



## **SHPA Queensland Branch Committee response to Queensland Health Workforce Strategy, November 2022**

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.

SHPA Queensland Branch Committee welcomes the opportunity to comment on the Queensland Health Workforce Strategy and outlines key recommendations and answers to survey questions below.

### **Recommendations**

**Recommendation 1:** Adopt SHPA pharmacist-to-bed ratios in Standards of Practice for Clinical Pharmacy Services for Queensland hospitals through additional hospital pharmacy workforce investment, to achieve access to seven-day, extended hours clinical pharmacy services.

**Recommendation 2:** Implement Foundation Residency and Advanced Training Residency Programs to be widely available for hospital pharmacists in Queensland to continue to produce a highly skilled pharmacy workforce with structured career pathways, supporting retention and sustainability.

**Recommendation 3:** Waive HECS fees for training pharmacists in regional, rural and remote areas of Queensland.

**Recommendation 4:** Expand the scope of practice of pharmacy technicians and promote engagement through Tech-Check-Tech inpatient medication supply models, enable pharmacists to spend more of their time providing direct patient care.

**Recommendation 5:** Expand the scope of practice of hospital pharmacists and provide regulatory support and additional investment into innovative pharmacy services, such as Partnered Pharmacist Medication Charting (PPMC) services to address system wide capacity issues with emergency departments, bed access and flow, and elective surgery waitlists.



**The Society of Hospital Pharmacists of Australia**

PO Box 1774 Collingwood Victoria 3066 Australia

(03) 9486 0177 | shpa.org.au | shpa@shpa.org.au | ABN: 54 004 553 806

## 1. Organisation Name

The Society of Hospital Pharmacists of Australia (SHPA)

## 2. Organisation Sector

Healthcare - Hospital Pharmacy

## 3. Name

Jerry Yik, Head of Policy and Advocacy

## 4. Contact details

jyik@shpa.org.au

## 5. How can we provide access to services that people need across Queensland?

### Extended Clinical Pharmacy Services

**Recommendation 1: Adopt SHPA pharmacist-to-bed ratios in Standards of Practice for Clinical Pharmacy Services for Queensland hospitals through additional hospital pharmacy workforce investment, to achieve access to seven-day, extended hours clinical pharmacy services.**

The *My health, Queensland's future: Advancing health 2026's (Advancing health 2026)*<sup>1</sup> vision statement is 'by 2026 Queenslanders will be among the healthiest people in the world'. Improving the quality use of medicines is vital in achieving this and keeping consumers out of hospital. The *SHPA Standards of Practice for Clinical Pharmacy Services*<sup>2</sup> recommend one clinical hospital pharmacist to every 30 patients (1:30) to ensure safe high-quality medicines management. This includes providing inpatients pharmacy services such as:

- taking a medication history and ensuring medications are charted correctly and available at admission to be administered in a timely manner
- regular review of the safety, quality, storage and supply of medications during hospital stay
- review of discharge prescriptions, dispensing a sufficient supply of medications to take home
- counselling patients on their medications and communicating changes to primary healthcare providers
- ensuring appropriate follow-up and monitoring of medications post-discharge including in specialised clinics and outpatient services and checking for adverse reactions to medications

The value of clinical pharmacy services is well documented in literature<sup>3,4</sup>, with an Australian economic analysis indicating a \$23 return for every \$1 spent on clinical pharmacy services.<sup>5</sup> Australian Institute of Health and Welfare (AIHW) note that there are more Emergency Department (ED) presentations on weekends compared with weekdays and that 69% of presentations occur between 8am and 8pm on any given day.<sup>6</sup> Hospital pharmacy services are not resourced or supported in most healthcare settings during these times.

In one study, medication charts were less likely to be reviewed if patients were admitted on weekends compared to weekdays.<sup>7</sup> The lack of medication histories taken on admission and reviews conducted outside of business hours places patients at risk of increased medication errors and ultimately poorer health outcomes.

