs in adverse outcomes and medication-related harms would be similar if not higher for patients in these vulnerable areas.

Virtual clinical pharmacy service models for inpatients has been used in some parts of rural and remote Australia to address the gaps in clinical pharmacist medication reconciliation, management and review. Western NSW has recently undertaken a scalability study to show that virtual clinical pharmacy services are a feasible option in healthcare delivery. Virtual Clinical Pharmacy Services aims to provide and support individualised and culturally appropriate medication reconciliation, education and counselling to patients including those with complex or extensive medication regimes as is required under the Standard 4 of the Medication Safety, National Safety and Quality Health Service Standards. Results suggest there are measurable outcomes such as decreasing patient readmissions to hospital, minimising medication related harms whilst improving communication around medication information at transitions of care.

Telehealth models in outpatient settings in the Torres and Cape Hospital and Health Service in rural and remote areas of Queensland have also proven successful with the Torres and Cape Hospital trial reflecting a high level of patient satisfaction. Additionally, results demonstrated the cost-effectiveness in enabling telehealth pharmacy services to be delivered to remote communities as the average cost of telehealth pharmacy was \$214.66 in comparison to \$279.89 for HMRs, inclusive of fixed costs. Telehealth pharmacy capacity would be greatly enabled by the inclusion of pharmacists for MBS remuneration. This would increase the ability for the clinical pharmacist workforce to provide patient counselling and medicines review to optimise the quality use of medicines and achieve positive health outcomes.

SHPA recommends funding virtual clinical pharmacists in rural and remote areas to reduce medication-related harms and costs, improve patient outcomes and reduce burdens on rural and remote healthcare services.

3. Tackle the pressures off ambulance ramping and time burdens on elective surgery wait-lists by funding Partnered Pharmacist Medication Charting (PPMC) services to perform medication reconciliation and preadmission medication charting for emergency departments and admitting medical or surgical teams prior to admission into hospital; effectively reducing patient wait-times and delays whilst off-setting the administrative tasks and clinical burdens upon the medical workforce



Rationale for policy: Reduce wait times and increase the through-put of patients waiting in ambulances and elective surgical lists by enabling pharmacists to undertake medication reviews and charting in the preadmission setting, reducing patient delays and wait times whilst relieving the administrative pressures and clinical resourcing burdens on medical staff; improving the overall flow and pressures on the healthcare system.

In the current health system climate there are known pressures throughout the system and unprecedented demands on resources. System changes need to occur to better facilitate and increase the flow through of patients in the system. In the PPMC model, a pharmacist conducts a medication history interview with a patient; develops a medication plan in partnership with the medical team, patient and the treating doctor, and then the pharmacist charts the patient's regular medications and the doctor charts any new medications. This model has been proven to reduce the proportion of inpatients with at least one medication error on their chart by 62.4% compared with the traditional medication charting method, while also reducing the length of inpatient stay by 10.6%.

Using a PPMC model will decrease the burdens upon medical staff and clinical resourcing dedicated to medication charting and increase the through put of patients if medications are already reviewed and charted prior to admission and ready for review by the admitting medical or surgical team. It has also been shown to improve medication safety and patient care. This was shown in the Alfred Health Pilot study where there was an associated decrease in medication error rates from 35.5% to 0.5% using the PPMC model.⁹

A Deakin University health economic evaluation of more than 8500 patients has explored the impacts of PPMC models upon patients in emergency departments and general wards. The economic evaluation also showed a decrease in the proportion of patients with at least one medication error from 19.2% to 0.5% and a reduction in patient length of stay from 6.5 days to 5.8 days. The estimated savings per PPMC admission was \$726, which in the replication was a total hospital cost saving of \$1.9 million with the five health services involved in the PPMC service continuing their operations.

Given the current health economic and pandemic climate SHPA strongly recommends funding and instituting the PPMC model nationwide throughout all healthcare facilities. The decrease in patient wait times in emergency departments and the ability to increase the number of elective surgeries undertaken are essential for a sustainable healthcare model and hospital pharmacists are able to provide clinical expertise and services to achieve these outcomes whilst reducing the administrative and clinical burdens upon the medical workforce.

4. Expand hospital pharmacist embedded stewardship programs for antimicrobial, anticoagulant, analgesic and antipsychotic treatments as endorsed by the Australian Commission on Safety and Quality in Health Care (ACSQHC) for antimicrobial stewardship under the National Safety and Quality Health Service Standards as achieving cost-savings for the healthcare system, reductions in medicines usage and resistance and overall better health outcomes for Australians.



