Australian Government
Australian Digital Health Agency

Metropolitan Pharmacy Services

Exploring prescriber, dispenser and consumer use of electronic prescriptions: an Australian snapshot

Research report

Prepared by the Australian Digital Health Agency for the Australian Department of Health and Aged Care, 31 August 2023.

All correspondence should be addressed to:

Level 25, 175 Liverpool Street, Sydney NSW 2000
Phone: (02) 8298 2600
Email: media@digitalhealth.gov.au
Web: www.digitalhealth.gov.au

Document control

This document is maintained in electronic format and is uncontrolled in printed form. It is the responsibility of the user to verify that this copy is the latest revision.

Disclaimer

The Australian Digital Health Agency ('the Agency') makes the information and other material ('Information') in this document available in good faith but without any representation or warranty as to its accuracy or completeness. The Agency cannot accept any responsibility for the consequences of any use of the Information. As the Information is of a general nature only, it is up to any person using or relying on the Information to ensure that it is accurate, complete and suitable for the circumstances of its use.

Acknowledgements

We thank the following individuals and organisations for their contributions:

- participants: the prescribers, dispensers, consumers and community pharmacies who consented to participate in the research
- Agency Digital Health Advisers: who constantly challenged our thinking and provided valuable feedback from a clinical perspective
- Australian Digital Health Agency team: Tracey Davenport, Dr Vanessa Cheng, Dr Yasmin van Kasteren, Georgiana Bingham, Emily Luhrs, Crystal Yim, Min Ma and Vicki Ibrahim
- Australian Department of Health and Aged Care team: Alex Powell, Jess Chambers, Leah Martin, Rachel Richardson, Justin Henri, Belinda Wylks and Rabekah Lum.

Attribution

Attribute this publication (and any material sourced from it) using the following citation:

> Australian Digital Health Agency, *Exploring prescriber, dispenser and consumer use of electronic prescriptions: an Australian snapshot*, Australian Digital Health Agency, Australian Government, 2024.

Contents

Summary and context

More than 250,000 Australians are hospitalised each year because of medication-related problems (including inappropriate use and adverse interactions), costing Australia approximately $1.4 billion per year. An additional 400,000 presentations annually to emergency departments are likely also due to medication-related problems.[1] At least half of these problems can be prevented.[2]

In November 2019, federal, state and territory health ministers declared medicine safety the 10th National Health Priority Area for Australia. This recognises the urgent need to ensure medicines improve the health of Australians, not put them at risk of harm. To deliver optimal health outcomes for the nation, a dynamic and supportive national health and medicines policy environment was formed, with the National Medicines Policy at its core.

The National Medicines Policy aims to achieve the best health, social and economic outcomes for all Australians. It advocates for the use of digital tools and technologies to help and empower people to manage their health and wellbeing, connect them in meaningful ways to their healthcare teams and offer them choices for how, when and where care is delivered. This is called 'digital health'. Electronic prescribing is one such digital health tool that is used to improve the tracking and management of medicines for both prescribers and consumers and help prevent medication-related problems.

Digital health in Australia

Digital health has the potential to help people overcome healthcare challenges such as equitable access, chronic disease management and prevention, and managing the increasing costs of health care. When it comes to improving the health of all Australians, digital innovation and connection is a vital part of a modern, accessible healthcare system. Better patient health care and health outcomes are possible when a health infrastructure can be safely accessed, easily used and responsibly shared.

The National Digital Health Strategy 2023–2028 (NDHS) establishes the foundations for a sustainable health system that constantly improves. It underpins and coordinates work that is already happening between governments, healthcare providers, consumers, innovators and the technology industry. The NDHS is a national strategy for all, developed in consultation with all Australian governments, consumers, healthcare providers and the software industry, and with the aim to deliver an inclusive, sustainable and healthier future for all Australians through a connected and digitally enabled health system.

Systems such as a national digital health record system, electronic medication management, electronic prescribing and Real Time Prescription Monitoring enhance the medication management ecosystem, provide a platform to reduce preventable harms, ensure consumers have a seamless experience as they transition between clinical settings, and improve the quality use of medicines.

