

27 January 2023

The Hon Jim Chalmers MP Treasurer PO Box 6022 House of Representatives Parliament House, Canberra ACT 2601 Email: *prebudgetsub@treasury.gov.au*

Dear Treasurer,

The Pharmaceutical Society of Australia (PSA) thanks you for the opportunity to provide a submission for the 2023-24 Commonwealth Budget consultation process.

As medicine safety experts and one of our most accessible frontline health workforces, pharmacists can play a greater role in improving access to medicines and health care for the Australian population and individual patients to enable better health outcomes for all Australians.

Regional Australia continues to face significant GP workforce shortages, with many areas struggling to recruit and retain GPs, resulting in excessive wait times with patients reporting waiting lists of 4-6 weeks in some areas.

With workloads already at breaking point, this crisis requires urgent action to ensure Australians have access to timely, high quality and comprehensive care regardless of where they live.

Ahead of some states reviewing pharmacist scope of practise, PSA has identified five key budget proposals for the Federal Government's consideration that would directly improve patient access to primary care, particularly in rural and regional Australia.

 Preventing illness and disease by allowing all pharmacists to deliver all vaccinations in all locations

The COVID-19 pandemic also impacted vaccination rates, with school-based immunization programs temporarily suspended, and with the pandemic resulting in a degradation of public trust in vaccines. With pharmacists administering over 10 million COVID-19 vaccines over the last two years, enabling pharmacists to administer all vaccines across all settings will help ensure Australia's vaccination rates remain high, and that we do not see a significant increase in vaccine-preventable diseases.

Improve the management of complex health conditions by strengthening primary care capacity to administer prescribed injectable medicines
With over 47% of Australians experiencing chronic disease, and many of these conditions being supported with lifesaving injectable medicines, strengthening primary care capacity by supporting pharmacists to administer prescribed injectable medicines will improve the management of complex health conditions for Australians.

 Improve patient access to primary care by expanding non-dispensing pharmacist roles in general practice

Patient access to primary care can be improved by funding a GP-Pharmacist Collaborative Prescribing Pilot, expanding the Workforce Incentive Program to provide more opportunity for pharmacists in non-dispensing roles, and introducing MBS item numbers to allow these pharmacists to claim for consultations.

• Safeguard Australians' access to essential medicines by expanding continued dispensing arrangements

The current Continued Dispensing arrangements are not fit for emergency purpose, as they do not include many medicines where continuation of therapy is paramount. Allowing all PBS General Schedule medicines to be eligible for continued dispensing would safeguard Australians' access to essential medicines, particularly in areas likely to be impacts by natural disasters.

 Improve timely access to care by supporting community pharmacists to provide treatment for minor ailments and triage non-urgent emergency presentations
Supporting community pharmacists to provide treatment for minor ailments and triage non-urgent emergency presentations would improve timely access to care and reduce pressure on hospital emergency departments. National leadership is required for a harmonized approach for pharmacists to treat minor conditions such as headaches, coughs and cold, earaches, and other non-urgent conditions.

These measures will help strengthen healthcare in Australia, reducing red tape and allowing pharmacists to do more to support the health system while it is under immense pressure.

PSA appreciates your consideration of the ways in which our pharmacist workforce can be better utilised to support the health and wellbeing of Australians, and how we can secure the future of our pharmacist workforce to ensure Australians continue to have timely access to high quality primary care and non-urgent healthcare services.

PSA is happy for this submission to be made public. Please do not hesitate to contact PSA if you require any further information to support this submission.

Sincerely,

Dr Fei Sim FPS National President Pharmaceutical Society of Australia

About PSA

PSA is the only Australian Government-recognised peak national professional pharmacy organisation representing all of Australia's 36,000 pharmacists working in all sectors and across all locations.

PSA is committed to supporting pharmacists to help Australians access quality, safe, equitable, efficient and effective healthcare. PSA believes the expertise of pharmacists can be better utilised to address the healthcare needs of all Australians.

PSA works to identify, unlock, and advance opportunities for pharmacists to realise their full potential, to be appropriately recognised and remunerated.

PSA has a strong and engaged membership base that provides high-quality healthcare and are the custodians for safe and effective medicine use for the Australian community.

PSA leads and supports innovative and evidence-based healthcare service delivery by pharmacists. PSA provides high-quality practitioner development and practice support to pharmacists and is the custodian of the professional practice standards and guidelines to ensure quality and integrity in the practice of pharmacy.