Rationale for policy: Pharmacist-led stewardship programs provide economic efficiencies and cost-saving benefits whilst achieving better health outcomes by ensuring evidence-based, quality use of medicines. There needs to be nationwide expansion in the areas of antimicrobial, anticoagulant, analgesic and antipsychotic pharmacist stewardships for improved health outcomes and cost-saving benefits to health expenditure.

4.1 Expand hospital pharmacist antimicrobial stewardship programs

Rationale for policy: To reduce incidence of antimicrobial resistance and harms associated with inappropriate antimicrobial use.

Antimicrobial resistance and the limited number of viable antimicrobials in development is recognised as a public health concern in Australia and internationally. A major contributor to the increasing rates of antimicrobial resistance is the inappropriate use of antibiotics. Effective antimicrobial stewardship (AMS) programs have been shown to reduce inappropriate use of antimicrobials, reduce infections, reduce patient morbidity and mortality, help to slow the pace of antimicrobial resistance and reduce healthcare costs. The Australian Commission on Safety and Quality in Health Care (ACSQHC) requires all health service organisations assessed against National Safety and Quality Health Service Standards implement systems for the safe and appropriate prescribing of antimicrobials as part of an AMS program. AMS programs can decrease antimicrobial use in the order of 22-36% which translates to significant cost-savings, the ACSQHC specifically reported on an approximate \$85,000 estimated saving within the first 6 months of implementing an AMS service in an 800-bed metropolitan hospital upon review of 273 patients in 2005 and referred to a study by LaRocco which showed in a 120-bed nonteaching hospital, an ID physician (8–12 hours per week) and a clinical pharmacist performing reviews and feedback effected a 19% reduction in antimicrobial costs.

SHPA recommends the establishment of nationwide pharmacist AMS programs to ensure adherence to strategies in line with national standards which include implementing clinical guidelines consistent with Therapeutic Guidelines: Antibiotics accounting for local antimicrobial susceptibility, establishing formulary restrictions and approval system for antimicrobials, review of antimicrobial prescribing and monitoring performance of antimicrobial data including QUM indicators, ensuring selective susceptibility reporting within hospital antimicrobial treatment guidelines that are suitably established in the hospital. Further, the AMS program would also ensure continuing education of prescribers, nurses, and pharmacists about good antimicrobial prescribing practice and resistance and use point-of-care interventions including de-escalation prescribing to optimise antimicrobial usage. SHPA recommends the support and collaboration of the hospital executives with clear lines of accountability within the AMS team to ensure an effective and sustained change in clinical practices for effective quality improvements.

4.2 Expand pharmacist anticoagulant stewardship programs

Rational for policy: To improve harms associated with anticoagulant use.

Anticoagulants are widely used in healthcare for complex and life-threatening conditions. Suboptimal management can lead to significant patient morbidity and mortality. Anticoagulants have a narrow therapeutic range and require complex dose titration and monitoring. Anticoagulants are also nationally recognised to be part of the PINCH high-risk medication group. However, despite pharmacovigilance, anticoagulants are often associated with high risk adverse events due to their inherent bleeding risks, with a reported 32% of preventable adverse drug events being associated with these categories of medications. Pharmacist-led stewardships have been repeatedly shown to reduce economic

and health care burdens as well as improve overall patient outcomes. SHPA recommends federal government support in the implementation and funding of anticoagulant pharmacist-led stewardship programs nationally.

4.3 Fund a National Opioid Stewardship Support Liaison program to work with SHPA to reduce the risk of opioid-related harm for patients in Australian hospitals

Rationale for policy: To reduce incidence of long-term and/or inappropriate use of high-risk opioid medicines causing severe harm associated with hospital initiated or ongoing use.

The opioid crisis facing Australia is broadly acknowledged with research showing 1.9 million Australian adults initiating opioids each year. The harms associated with the use of opioids have dramatically increased resulting in a 25% rise between 2007-08 and 2016-17 in the rate of hospitalisation due to opioid poisoning and a 62% increase in the rate of opioid deaths from 2007-2016.^{10,11} With the increasing trend of misuse of prescription opioids in Australia, opioid stewardship programs in hospitals show great potential for reducing harm when supported by adequate funding and management. Evidence indicates that one-third of adults receiving long-term opioid therapy have had their first opioid prescription from a surgeon, indicating that postsurgical prescribing in hospitals is an important point of intervention. Investment in opioid stewardship programs can reduce the incidence of opioid-related harm stemming from opioid initiation in hospitals.