As recently outlined in the proposed *Medical Scientists, Pharmacists and Psychologists Victorian Public Sector Enterprise Agreement 2021-2025*, SHPA anticipates the adoption of these pharmacist to bed ratios across Victorian health organisations with other states to consider similar agreements. Enabling seven-day,



**The Society of Hospital Pharmacists of Australia**

PO Box 1774 Collingwood Victoria 3066 Australia

(03) 9486 0177 | shpa.org.au | shpa@shpa.org.au | ABN: 54 004 553 806

extended hours access to clinical pharmacy services in Queensland health organisations to support timely and safe medication use in hospitals will be crucial to achieving the objectives of the Queensland Health Workforce strategy.

### Flexible Models of Care

With further investment into a clinical pharmacy workforce, flexible models of care can also be integrated to provide equitable access to high quality medication management for consumers and prevent avoidable hospital admissions.

Systemic challenges in Australia's healthcare system make it extremely difficult for aged care nurses, doctors and pharmacists to provide continuity of care to older people transitioning between care settings. These challenges frequently result in medication administration delays and errors, which has been demonstrated to compromise medication safety.<sup>8</sup> SHPA commends Queensland Health in implementing a Transition of Care Pharmacy Project<sup>9</sup> (ToCPP) across three of its hospitals and recommends continued investment post 2023.

The Department of Health and Aged Care is implementing Aged-care onsite pharmacists into Residential Aged Care Facilities (RACF) from next year. Aged care on-site pharmacists will work in collaboration with doctors and nurses to provide direct patient care as well as to support high-quality clinical governance. Pharmacists practising in these roles will work with multidisciplinary teams to ensure that treatment is rational, safe, cost-effective, aligned with the person's healthcare goals and preferences, and manageable without excessive treatment burden.

Other innovative models such as Virtual Clinical Pharmacy Service (VCPS) models for inpatients have been used in some parts of rural and remote Australia to address the gaps in clinical pharmacist medication reconciliation, management and review.

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. These virtual services can and should be scaled up more broadly to ensure all hospital inpatients have access to clinical pharmacy services, which can be facilitated by remote access to electronic medical records and fit-for-purpose. Key digital enhancements such as high-speed internet and wireless two-way conferencing carts at the bedside have enabled a virtual model of care in these areas. Broad roll out could therefore be challenging due to internet connectivity in remote areas.

While it is a great benefit to patients that they can benefit from VCPS to improve the quality, safety and timeliness of there are, for acute patients especially, face-to-face care services are ideal, and virtual care models should only be implemented where face-to-face services are unable to be provided due to logistical challenges. Both VCPS and in-person hospital pharmacy services do not have sufficient investment by Local Health Districts and there are still many inpatients that are missing out on clinical pharmacy services that will make their care episode safer and reduce their length of admission.

## 6. How do we enhance opportunities for growth of the workforce outside metropolitan areas?

### Building a regional workforce

SHPA welcomes the support and training provided to pharmacists in regional areas of Queensland through the Allied Health Rural Generalist Pathway.<sup>10</sup> As part of this initiative, benefits from the post discharge, high-risk medication management service in a rural setting project<sup>11</sup> demonstrated a decrease in the mean number of hospital admissions in the six months following pharmacist intervention.

However, attracting and retaining this highly skilled pharmacy workforce is key in achieving the Queensland Health Workforce Strategy's initiatives.



**The Society of Hospital Pharmacists of Australia**

PO Box 1774 Collingwood Victoria 3066 Australia

(03) 9486 0177 | shpa.org.au | shpa@shpa.org.au | ABN: 54 004 553 806

**Recommendation 2: Implement Foundation Residency and Advanced Training Residency Programs to be widely available for hospital pharmacists in Queensland to continue to produce a highly skilled pharmacy workforce with structured career pathways, supporting retention and sustainability.**

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.

Thus far, over 300 early career pharmacists have completed SHPA's Foundation Residency program, and there are currently another 200 pharmacists undertaking Foundation Residency across accredited hospital sites around Australia. In Queensland, there are currently 127 early career pharmacists undertaking SHPA's Foundation Residency program, with 89 pharmacists having already completed SHPA's Foundation Residency program.

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.

An expansion of these training programs is needed to support workforce sustainability and retention, particularly in regional areas of Queensland.

**Recommendation 3: Waive HECS fees for training pharmacists in regional, rural and remote areas of Queensland.**

SHPA recommends increasing student subsidies for 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.