Preventing illness and disease by allowing all pharmacists to deliver all vaccinations in all locations.

PSA recommends that the Federal Government lead the nation on the harmonisation of vaccination standards across jurisdictions and ensure that all vaccinations for vaccine-preventable diseases can be administered by pharmacists, in all locations at a price all Australians can afford.

The challenge

Vaccination is considered one of the most cost-effective interventions against preventable diseases, saving thousands of Australian lives every year.

The nationwide general practitioner (GP) access crisis continues to limit patient access to vaccinations listed on the National Immunisation Program Schedule. In 2022, many patients reported GP wait-times between four to six weeks, significantly limiting their access to timely vaccinations. The COVID-19 pandemic has also impacted vaccination rates. There are reports that temporary suspension of school-based immunisation programs during the pandemic has negatively impacted childhood vaccination rates.

The pandemic has also resulted in the degradation of public trust in vaccines, with anti-vaccine sentiment growing in the community and opponents of vaccines becoming more vocal. There is a risk that this sentiment will continue to grow, impacting immunisation coverage for other vaccine-preventable diseases. As we have seen with other immunisations, adding pharmacists to the list of vaccine providers lifts overall immunisation rates, with steady increases from all vaccines providers since the introduction of pharmacists administered influenza vaccines in 2014.

Governments must remain diligent to ensure that Australia does not see a significant decline in immunisation rates, or significant increases in vaccine-preventable diseases.

The proposed approach

As medicine safety experts and one of our most accessible frontline health workforces, pharmacists should be able to play a greater role in improving access to vaccination services for Australians and ensuring high vaccination coverage for preventable diseases.

Pharmacists' involvement in the COVID-19 vaccination program was undoubtedly successful. With almost 10 million COVID-19 vaccines administered by pharmacists over the last two years, as well as millions on influenza vaccines, it is clear that Australians want to attend local pharmacies to receive their vaccines.

Enabling pharmacists to administer all vaccines listed in the Australian Immunisation Handbook^a will improve healthcare access for Australians. Whilst most jurisdictions are gradually increasing the range of

^a The Australian Immunisation Handbook | Australian Government Department of Health and Aged Care Accessed 30 Nov. 22

vaccines available to be administered by authorised pharmacists, this is currently taking place in an ad hoc manner. Nationally consistent regulations on the age of patients being vaccinated in community pharmacies would give restore confidence to the community and give certainty to the pharmacists delivering this vital service.

PSA is calling on the Federal Government to provide national leadership on the harmonisation of vaccination standards across jurisdictions and ensure all vaccines for vaccine-preventable diseases can be administered by pharmacists, in all locations and for all ages.

To allow true universal healthcare, out of pocket expenses for pharmacists to administer any vaccine must supported by the federal government, as is occurring with the COVID-19 vaccination rollout. This will not only align with other immunisers but allow for sufficient resourcing and access through community pharmacies and other settings, while not limiting existing pharmacist services.

With pharmacists now providing the majority of COVID vaccinations in the country, this model will allow for enhanced uptake of all immunisations and further Australia's leadership in protecting against all vaccine preventable disease.

Why it will work

The COVID-19 vaccination program response has highlighted that consumers value choice in how they access health services. Pharmacists have been preferred vaccinators for many in the community, with 87% of Australians living within 2.5km of a pharmacy.

Pharmacists have made significant contributions to public health and herd immunity by safely and effectively vaccinating millions of Australians against influenza, COVID-19, diphtheria/tetanus/pertussis, meningococcal ACWY, human papillomavirus and measles/mumps/rubella.

Pharmacies are uniquely positioned to meet the healthcare needs of the communities that they serve, given their locations and flexible hours. Throughout the COVID-19 pandemic pharmacists have demonstrated their ability to administer complex regimens of vaccines to children as young as five years old, significantly contributing to the high vaccination rates which have protected our community.

Better utilising pharmacists' skills across the sector can improve access to care, currently solely being supported by an overworked GP practice network.

Pharmacists can also play a greater role in providing vaccination services in settings outside of community pharmacy – including Residential Aged Care Facilities, disability care settings, Aboriginal Health Clinics, and hospitals.

Giving Australians the opportunity to be vaccinated close to their homes or workplaces would mean that a greater number of at-risk patients could access to National Immunisation Program (NIP) and non-NIP vaccines.