Opioid stewardship involves coordinated interventions to improve, monitor and evaluate the use of opioids in patients for acute, chronic or acute on chronic pain. Hospital pharmacists are experts in medicines management and utilise their knowledge to recommend appropriate pain medicines selection and dosing to inform appropriate and safe prescribing by doctors. Similar to the well-established antimicrobial Stewardship model, opioid stewardship is backed by strong research showing effective risk mitigation for patients at risk of opioid harm. This approach is also supported by PainAustralia, the national peak body working to improve the quality of life of people living with pain, their families and carers, and to minimise the social and economic burden of pain.

The pharmacist-led program has been trialled in Victorian and Queensland hospitals with successful outcomes obtained. An audit after two years of implementation in Victoria demonstrated lower quantities of oxycodone dispensed to patients and increased analgesic weaning in hospital and inclusion in medical discharge summaries. Pharmacist-led opioid de-escalation in orthopaedic patients was shown to reduce opioid requirements by 25%. The Opioid Prescribing Toolkit developed in Queensland further highlights the success of an opioid stewardship where the average number of oxycodone tablets supplied on discharge decreased from 19.9 to 11 tablets. This was matched with an increase in the proportion of patients having a de-escalation plan handed over to their general practitioner.

4.4 Develop and Expand Antipsychotic Hospital Pharmacist Stewardship Programs

Rationale for policy: To reduce the incidence of inappropriate prescribing of multiple antipsychotic medications and minimise harms associated with inappropriate antipsychotic use.

The National Survey of Mental Health and Wellbeing conducted in 2007 found that an estimated 20% of Australians aged 16–85 experienced a mental disorder in the previous 12 months.¹² According to the Australian Institute of Health and Welfare's (AIHW) Mental health services in Australia report, 17.2% of the Australian population filled a prescription for a mental health-related medication in 2019- 20, with an average of 9.2 prescriptions per patient.¹³ It is therefore clear that the vast majority of people with mental health conditions are treated with mental health-related medications.

Medications are an important treatment modality for many mental illnesses. The nature of treatment is often complex, specialised and complicated by the unique problems inherent in the management of mental illness, e.g., paranoia and suspicion about treatment, hallucinatory distractions, lack of insight and understanding, confusion or cognitive impairment. Antipsychotic Stewardship Pharmacists are well positioned to apply their knowledge and expertise to help



ensure that patients with mental illness receive optimum treatment. This includes deprescribing of inappropriate combinations or high dose antipsychotic therapy, preventing associated risks such as obesity, diabetes and side effects. This can affect the likelihood of patients continuing treatment, leading to multiple hospital readmissions and poor health outcomes.

The AIHW Mental health services in Australia report states that in 2018-19 there were 59,888 same day admitted and 271,040 overnight admitted mental health-related separations from public hospitals.¹⁴ The majority of these admissions would have required a mental health pharmacist to review their medications and ensure treatment is safe and efficient. Patients receiving mental health-related medications are at risk of adverse drug reactions (ADRs) and medication-related problems, and pharmacists are pivotal in preventing, detecting and managing these unwanted effects. Mental health pharmacists aim to ensure that treatment is rational, safe, cost-effective and acceptable to patients.

It is therefore essential that pharmacist stewardship programs form part of the multidisciplinary mental healthcare teams. Mental health pharmacists undertake a range of clinical activities on a regular basis, which are outlined in the SHPA Standards of Practice for Clinical Pharmacy and are applicable to mental health pharmacy practice as outlined in the SHPA Standards of Practice for Mental Health Pharmacy. Medication management activities include medication reconciliation; assessment of current medication management; clinical review; participation in ward rounds, case conferences and other relevant meetings; and continuity of pharmaceutical care, particularly at points of transition throughout the health system.



5. Enable hospital pharmacists to supply medicines to Indigenous Australians under Closing the Gap PBS Co-Payment system through all hospitals in Australia and reduce the current barriers and fulfil the objectives of the CTG scheme.



Rationale for policy: To improve equity in access for all Indigenous Australians to access the Closing the Gap PBS system through all hospitals in Australia and reduce the current barriers and fulfil the objectives of the CTG scheme.