Regional members report pharmacy student and intern placements have been reduced in regional hospitals in recent years further compounded by gaps in funding for supporting educator roles. Further investment into these supporting roles are required as well preventing professional isolation through stronger partnerships with metropolitan hospitals.

Furthermore, adequate incentives such as educational allowance to attend conferences, relocation and accommodation assistance should part of employment packages.

SHPA expects that this approach will not only attract training pharmacists to regional areas, but to also retain them to build a regional workforce.

## **7. How do we keep the workforce engaged?**

Increasing the scope of practice of healthcare professionals can be utilised as an engagement tool. The Australian Government Productivity Commission and the Queensland Government report *Unleashing the potential: an open and equitable health system*<sup>12</sup>, identified that using pharmacists and other health professionals to their full scope of practice is an efficient and effective way to improve access to healthcare delivery and lessen the impacts of workforce shortages and distribution problems, particularly in regional and rural communities.



**Recommendation 4: Expand the scope of practice of pharmacy technicians and promote engagement through Tech-Check-Tech inpatient medication supply models, enable pharmacists to spend more of their time providing direct patient care.**

Pharmacy technicians are qualified and trained to provide a range of pharmacy services in hospitals. As pharmacists' roles have evolved to allow more time for clinical activities and direct patient care, pharmacy technician roles have also expanded to support medication management functions on hospital wards. In many states, hospitals have ward-based pharmacy technicians who undertake traditional nursing administrative roles associated with medication storage and supply.

With the current pharmacy workforce retention issues in the Queensland, a stronger pharmacy technician workforce would support the limited number of clinical pharmacists to perform more direct patient care activities that result in improved medication safety and ultimately better patient health outcomes. Expansion of the pharmacy technician workforce also creates career and employment opportunities for Queenslanders.

Currently, a nurse with an undergraduate qualification must perform administrative medication tasks. A pharmacy technician holds a TAFE-level qualification (Cert III or Diploma), creating a career pathway for Queenslanders who wish to be involved in medication management, but not undertake an undergraduate pharmacy or nursing degree.

A 'Tech-check-tech' model includes a pharmacy technician performing administrative tasks in the place of a pharmacist and is an example of an activity undertaken by many pharmacy technicians already in Queensland as well as in Victoria and South Australia. Expanding the scope of practice of technicians in this way supports pharmacists and increases their capacity to perform more clinical and patient facing tasks. Responsibilities such as these are growing more common and a greater focus is placed on a range of ward-based administrative, supply, technical and cognitive activities under the supervision of a pharmacist.

### Pharmacist prescribing

**Recommendation 5: Expand the scope of practice of hospital pharmacists and provide regulatory support and additional investment into innovative pharmacy services, such as Partnered Pharmacist Medication Charting (PPMC) services to address system wide capacity issues with emergency departments, bed access and flow, and elective surgery waitlists.**

In a 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. The pharmacist then prescribes the patient's regular medications with the doctor's authorisation, and the doctor adds any new medications that are initiated in hospital.

Using a PPMC model will decrease the burden 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. This model is being utilised in Emergency Departments and has also been shown to improve medication safety and patient care. A Deakin University health economic evaluation<sup>13</sup> of more than 8,500 patients has explored the impacts of PPMC models upon patients in emergency departments and general medicine 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



Other services that showcase the expanding roles of pharmacists under various protocols include:

- Adjusting dosing for aminoglycosides and warfarin with respect to Therapeutic Drug Monitoring (TDM)
- Assessing nicotine withdrawal and prescribing Nicotine Replacement Therapy (NRT)
- Prescribing standard post-operative medicine or stroke treatment regimes
- Pharmacist-led outpatient clinics

Since 2017, PPMC has now expanded to five jurisdictions around Australia, with others keen to join. Additional investment and regulatory support of innovate pharmacy services can assist in improving system wide capacity issues across Queensland while simultaneously engaging pharmacists and allowing them to work to their full scope of practice. In the limited number of Queensland hospitals in which PPMC has been implemented in select wards, it has improved the capacity of clinicians and has received great support from doctors. This form of collaborative pharmacist prescribing also has the support of medical organisations.