Budget implications and funding model

Australians deserve equitable access to vaccines at no-cost to the patient, regardless of the setting in which the vaccine is being administered. This requires pharmacists to be paid for the administration of each vaccination, as successful in the COVID-19 vaccination program.

PSA recommends that the Commonwealth Government introduce an immunisation service payment at a flat rate for each vaccination administered by a pharmacist. This service payment should be available through the MBS and be modelled on the Level B payment available to GPs which includes professional attendance by a general practitioner lasting less than 20 minutes and providing appropriate preventive health care.

- Improved immunisation coverage and herd immunity for vaccine preventable diseases.
- Reduced incidence of vaccine preventable diseases.
- Enhanced access to vaccinations.
- Ensure patients are not disadvantaged by seeking vaccination services through their community pharmacy when they cannot access a GP.

Improve the management of complex health conditions by strengthening primary care capacity to administer prescribed injectable medicines.

PSA recommends the Federal Government strengthen primary care capacity to administer prescribed injectable medicines by funding training for pharmacists to build workforce capability.

The challenge

Over 47% of Australians have one or more chronic diseases including heart failure, hypertension, diabetes, and asthma. Many of these conditions can be supported with lifesaving short- or long-term injectable medicines.

Examples include administration of subcutaneous insulin, intramuscular Vitamin B12, intramuscular depot buprenorphine, subcutaneous omalizumab via pre-filled syringe (Xolair®), and subcutaneous adalimumab via pre-filled syringe or self-administration pen (Humira®).

In many cases injectable medicines are not first line therapy and are only introduced when other oral medicines are insufficient.

A large portion of patients experiencing these health conditions do not feel comfortable with selfadministration, with some requiring at-home nursing services or additional GP appointments to have the medicine administered.

The proposed approach

PSA recommends that the Commonwealth Government strengthen primary care capacity and build pharmacist workforce capability by funding training for pharmacists to administer prescribed medicines such as insulin, enoxaparin and intramuscular B12.

This will improve the management of complex health conditions and medicine compliance for patients, whilst also reducing unnecessary burden on the healthcare system.

Why it will work

Pharmacists are trained to administer intramuscular and subcutaneous injectable medicines and over the last two years have administered over 13 million intramuscular and subcutaneous injections through COVID and influenza vaccination programs. Pharmacists are available 7 days a week without appointment, with many pharmacies operating with extended opening hours. It is expected that at least 70% of pharmacies across regional and metropolitan parts of Australia would be able to immediately

provide this service, based on the number of pharmacies already providing immunisation services.

The types of medicines a pharmacist can assist with extend beyond common chronic disease conditions and can include injectable medicines for diabetes, osteoporosis, rheumatoid arthritis, asthma, and anticoagulants for blood clots.

Some medicines, such as long-acting buprenorphine for opioid dependence, require state legislative instruments to allow pharmacists to administer these medicines.

Australians deserve equitable access to healthcare regardless of location, and the comfort of knowing that a pharmacist is available to assist with their injectable medicines when they need it. Cutting red tape and unnecessary red tape for pharmacists to administer injectable medicines will allow the workforce to be utilised to full capacity.

Budget implications

PSA recommends that the Commonwealth Government introduce a service payment at a flat rate for each injectable medicine administered by a pharmacist. This payment should be implemented through the MBS. It should be modelled on the Level B payment available to GPs, which is defined as professional attendance by a general practitioner lasting less than 20 minutes, which includes providing appropriate preventive health care.

Funding pharmacist training to expand and refresh their skills will build current and future workforce capacity. PSA estimates this would cost \$400,000 per year, based on an assumption of 2000 pharmacists completing training each year.

- Improved health outcomes for Australians living with chronic conditions.
- Reduction in healthcare costs and burden on the health system related to avoidable hospital presentations, medication misadventure, and poor health management.
- Improved equitability of GP appointments and at home nursing services.

Improve patient access to primary care by expanding non-dispensing pharmacist roles in general practice.

PSA recommends that the Commonwealth Government implement the measures to improve patient access to primary care by supporting non-dispensing pharmacist roles in general practice, including:

- 1. Providing funding of \$3.0 million over four years for a GP-Pharmacist Collaborative Prescribing Pilot, which would allow pharmacists embedded in General Practice to prescribe under a collaborative care model.
- 2. Expanding the Workforce Incentive Program to provide more opportunity for financial incentives to support medical practices to engage pharmacists in non-dispensing roles.
- 3. Introducing MBS item numbers to allow GP-pharmacists to claim for consultations.