Adoption of electronic prescribing

Electronic prescribing enables the prescribing, dispensing and claiming of medicines without the need for a paper prescription. It was introduced to empower consumers in managing their medicines and to ensure consumer choice and a consistent experience in accessing medicines. Electronic prescribing forms part of an Australian Government budget measure to make the Pharmaceutical

1 Pharmaceutical Society of Australia (PSA), *Medicine safety: take care*, PSA, Canberra, 2019.
2 Lim R, Ellett LMK, Semple S, Roughead EE, 'The extent of medication-related hospital admissions in Australia: a review from 1988 to 2021', *Drug Safety*, 2022, 45(3):249–257, doi:10.1007/s40264-021-01144-1.

Benefits Scheme (PBS) more efficient. It also complements the continued use of telehealth and virtual care to improve access to timely services; for example, by allowing patients to get the health care they need, where and when they need it.

Electronic prescribing is an integral component of the broader digital health and medicines safety policy framework. It supports the 4 pillars the National Strategy for Quality Use of Medicines (appropriate, judicious, safe and effective use of medicines) and the broader objectives of the National Medicines Policy. The enhanced legitimacy and trackability of electronic prescriptions for monitored and controlled medicines supports the national drug policy approach to harm minimisation, as set out in the National Drug Strategy 2017–2026.

Benefits of electronic prescriptions compared with paper scripts include:

- **instant access and convenience** – electronic prescriptions enable consumers to receive scripts immediately after telehealth appointments, and access to medicines is no longer dependent on retaining or the availability of paper prescriptions
- **better script management** – electronic prescriptions remove the need for handling and storing physical paper prescriptions and overcome the issue of lost paper prescriptions
- **reduced environmental impact** – electronic prescribing reduces the use of paper and printers
- **improved prescribing workflow** – electronic prescribing is convenient and efficient, allowing clinicians more time to deliver patient care, provide more-informed healthcare advice and build better relationships with patients
- **enhanced medicines safety through potentially reduced prescribing and dispensing errors** – electronic prescriptions are more legible and make it easier to share accurate information between prescribers, patients and pharmacies. This is achieved using a standardised, coded drug database that ensures data accuracy, completeness and consistency when prescribing and dispensing
- **increased privacy and security protections** – electronic prescribing maintains patient privacy and the integrity of personal information using token encryptions and data protection measures. Safety issues, such as prescription fraudulences, are also minimised when compared with paper prescriptions, as it is harder to forge or tamper with patient or prescription data in an electronic prescription, and the QR code automatically becomes invalid once the prescription is dispensed.

The first electronic prescription in Australia was sent on 6 May 2020. Since the nationwide implementation of electronic prescribing in 2021, there has been a significant uptake in its use in primary care, with more than 238 million electronic prescriptions generated up to 30 June 2024. This demonstrates both clinician and consumer demand for digital technologies to support access to medicines.

Recognising the benefits of electronic prescribing and its widespread adoption, in July 2023 the 2023–24 federal Budget allocated $111.8 million over 4 years, and $24.2 million ongoing, for electronic prescription delivery infrastructure and services.

Research overview

The Australian Government Digital Health Agency held a national survey and conducted 5 time-and-motion studies of community pharmacy workflows to better understand perceptions, behaviours, attitudes and outcomes of electronic prescriptions and Active Script Lists (ASLs).

The survey, conducted in collaboration with the Australian Government Department of Health and Aged Care, asked consumers, prescribers and dispensers about their attitudes towards electronic

prescriptions and ASLs. Participants also answered questions about any benefits, impacts or barriers regarding the use of electronic prescriptions.

The Agency collected the data between March and June 2023.

Learnings

The 3 broad groups that benefited from the introduction and use of electronic prescriptions were:

- pharmacies and medical practices in areas with good internet and phone connectivity
- populations with high digital health literacy
- populations with smartphones and reliable internet access.

These groups consider electronic prescriptions to be more accessible and convenient than paper scripts.

The portability of electronic prescriptions within Australia is also convenient for fly-in-fly-out workers, travellers and people on holiday.

> *I find it convenient for telehealth. Once I click send, the SMS is almost immediate and the patient can confirm they received it.*
>
> *– Prescriber*

The research also highlights opportunities to improve the electronic prescribing experience for people who:

- have lower digital health literacy
- do not have access to a smartphone or reliable internet
- speak a language other than English at home or do not speak English.