## 8. What are the priority areas to optimise workplace culture?

### Workforce wellbeing and engagement

There has been an increased focus on the importance of psychosocial wellbeing for the healthcare workforce, including pharmacy, in the setting of the COVID-19 pandemic. This has been necessary because of the impact of stress on healthcare workers subsequent to the following factors:

- The risks faced by frontline workers including both exposure to infection and being subject to aggression by members of the public.
- Rapid and unpredictable changes in work practices.
- High demand for services and limited resources, including staffing.

*Pharmacy Forecast Australia 2022*<sup>14</sup> identifies the wellbeing of hospital pharmacists as a key theme in the next five years, with one in five hospital pharmacy staff reporting that they will leave or substantially change their role due to pressures in the work environment.

Workplace culture plays a large role in supporting the wellbeing of staff. It should also be recognised that individuals can be supported to maintain their wellbeing in the presence of high workloads and pressures through recognition of what their needs are under these circumstances.

Evidence suggests that having strong support networks, maintaining a healthy lifestyle, working collaboratively and cooperatively, maintaining perspective, feeling valued and making meaningful contributions can all assist individuals to maintain wellbeing and prevent premature attrition.<sup>15</sup> This can include support to access educational events as well as a flexible workplace.

## 9. What strategies could be implemented to ensure Queensland Health can attract the workforce required?

Hospital pharmacy should be promoted as a career option for high school students and summer student programs. In addition, facilitating pathways for overseas trained pharmacists and technicians would make practicing in Queensland more desirable. Pharmacists are on the 2022 Skills Priority list, with Queensland demonstrating a shortage.

The following recommendations as outlined previously can attract and retain the required pharmacy workforce:

**Recommendation 2: Implement Foundation Residency and Advanced Training Residency Programs to be widely available for hospital pharmacists in Queensland to continue to produce a highly skilled pharmacy workforce with structured career pathways, supporting retention and sustainability.**



**The Society of Hospital Pharmacists of Australia**

PO Box 1774 Collingwood Victoria 3066 Australia

(03) 9486 0177 | shpa.org.au | shpa@shpa.org.au | ABN: 54 004 553 806

**Recommendation 3: Waive HECS fees for training pharmacists in regional, rural and remote areas of Queensland**

**Recommendation 4: Expand the scope of practice of pharmacy technicians and promote engagement through Tech-Check-Tech inpatient medication supply models, enable pharmacists to spend more of their time providing direct patient care.**

**Recommendation 5: Expand the scope of practice of hospital pharmacists and provide regulatory support and additional investment into innovative pharmacy services, such as Partnered Pharmacist Medication Charting (PPMC) services to address system wide capacity issues with emergency departments, bed access and flow, and elective surgery waitlists.**

#### **10. What is required to improve the uptake of Aboriginal and Torres Strait Islander workforces?**

Given that HECS fees for under-represented people is in the federal budget, SHPA proposes that pharmacy degree scholarships are funded in Queensland Universities for Aboriginal and Torres Strait Islander students.

Although quotas aim to address bias, alarmingly, some members report not wishing to disclose on pharmacy job application forms if they identify as Aboriginal and Torres Strait Islander due to fear of discrimination. Cultural safety frameworks must be known to hiring managers and must form part of the interview process. Workplaces need to show they are actively engaging in this to make it somewhere that Aboriginal and Torres Strait Islander people wish to work.

Indigenous cadetship programs could support university students through paid-work placements in hospital pharmacy settings, however thought needs to be given to accessible location of training as well as adequate remuneration for supervisors to support this. SHPA members report that these programs are no longer being actively funded in their workplaces.

In addition, leadership and management program funding for Aboriginal and Torres Strait Islander pharmacists and technicians should be considered ensuring representation at all levels of management as well as tracking how they are progressing through their careers. Any gaps in representation can then be addressed to examine why representation is not at a particular level.

#### **11. What key messages are required to make health workforce jobs as an attractive career?**

There are misconceptions in the public eye and therefore for prospective students about what pharmacists do, especially in hospital settings. The key benefits of being a hospital pharmacist or technician need to be promoted to the wider public. Lesser-known roles include collaborative working with medical and nursing colleagues, improving patients' quality of life by getting the most out of their medicines, taking care of people at their most unwell as well as educating colleagues on evidence-based medicine.