The challenge

Regional Australia is facing significant GP workforce shortages. Australians in regional, rural and remote communities have reduced access to healthcare services, with a greater reliance on local GPs to provide primary healthcare services. Despite this demand, many of these areas are struggling to recruit and retain GPs, resulting in excessive wait times.

This is putting unnecessary pressure on Emergency Departments (ED), with patients presenting when they cannot get timely GP care. Data from the Australian Institute of Health and Welfare shows that rates of lower urgency ED presentations are markedly higher in regional areas, at 159 cases per 1000 (compared to 92 in major cities).

The current workforce challenge can be demonstrated by the experience of Ontario Medical Clinic in Mildura, Victoria, which has lost three full time GPs over the past 6 months. With each GP seeing upward of 50 patients each working day, this equates to 625 patient appointment times lost each week. As a result, the previous 2-3 week waiting period for routine care became a 4–5-week minimum wait for many patients.

Workforce shortages and workloads are already at breaking point. This crisis requires urgent action to ensure Australians have access to timely, high quality and comprehensive care, regardless of where they live.

The proposed approach

GP-Pharmacist Collaborative Prescribing Trial

Expanding the scope of practice for GP-Pharmacists to prescribe under a collaborative care model would enable GPs to better utilise the existing clinical pharmacist workforce, address the workforce crisis, and reduce avoidable hospitalisations due to medication misadventure.

Some General Practices already employ pharmacists. In this role, pharmacists conduct pre-consultation appointments to gather healthcare information, review patient history and consult notes, assess pathology results, and make recommendations to GPs to adjust drugs and dosage. GP Pharmacists can also perform Home Medication Reviews, which involves visiting the patient at home, reviewing their medicines and holistic health, and making recommendations to the GP to optimise their medication regime.

A Pilot program would allow this collaborative care model to be trialled and tested in several GP Clinics in regional and remote Australia, whilst alleviating workforce pressures.

Under this Pilot, existing GP Pharmacists in General Practices located in MMM3 and above, or MMM2 where there is a demonstrated workforce shortage, would see their role expand to include:

- Issuing repeat prescriptions of existing medication in a patient's regimen.
- Altering doses of current medications.
- Prescribing alternative medicines where a patient has an intolerance or there is clear inefficacy to an existing medication, for existing conditions already diagnosed by the GP.
- Referring patients for pathology to aid in medication management, monitor responses and optimise prescribed therapy.

The Pilot would be managed by PSA, and PSA would, in consultation with the Department of Health and the Australian College of Rural and Remote Medicine, identify potential clinics and manage the grant application process. PSA would also develop pharmacist prescribing guidelines and training to support GP Pharmacists participating in the trial.

Expanding the Workforce Incentive Program

Workforce Incentive Program funding is available to fund nurse-practitioners and other allied health professionals and as a result is quickly exhausted. Expansion of the WIP should include funds quarantined specifically for the employment of GP-Pharmacists.

Introducing MBS Item Numbers for GP-Pharmacists

Introducing MBS item numbers for GP-Pharmacists, as currently occurs for GP nurse practitioners, would allow pharmacists to claim for consultations within the GP clinic, and ensure pharmacist's and clinics are appropriately remunerated for their time. This would incentivise GP clinics to expand the number of GP-Pharmacist roles that are available. This would require legislative amendments to include pharmacists as eligible health practitioners.

Why it will work

Approximately half of all GP appointments are for the management of chronic or existing health conditions, as opposed to the diagnosis of something new.

Allowing GP Pharmacists to prescribe under a collaborative care model would improve patient access to timely, high quality and comprehensive care. This model would allow GPs to share the management of their patient with the GP Pharmacist.

This model would allow workforce shortages to be addressed by utilising the existing healthcare team for effectively.

Pharmacist prescribing is an established practice in several countries, including New Zealand, the United Kingdom, Canada, and the United States of America. Pharmacist prescribing can be thought of as comparable to activities of a Nurse Practitioner. These roles have been supported and expanded by successive governments across all jurisdictions, with authorised nurse practitioners accessing the Medicare Benefits Schedule (MBS) to prescribe certain medicines and provide pathology and specialist referrals.