> *I needed a script when on holiday in country Victoria. A phone call to my doctor in Brisbane resulted in a digital SMS script to my mobile phone within half an hour.*
>
> *– Consumer*

Overall, all cohorts (consumers, prescribers and dispensers) considered electronic prescriptions to be more secure than paper scripts, especially for monitored medicines, but they still had some concerns, such as potential misuse. Improving education and training programs and providing implementation support to prescribers and dispensers may help alleviate these concerns to support more widespread adoption of electronic prescriptions across all cohorts.

Promoting the use of ASLs in more pharmacies could allow less digitally literate people, older consumers and those without phones to take advantage of the benefits of electronic prescriptions, as they could access their electronic prescriptions at any pharmacy. Also, introducing consumer apps with ASL functionality – with clearly listed medications, script expiry dates and the number of remaining repeats – could help resolve these challenges.

A key takeaway from the research is that prescribers', dispensers' and consumers' preferences for electronic or paper prescriptions differ depending on context. There is an overwhelming preference for electronic prescriptions in some situations (for example, telehealth) but more ambivalence in others (for example, when prescribing controlled drugs).

Next steps

This research showed that, in general, consumers and healthcare professionals are open to adopting electronic prescriptions and ASLs, particularly in certain situations such as telehealth. There are, however, steps that the Australian Government can take, through the Agency, to improve usage of and satisfaction with electronic prescribing.

The Australian Government is currently considering a more strategic approach to digital medicines under the banner of 'Quality Use of Medicines'. This will build on the existing sector collaboration on national initiatives for more effective, consumer-focused healthcare delivery. The National Digital Medicines Strategy – to be developed in consultation with consumers, the health sector and government agencies – will shape our vision for digital enablement and transformation of the Australian medicines safety framework, and provide clarity on our digital priorities.

Regular enhancements to the 'my health' app aim to improve the quality use of medicines by integrating electronic prescription token management and linking ASL access, to make it easier for consumers to manage and view their electronic prescriptions.

Australia can transform our healthcare systems and improve health and wellbeing through sustained and effective adoption and integration of digital technologies, as we shape and share a collective vision for digitally enabled healthcare. An important part of that vision is improving the quality and safety of medicine use and management. The NDHS outlines what is needed to deliver digital health within the next few years to create an innovative, future-focused, person-centred health system that can meet both current and future challenges.