In addition to this, publicising the ever-expanding scope of practice of pharmacists and technicians, demonstrating career progression from outreach roles, outpatient clinics, advanced training in specialisms through to management roles will assist in promoting this rewarding career path.



**The Society of Hospital Pharmacists of Australia**

PO Box 1774 Collingwood Victoria 3066 Australia

(03) 9486 0177 | shpa.org.au | shpa@shpa.org.au | ABN: 54 004 553 806

## **12.How do we track input (education) with intent (career proposal) with employment (outcome)?**

Tracking can be via a post-graduate survey through persons career journey. It can help to identify gaps and needs in training as the scope of practice expands. Post-employment training is required to fulfil advanced roles so education must adapt and evolve to meet these needs.

## **13.How can we improve the sharing of data?**

Multiple systems are used to share healthcare data in hospital settings such as electronic medical records, pharmacy dispensing software and My Health Record. SHPA supports a safer and more efficient healthcare through the use of interoperable and integrated technology systems.

Improving sharing of data across transitions of care is vital in preventing unnecessary hospital admissions relating to medication. Hospital pharmacists in transitions of care and outreach roles can provide a further preventative measure in improving the quality and sharing of this data.

Virtual Clinical Pharmacy Services mentioned previously can only occur where digital capability in rural and remote areas is expanded.

## **14.What other workforce models are available and can be better utilised?**

See response to question 5 and 7.

## **15.How can we increase workforce participation in areas with the greatest need (aged care, disability, mental health, rural and remote)?**

SHPA provides Advanced Training Residencies in Aged Care and is currently developing one in Mental Health. Expanding the program across all Queensland hospitals will ensure that pharmacists are well equipped to provide the most impact in these areas.

The rural pharmacy workforce can be increased through measures described above in question 6, through the following recommendations:

**Recommendation 2: Implement Foundation Residency and Advanced Training Residency Programs to be widely available for hospital pharmacists in Queensland to continue to produce a highly skilled pharmacy workforce with structured career pathways, supporting retention and sustainability.**

**Recommendation 3: Waive HECS fees for training pharmacists in regional, rural and remote areas of Queensland**

## **16.What are the opportunities for new models of care?**

See response to question 7.

### **Further questions**

## **17.Do you have any comments on how we can ensure that Queensland Health staff make the greatest possible difference to delivering excellent care for people in Queensland?**

As outlined in previous responses.





**18. Do you support the proposed key initiatives, aligned to the three priority areas of the proposed workforce strategies as outlined previously? Are there any missing? What would you consider to be the most critical initiatives to be implemented over the next two years?**

SHPA is in support of the key initiatives outlined in the Strategy.

The most critical initiatives for the hospital pharmacy sector are as follows:

**1. Support and retain current workforce**

- Support younger staff to succeed in leadership and executive roles through structured programs
- Partner rural and remote HHSs with a large regional and/or metro HHS for resource sharing
- Update contract terms, considering longer employment contracts and contract lengths equivalent to training duration
- Empower workers to work to their full scope of practice, and encourage and compensate broader scope of practice in workers who are capable (e.g. pharmacists, nurse practitioners, community workers).

**2. Build new pipelines of talent**

- Support flexible return to work opportunities for experienced staff, including retirees and maternity leave staff
- Extend First Nations dedicated training pathways including traineeships, cadetships and vocational placements
- Establish alternate career pathways into the health workforce through school, VET and tertiary/college programs
- Create family-driven incentive packages for relocation to rural and remote areas.

**3. Adapt and innovate new ways to deliver**

- Strengthen partnerships and codesign approach to workforce initiatives
- Develop integrated medical records, including patient controlled digital records and secure clinician-to-clinician data sharing
- Better connect clinical networks across HHSs and primary care providers so shared models can be developed with decision makers

**19. What challenges or opportunities do you see in implementation of the proposed workforce strategy and actions?**

As outlined in responses above.

If you have any queries or would like to discuss our submission further, please do not hesitate to contact Jerry Yik, Head of Policy and Advocacy, on [jyik@shpa.org.au](mailto:jyik@shpa.org.au).