This GP-Pharmacist Collaborative Prescribing model would also maintain separation of prescribing and dispensing roles, eliminating previous concerns raised by medical groups.

Introducing monetary incentives such as expanding the WIP and allowing GP-Pharmacists to claim against MBS item numbers would ensure that it is sustainable for GP clinics to provide these services, expanding the number of GP-Pharmacist roles available, and allowing GPs to better utilise their time.

Budget implications

PSA estimates this proposal will require a budget allocation of \$3.0 million over four years.

This is based on the Pilot extended to 0.6 FTE per clinic, across five GP clinics. This includes funding for administrative support, the development of pharmacist prescribing guidelines, the design and delivery of 3x online eLearning modules, and a clinical evaluation of the pilot program.

- Improved access to timely, high quality and collaborative care for Australians in regional, remote, and rural Australia.
- Better utilisation of the existing clinical workforce in regional Australia.
- Reduced GP waiting times and reduced pressure on hospital emergency departments.
- Improved opportunities for career progression for pharmacists in regional areas.

Safeguard Australians' access to essential medicines by expanding continued dispensing arrangements.

PSA recommends that the Commonwealth Government allow all PBS General Schedule medicines to be eligible for continued dispensing on a permanent and ongoing basis.

The challenge

Continued Dispensing is the supply of an eligible medicine to a person by an approved pharmacist, where there is an immediate need for the medicine, but the PBS prescriber is unable to be contacted and/or is unable to provide an electronic PBS prescription or owing prescription.

Continued Dispensing enables community pharmacists to supply a single standard pack of an eligible medicine to a patient at the usual PBS price. The patient must have been supplied the medicine in the previous three months (and their condition is stable) and the medicine must not have been supplied under Continued Dispensing arrangements by any pharmacy within the previous 12-month period.

Continued Dispensing arrangements were first introduced by the Commonwealth Government through the National Health (Continued Dispensing) Determination 2012, which allowed for the supply of two medicine groups – oral contraceptives and statins (cholesterol-lowering medicines).

In response to the 2019-20 bushfire emergencies across Queensland and New South Wales, the Commonwealth Government temporarily expanded the range of medicines that could be supplied under Continued Dispensing arrangements to include all PBS General Schedule (s85) medicines through the National Health (Continued Dispensing – Emergency Measures) Determination 2020. The emergency measures were extended several times to assist in managing demand on the health system during the COVID-19 pandemic. This was vital in ensuring patient access to more than 900 Schedule 4 (Prescription Only) medicines in an emergency.

From 1 July 2022, changes were made to the Commonwealth Government's Continued Dispensing arrangements, reducing the number of medicines from over 900, to 168. This has had a substantial impact on patient access to essential medicines.

PSA has serious concerns that the current Continued Dispensing arrangements are not fit for emergency purpose, as they do not include many medicines where continuation of therapy is paramount. These are medicines that could have serious patient safety implications if ceased abruptly.

Examples of such classes of medicines which are not on the list of eligible medicines for the permanent Continued Dispensing arrangement include the following:

- Antiepileptics
- Antidepressants

- Antipsychotics
- Antithrombotic agents
- Antirheumatic agents
- Anti-Parkinson medicines
- Antiglaucoma preparations
- Chronic antibiotic use in conditions such as cystic fibrosis
- Immunosuppressants

Being selective about which class of PBS medicine qualifies for emergency supply has the potential to compromise patient care through the discontinuation of essential prescribed medicines. It is contrary to the fundamental objective of the PBS to provide timely, reliable, and affordable access to necessary medicines for all Australians under one of the aims of the National Medicines Policy.

The proposed approach

PSA recommends that all PBS General Schedule medicines be eligible for Continued Dispensing on a permanent and ongoing basis. This is vital to ensuring timely and equitable access to basic health care in the event of an emergency, consistent with a fundamental policy intent of the PBS.

PSA suggests the criteria for access to Continued Dispensing supply, such as limiting to one such supply in a 12-month period and considering other state or territory emergency supply provisions first be maintained.

Why it will work

The temporary emergency measures were in place for more than two years and operated very successfully throughout that period.

More frequent natural disasters, the ongoing effects of the COVID-19 pandemic, as well as national GP shortages, has only demonstrated how vital Continued Dispensing is to the health of Australians.