Introduction

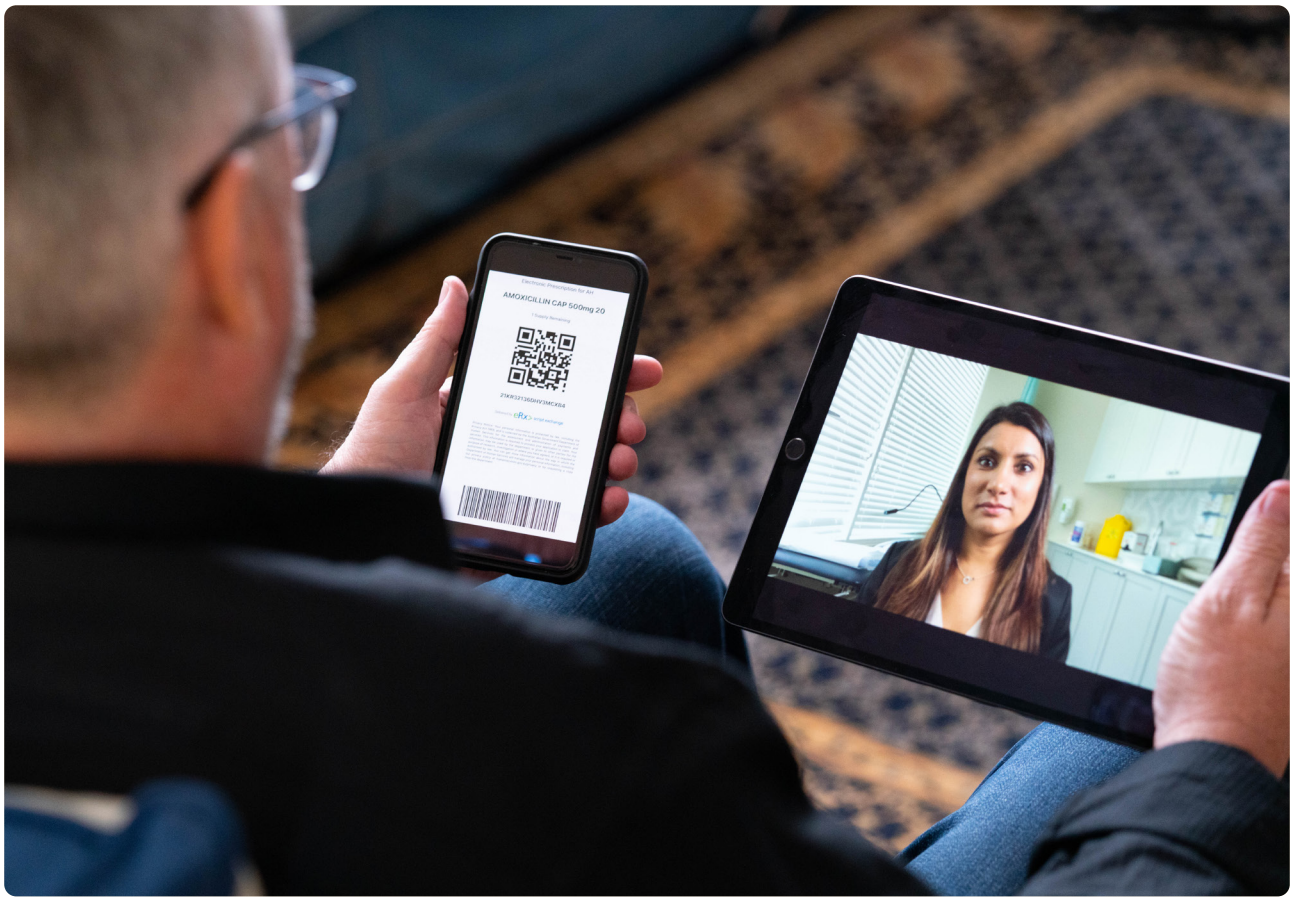
In 2020, Commonwealth legislation, as well as state and territory regulations, changed to recognise electronic prescriptions as a legal form to allow medicine supply.

Since then, the Australian Government has made significant investments to accelerate the delivery and adoption of electronic prescribing. The aim of electronic prescribing is to provide consumers with convenience and choice while also improving the efficiency, compliance and medicine safety of the Pharmaceutical Benefits Scheme (PBS).

The Australian Digital Health Agency conducted the research detailed in this report so that it could better understand user experiences of electronic prescribing across the Australian health ecosystem.

The Agency wanted to know:

- if prescribers, dispensers and consumers use electronic prescribing
- the drivers, motivations, perceptions and attitudes towards electronic prescribing and ASLs
- the experience and perceived value and benefits of using electronic prescribing and ASLs
- the challenges, barriers and opportunities for improvement.



Research methodology

During 2023, the Agency distributed a national survey and conducted time-and-motion studies to better understand users' attitudes towards electronic prescriptions and ASLs.

National survey

The survey explored healthcare providers' and consumers' perceptions, attitudes, behaviours and outcomes related to electronic prescriptions and ASLs.

Between March and June 2023, 369 prescribers, 429 dispensers and 1,104 consumers responded to the online survey. Most respondents answered all questions that applied to them, but a minority (approximately 1%) dropped out before finishing the survey.

Time-and-motion studies in community pharmacies

The time-and-motion observation studies aimed to understand how electronic prescriptions affect dispensing processes in real-world community pharmacies.

In April and May 2023, Agency researchers conducted 2-day observation sessions in 5 community pharmacies in metropolitan New South Wales and Queensland. In each session, 2 researchers timed customers from the beginning of their pharmacist interaction (receipt of presentation) to the end (counselling and handover of medicines).