The Closing the Gap (CTG) Pharmaceutical Benefits Scheme (PBS) Co-payment Measure (the 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,¹⁵ and that over a quarter of patients fail to make it to a local pharmacy until days later to have their discharge prescription dispensed.¹⁶ 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 improve access of medications for Aboriginal and Torres Strait Islander people, being discharged from hospital after a clinical episode 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 results in poor health outcomes and readmission to hospital.

SHPA is 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 hospital.

Cost of investment: ~\$1.2 million per annum

6. **Embed geriatric medicine pharmacists into residential aged care facilities at 1:200 ratio as per SHPA's Standard of Practice in Geriatric Medicine for Pharmacy Services which recommends a ratio of one full-time equivalent pharmacist to 200 residents (1:200) in aged care facilities to deliver an evidence-based, best practice, clinical pharmacy service, as reiterated in SHPA's submission to the Royal Commission into Aged Care Quality and Safety**



Rationale for policy: To ensure the delivery of evidence-based quality use of medicines and reduce patient-related harms within Federal Aged-Care facilities in line with the 10th National Health Priorities and findings from the Royal Commission into Aged Care Quality and Safety by embedding geriatric medicine pharmacists in residential aged care facilities at a ratio of 1:200 patients, as per SHPA's Standard of Practice in Geriatric Medicine for Pharmacy Services which recommends a ratio of one full-time equivalent pharmacist to 200 residents (1:200) in aged care facilities to deliver an evidence-based, best practice, clinical pharmacy service, as reiterated in SHPA's submission to the Royal Commission into Aged Care Quality and Safety.

SHPA recommends embedding clinical pharmacists in all residential aged care facilities, funded through aged care packages. Australia has a growing elderly population; 3.8 million Australians are aged 65 years or over. Government expenditure equated to \$18.1 billion on aged care services during this time. With a large consumer base and funding pool, elderly patients in aged care facilities are often experiencing poor health outcomes due to polypharmacy and lack of medication management services.

In 2018-19, the federal government funded residential aged care packages for over 216,000 Australians, yet according to Medicare statistics, only just over 70,000 received an RMMR service – meaning approximately two-thirds of all residential aged care residents **do not** receive a medication review. Recent research into medication safety unveiled that there were 250,000 medicine-related hospital admissions each year at a cost of \$1.4 billion to the healthcare system¹⁷, and that older Australians contribute to this statistic disproportionately.

The Federal Government should fund the employment of clinical pharmacists to support the complex needs of this patient group who are at high risk of medication-related harm, including patients who are chemically restrained with antipsychotic medicines as uncovered in the Interim Report of the Royal Commission into Aged Care Quality and Safety. Current evidence highlights that 20% to 30% of all hospital admissions in the population aged 65 years and over (the most frequent users of hospital services) are estimated to be medication-related.

It is important that the \$3.7 million investment by the Federal Government in last years' Federal Budget to embed pharmacists in aged care facilities across the ACT, is extended across the rest of the country. Recent Australian evidence that highlighted that embedded clinical pharmacist services in aged care homes can reduce medication-related problems, polypharmacy and adverse medication event, while also being cost-effective.¹⁸ Evidence from Victoria on a clinical pharmacy model in a home nursing service indicates a return on investment of \$1.54 for every \$1 spent is achieved through embedding pharmacists to improve medicines management.¹⁹

Clinical pharmacist services can improve medicines management through a range of patient-focused services that aim to minimise the inherent risks associated with medicines, ensure medicines are used appropriately and optimise health outcomes of the elderly. Most aged care facilities do not currently employ a pharmacist on staff or a pharmacist who is available to spend significant time with patients as required for good medicines management. Medication errors related to transitions of care occurred in 13-31% of residents. Pharmacists are contracted primarily for the dispensing of medicines, which can exacerbate poor medicines management, rather than the regular and ongoing clinical review that is needed. For example, post-discharge medication reviews are frequently delayed or do not occur, and only 1 in 5 home care clients receive an HMR.²⁰

Cost of investment: ~\$100 million annually for aged care pharmacist workforce



7. Establish a 'Improving sustainability in pharmacy and pharmaceutical industries strategy' which sets best practice and aims for hospitals, community pharmacies and industry



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, environmental impacts and damage.

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. 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 CO₂ emissions in 2014-2015, this includes pharmaceuticals and waste.²¹ 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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