Budget implications

The emergency measures did not result in any increase in overall PBS utilisation or expenditure, so there is not expected to be any significant cost to the Commonwealth Government for this measure.

- Improved access to medicines for Australians when facing natural disasters or other emergency situations.
- Improved patient care through continuation of essential prescribed medicines.

Improve timely access to care by supporting community pharmacists to provide treatment for minor ailments and triage non-urgent emergency presentations.

PSA recommends that the Commonwealth Government provide national leadership for the harmonisation of programs that allow community pharmacists to provide treatment for minor ailments and triage non-urgent emergency presentations, reducing unnecessary presentations to emergency departments and general practice.

The challenge

In 2018-19, there were 8.4 million presentations to Australian public hospital emergency departments (ED), of which approximately 11 percent were considered non-urgent. Seventy percent of non-urgent presentations to ED occurred between the hours of 9am and 7pm, during the typical business hours of a community pharmacy^b.

Patients seeking care from hospital emergency departments for conditions such as headaches, coughs and colds, earaches and other non-urgent conditions are an inefficient use of resources, putting unnecessary pressure on the broader healthcare system. These non-urgent conditions could be managed by a community pharmacist or general practitioner.

The proposed approach

With emergency departments regularly overwhelmed, there is a need to shift non-urgent and semi-urgent care to more accessible primary care providers in order to provide the right level of care, at the right cost, and in a timely manner.

Utilising general practitioners and community pharmacists in the triage, management and referral of nonurgent care presentations would ensure this is achieved, relieving pressure on existing ED services, and creating greater capacity for ED to respond to more urgent conditions.

It is estimated between 2.9 and 11.5 percent of all ED services in Australia could be safely transferred to community pharmacy or general practice per year^c.

Under such a program, persons with non-urgent conditions would be encouraged to seek advice in the first instance from their general practitioner or pharmacist rather than presenting to an ED. This would cover a range of minor conditions including but not limited to:

• Minor skin conditions, wounds, bites, or lacerations

^c Dineen-Griffin S et al 2019 An Australian Minor Ailments Scheme: Evaluation of an integrated approach by community pharmacists and general practitioners. At: https://www.uts.edu.au/sites/default/files/2019-10/UTS%20WentWest%20AMAS%20 Report_Full_DineenGriffin%20et%20al%20DIGITAL%20copy.pdf

^b Australian Institute of Health and Welfare: Emergency Department Care 2018-2019. At: https://www.aihw.gov.au/reports-data/ myhospitals/sectors/emergency-department-care

- Aches and pains (including headache)
- Minor injuries
- Gastrointestinal conditions
- Specific infections (e.g., uncomplicated urinary tract infections)

An agreed protocol would be established for each condition with referral to a general practitioner or other service provider for conditions requiring more investigation or specific treatment. Anyone identified as requiring urgent attention would be referred to the emergency department if necessary.

National leadership is required to encourage state jurisdictions to pursue these programs.

Remuneration of pharmacist services in the assessment, triage and management of these patients will reduce government expenditure and improve accessibility by providing timely treatment for patients with non-urgent medical conditions through primary care providers in both metropolitan and rural areas.

Why it will work

There is strong evidence that the clinical advice provided by community pharmacists regarding symptoms of minor illness results in the same health outcomes as if the patient went to see their GP or attended the ED^d.

A number of other countries have pursued schemes like this, including in the United Kingdom and regions of Canada^e, where pharmacies are paid a consultation fee for the delivery of minor ailment services.

Budget implications

A remuneration model which is commensurate of the level of care provided for non-urgent care should be established for pharmacists through the MBS.

- Improved accessibility by providing timely treatment for patients with non-urgent medical conditions through the community pharmacy in both metropolitan and rural areas.
- Reduced pressure on existing emergency departments, resulting in greater capacity to respond to more urgent conditions.
- Providing choice to patients to seek the right level of care through a primary care provider in a timely manner.
- Reduced state government expenditure on non-urgent care presentations.

^d Aly M, Garcia-Cardenas V, Williams K et al. A review of international pharmacy-based minor ailment services and proposed service design model. RSAP. 2018; 14(11): 989-998.

^e Yelland L, Salter A, Ryan P. Relative risk estimation in cluster randomized trials: a comparison of generalized estimating equation methods. Int J Biostat 2011; 7(1):27. [doi: 10.2202/1557-4679.1323]