Research limitations

Although the research will help inform future strategies around the use of electronic prescriptions and ASLs, it had limitations:

- it did not fully consider communities that face digital inclusion barriers, such as rural and remote populations
- all findings are cross-sectional, and causation can't be attributed to any of them
- it focused on high-level benefits, barriers, issues and blockers and did not fully cover the end-to-end user experience of electronic prescriptions.

We recommend further research that:

- is more targeted towards groups not represented in this report
- monitors electronic prescription use and perceptions over time
- focuses on end-to-end user experience of electronic prescriptions.

Survey findings by user

We asked survey respondents several demographic questions to better understand users and non-users of electronic prescriptions.

We also asked questions about users' preferences and experiences related to electronic prescriptions and ASLs, and about their digital health literacy. These helped us understand:

- what each cohort values
- what improvements we can make to the electronic prescription system
- how to increase electronic prescription adoption across all users.

Consumers

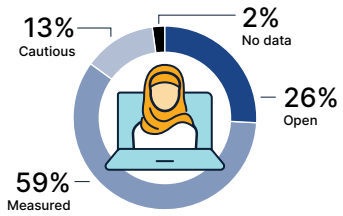
Of the 1,104 consumers who responded to the survey, 469 had used electronic prescriptions and 622 had not. Thirteen respondents dropped out before finishing the survey.

More than 60% of respondents had heard of electronic prescriptions, and of those, 70% had used them. Only 13% of all consumer respondents had heard of ASLs, and only 5% of those had used them.

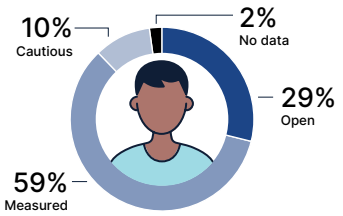
Of the consumers who had used electronic prescriptions, 72% were satisfied with the service, 24% were neutral and 4% were dissatisfied. Of the respondents who had used an ASL, 67% were satisfied with their overall experience and only 7% were dissatisfied.

About half of all respondents preferred electronic prescriptions, especially when linked to telehealth, as it meant they didn't have to visit a healthcare provider to get a prescription.

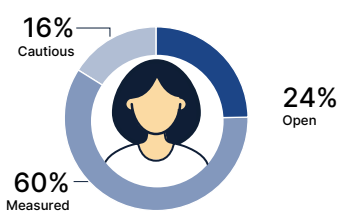
> *My GP has recently stopped bulk billing in-person visits but has still kept bulk billing for telehealth where the appointment is solely to get a prescription. This means I can get my [electronic] prescription sent to me straight away without having to pay.*
>
> *– Consumer*



New technologies
26% were open to new technologies. Innovators and early adopters were more likely to use electronic prescriptions.



Users
59% were more measured towards new technologies, 29% were open to new technologies and 10% were cautious.



Non-users
60% were measured towards new technologies, 24% were open to new technologies and 16% were cautious.

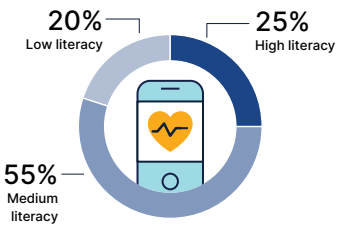
When asked about the use of digital apps and online tools:

44% used My Health Record, 40% did not and 14% weren't sure (2% no data). Those who used My Health Record were more likely to have used electronic prescriptions (51%).

9% used medication management apps. Those using medication management apps were more likely to have used electronic prescriptions (60%) than non-app-users.

68% of those who had 2 or more telehealth consultations in the past year had used electronic prescriptions.

47% had not had any telehealth consultations with a healthcare provider in the past year.



Digital health literacy
Most consumers (55%) had a medium level of digital health literacy. 25% had a high level and 20% had a low level.

Percentages may not add up to 100% due to missing data or rounding.

Half of the consumer users preferred to get electronic prescriptions via email and 43% preferred SMS.

> *Electronic prescriptions fall into my SMS with all other SMS messages… become very difficult to find… I can't separate and file them. If they were to be sent to a specific electronic prescription app, that would be much better… this is why I prefer to get them as an email. Also, when SMSed, all the electronic tokens gather together into a long SMS and again, I can't separate them.*
>
> *– Consumer*

Demographics

We found that some groups are more likely to use electronic prescriptions than others. These included people:

- who engage more with the health system (for example, people with multiple appointments and prescriptions, or carers)
- who have already adopted digital health (for example, use My Health Record) or who are more open to technology
- with long-term health conditions – 71% of surveyed electronic prescription users had a long-term condition, compared with 51% of non-users.