## References

- <sup>1</sup> Queensland Health. (2016). My health, Queensland's future: Advancing health 2026. Available at: [https://www.health.qld.gov.au/\\_data/assets/pdf\\_file/0025/441655/vision-strat-healthy-qld.pdf](https://www.health.qld.gov.au/_data/assets/pdf_file/0025/441655/vision-strat-healthy-qld.pdf)
- <sup>2</sup>SHPA Committee of Specialty Practice in Clinical Pharmacy. (2013). SHPA Standards of Practice for Clinical Pharmacy Services. *Journal of Pharmacy Practice & Research*, 43(No. 2 Supplement), S1-69
- <sup>3</sup> Kopp, B. J., Mrgan, M., Erstad, B.L. & DUBY, J.J. (2007). Cost implications of and potential adverse events prevented by interventions of a critical care pharmacist. *Am J Health Syst Pharm*. 64(23):2483–2487. doi: 10.2146/ajhp060674.
- <sup>4</sup> Schumock, G. T., Butler, M. G., Meek, P. D., Vermeulen, L. C., Arondekar, B. V. & Bauman, J. L. (2002). Task Force on Economic Evaluation of Clinical Pharmacy Services of the American College of Clinical Pharmacy. Evidence of the economic benefit of clinical pharmacy services: 1996–2000. *Pharmacotherapy*.23(1):113–132. doi: 10.1592/phco.23.1.113.31910
- <sup>5</sup> Dooley, M. J., Allen, K. M., Doecke, C. J., Galbraith, K. J., Taylor, G. R., Bright, J., et al. (2004). A prospective multicentre study of pharmacist initiated changes to drug therapy and patient management in acute care government funded hospitals. *British Journal of Clinical Pharmacology*, 57(4), 513-521. doi:10.1046/j.1365-2125.2003.02029.x study. *BMJ Open*, 7(11), e018722. <http://dx.doi.org/10.1136/bmjopen-2017-018722>
- <sup>6</sup> Australian Institute of Health and Welfare. Australia's health 2014. (2014). Australia's health series no. 14. Cat. no. AUS 178. Canberra: AIHW
- <sup>7</sup> Barton L., Futtermenger J., Gaddi Y., Kang A., Rivers J., Spriggs D., et al. (2012). Simple prescribing errors and allergy documentation in medical hospital admissions in Australia and New Zealand. *Clin Med (Lond)* (Apr); 12(2): 119-23.
- <sup>8</sup> The Society of Hospital Pharmacists of Australia (SHPA) Geriatric Medicine Leadership Committee. (2021). Geriatric Medicine and Aged Care Clinical Pharmacy Services Position Statement.
- <sup>9</sup> Queensland Health. (2021). Transition of Care Pharmacy Project (ToCPP). Available at: <https://www.health.qld.gov.au/ahwac/html/tocpp/info>
- <sup>10</sup> Queensland Health. Allied Health Rural Generalist Pathway. Available at: <https://www.health.qld.gov.au/ahwac/html/rural-remote>
- <sup>11</sup> Queensland Health. (2019). Post discharge, high-risk medication management service in a rural setting project. Available at: <https://clinicaexcellence.qld.gov.au/improvement-exchange/post-discharge-high-risk-medication-management-service-rural-setting>
- <sup>12</sup> Queensland Health. (2020). Unleashing the potential: an open and equitable health system – Final. Available at: <https://www.health.qld.gov.au/system-governance/strategic-direction/plans/unleashing-the-potential-an-open-and-equitable-health-system>.
- <sup>13</sup> Deakin University. (2020). Health Economic Evaluation of the Partnered Pharmacist Medication Charting (PPMC) program. Available at: <https://www.safercare.vic.gov.au/improvement/projects/mtip/ppmc>
- <sup>14</sup> The Society of Hospital Pharmacists of Australia. (2022). SHPA Pharmacy Forecast Australia 2022. Available at: <https://shpa.org.au/publicassets/36f9b509-04fc-ec11-9106-00505696223b/Pharmacy%20Forecast%20Australia%202022%20Full%20Report.pdf?4d171d0a-84fd-ec11-9106-00505696223b>
- <sup>15</sup> Rech M.A, Jones G.M., Naseman, R.W., Beavers, C.(2022). Premature attrition of clinical pharmacists: Call to attention, action, and potential solutions. *J Am Coll Clin Pharm*.