Age did not appear to be a driver of using electronic prescriptions. Of the respondents who used electronic prescriptions, 47% were aged between 18 and 44 and 36% were aged over 55. The data were almost identical for non-users, with 47% of non-users aged between 18 and 44 and 37% aged over 55.

Table 1 Likelihood of different consumer groups being electronic prescription users

Consumer group characteristic	Consumers in this group who have used electronic prescriptions	Consumers not in this group who have used electronic prescriptions
Consumer groups *more* likely to be electronic prescription users		
Engage with the health system		
Attended 4+ face-to-face appointments with a doctor in the past year	52%	37%
Attended 2+ telehealth appointments with a doctor in the past year	68%	32%
Received 4+ prescriptions in the past 12 months	59%	34%
Had 5+ prescriptions dispensed in the past 12 months	58%	33%
Are caring for someone with a disability or impairment	56%	42%
Have adopted digital health		
Use My Health Record	51%	37%
Use medication management apps	60%	42%
Are more open to adopting technology	49%	36%
Have long-term health conditions		
Arthritis	52%	42%
Asthma/chronic obstructive pulmonary disease (COPD)	58%	43%
Heart disease	62%	43%
Mental health conditions	56%	41%
Consumer groups *less* likely to be electronic prescription users		
Speak a language other than English at home	32%	48%
Have not been diagnosed with a long-term health condition	32%	53%
Have low digital health literacy[a]	32%	47%

[a] Measured with a modified 5-item version of the eHEALS eHealth literacy scale; question E4, Attachment C. Low digital health literacy was indicated by a total score of 15 or less out of a maximum score of 25.

Most consumer users (72%) were satisfied with electronic prescriptions.

Electronic prescriptions awareness

66% of non-users were unaware of electronic prescriptions. 32% were aware but hadn't used them and 2% were aware but unsure if they'd used them.

Characteristics

	Electronic prescription users		Electronic prescription non-users
71%	had a long-term health condition	51%	had a long-term health condition
33%	were a parent/guardian of one or more children aged under 18 years	26%	were a parent/guardian of one or more children aged under 18 years
28%	were prescribed 4 or more ongoing/repeat medications	14%	were prescribed 4 or more ongoing/repeat medications
20%	had a permanent disability that affected their ability to work	15%	had a permanent disability that affected their ability to work
16%	were a carer/guardian for someone with disability or impairments	10%	were a carer/guardian for someone with disability or impairments

Percentages may not add up to 100% due to missing data or rounding.

Consumers are more likely to be **satisfied** with electronic prescriptions if they:

- already use My Health Record
- are more open to adopting technology.

Digital health literacy also affected consumer satisfaction: 77% of consumers with low digital health literacy were satisfied with their experience of using electronic prescriptions, compared with 89% of consumers who had medium or high digital health literacy.

Perspectives

Consumers value the following benefits of electronic prescriptions over paper scripts:

- **speed** – patients can receive their prescriptions immediately after a telehealth appointment
- **convenience** – 62% of respondents found them more convenient
- **better script management** – they are harder to lose and easier to remember
- **more environmentally friendly** – they don't waste paper
- **easy to use** – about half of the respondents found them easier to use.

> *I can ring the pharmacy and order the prescription and then just go and pick it up without having to wait.*
>
> *– Consumer*

The survey found the following key barriers that prevent consumers from using electronic prescriptions:

- access, especially for those without smartphones or with low data or limited wi-fi
- technical difficulties and low digital literacy
- a preference for paper and not relying on technology
- security concerns, including cybersecurity breaches.

The survey highlighted opportunities to improve electronic prescribing based on the concerns and barriers raised by consumers.

Prescribers

Of the 369 prescriber respondents, 238 had used electronic prescriptions and 128 were non-users. Three respondents dropped out before completing the survey.

Most (96%) of the prescriber respondents had heard of electronic prescriptions, but only 31% were aware of ASLs.

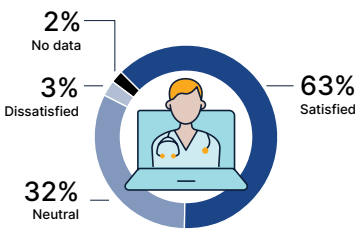
About 2 in 3 of those who were aware of electronic prescriptions had used them.

Most users (3 in 5) agreed that electronic prescribing has had a positive effect on their patients and practice.

Prescribers preferred using it over paper scripts in most circumstances, especially for telehealth and for patients with ongoing and repeat prescriptions, saying it reduces the administrative burden.

However, there was a significant proportion of prescribers who perceived that paper scripts were more suitable for:

- prescribing drugs of dependence
- fixing errors in the script information
- in-person consultations.



Most prescriber users (63%) were satisfied with electronic prescriptions.

Impressions (from users)

In a sample of 171 prescriber users, most found electronic prescribing to be valuable, clear and secure, and that it meets expectations.

Positively rated		*Negatively rated*
61% Clear	**35%** Neutral	**4%** Confusing
64% Meets expectations	**32%** Neutral	**5%** Doesn't meet expectations
61% Secure	**33%** Neutral	**6%** Not secure
47% Supportive	**51%** Neutral	**2%** Obstructive
71% Valuable	**27%** Neutral	**2%** Inferior

When prescribing, 2 in 3 prescribers issued electronic prescriptions less than 50% of the time.

71.5% of prescribers who viewed their organisation as being digitally mature were electronic prescription users.

Percentages may not add up to 100% due to missing data or rounding.

Demographics

Most prescribers who use electronic prescribing are from private practices or work in aged care, including residential aged care facilities. Those who don't use it are more likely to be specialists or consultants from larger clinics or based in a hospital.

Other prescriber groups who were more likely to use electronic prescribing were those who regularly see:

- mothers and newborns
- patients with mental health conditions
- parents with children younger than 12 years of age.

> *I still do a reasonable number of telehealth consultations and have a significant number of country patients. To be able to immediately send a prescription to the patient without having to post it to the patient is time-efficient and very beneficial for the patient.*
>
> *– Prescriber*

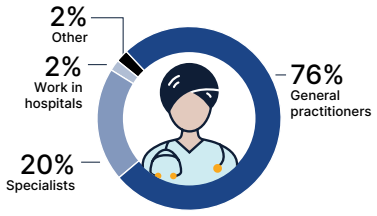
Prescribers who viewed their organisation as digitally aware were also more likely to use electronic prescriptions. The type of prescribing software also affected use, with some brands more strongly associated with the use of electronic prescriptions than others.

Table 2 Likelihood of different prescriber groups being electronic prescription users

Prescriber group characteristic	Prescribers in this group who currently use electronic prescriptions	Prescribers not in this group who currently use electronic prescriptions
Prescriber groups *more* likely to be electronic prescription users		
Workplace setting		
Work in private practice	75%	33%
Work in aged care and RACFs	90%	63%
Perceive organisation as digitally mature[a]	72%	46%
Patient types seen regularly (once a day or more)		
Mothers and newborns	82%	55%
People with mental health conditions	70%	57%
Parents with children aged under 12	78%	54%
Prescriber groups *less* likely to be electronic prescription users		
Workplace setting		
Work in a hospital	37%	86%
Patient types seen regularly (once a day or more)		
People in regional, rural or remote communities	53%	70%
People who do not speak English	57%	70%

RACFs = residential aged care facilities

[a] Answered 6–10 to the question 'Thinking about your organisation as a whole, how well do you believe technology and digital solutions are utilised to improve healthcare for patients?' on an 11-point scale where 0 means 'Extremely poorly' and 10 means 'Extremely well'.



Professions
76% of prescriber users were general practitioners and 20% were specialists. 2% worked in hospitals.

Most non-users (78%) were aware of electronic prescriptions but had never used them.

User and non-user profession

Profession	Prescriber users	Prescriber non-users
General practitioners	76%	13%
Hospitals	2%	6%
Specialists/ consultants	20%	79%
Nurse practitioners and others	2%	2%

User and non-user practice size

Size of practice	Prescriber users	Prescriber non-users
Small [5 or fewer clinicians]	34%	32%
Medium [6–10 clinicians]	38%	17%
Larger [11+ clinicians]	24%	48%
No response	5%	3%

When non-users were asked what types of patients they see, **62% said people with chronic conditions and 75% said people aged 65+.**

Percentages may not add up to 100% due to missing data or rounding.

Prescribers are more likely to be **satisfied** with electronic prescriptions if they:

- work in private practice
- see their organisation as digitally mature
- use effective prescribing software.

Quantitative analysis of survey results found that prescriber satisfaction is also affected by the brand of prescribing software used.

Perspectives

Prescribers value the following benefits of electronic prescriptions over paper scripts:

- **speed** – prescribers can send the prescription to the patient immediately after a telehealth appointment
- **increased efficiencies** – they're more convenient and efficient
- **time savings** – they reduce administration time
- **more environmentally friendly** – they don't waste paper
- **better script management** – patients don't need to manage paper
- **fewer errors** – it's easier to accurately share the prescription between the prescriber, patient and pharmacy.

> *Can send to patient who is not present (e.g. telehealth). No need for printing (paper jams are a thing of the past). Can cancel if needed (particularly good for drugs of dependence). The eScript can be connected to a pharmacy app to prepare for dispensing before patient arrives. They are secure.*
>
> *– Prescriber*

On the other hand, most prescriber non-users cite the time, cost and effort needed to implement a new system as reasons they have not adopted electronic prescribing. They suggested that better software functionality and user interfaces, as well as improved training around the benefits and use of electronic prescribing, could improve uptake.

Both user and non-user prescribers have concerns about accessibility, especially for older people, people with disability and those experiencing financial hardship or homelessness. Some prescribers mentioned that their patients prefer paper scripts and have some discomfort around electronic prescribing.

> *A lot of elderly patients don't like eScripts, or don't have phones that enable their usage.*
>
> *– Prescriber*

Dispensers

Most (94%) dispensers have high awareness of electronic prescriptions. On average, respondents estimated that about 33% of all scripts they dispense are electronic. About 30% of respondents dispense electronic prescriptions more than 50% of the time.

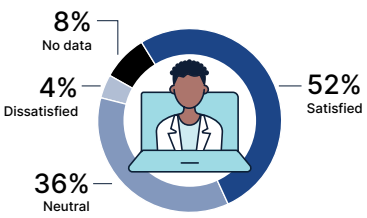
Of the 429 dispenser respondents, 316 (74%) had used electronic prescriptions and 99 had not. Fourteen dispensers dropped out before completing the survey.

Around half of the dispenser respondents preferred electronic prescriptions, particularly for one-off scripts. The reasons for their preference included:

- security
- accuracy
- accountability and record keeping.

Dispenser respondents also had the highest awareness of ASLs among all cohorts, at 75%. More than 60% of respondents had used an ASL. Of those users, only 8% reported dissatisfaction.

> *The script can be electronically transferred between family members and carers to obtain for them.*
>
> *– Dispenser*



Most dispenser users (52%) were satisfied with electronic prescriptions.

Impressions (from users)
In a sample of 204 dispenser users, most found electronic prescribing to be valuable and secure, and that it meets expectations.

Positively rated		*Negatively rated*
47% Clear	**49%** Neutral	**4%** Confusing
51% Meets expectations	**44%** Neutral	**5%** Doesn't meet expectations
62% Secure	**36%** Neutral	**2%** Not secure
39% Supportive	**54%** Neutral	**6%** Obstructive
65% Valuable	**31%** Neutral	**3%** Inferior

Of the dispensers who used electronic prescriptions, 32% used them for approximately 50% or more of their consultations. 34% used them for approximately 26–49% of consultations.

81% of dispensers who viewed their organisation as being digitally mature were electronic prescription users. 59% of dispensers who felt their organisation lacked digital maturity were also users.

Percentages may not add up to 100% due to missing data or rounding.

Demographics

Dispensers are more likely to use electronic prescriptions if they:

- work in a community pharmacy
- perceive their organisation as digitally mature
- work with 15 or fewer dispensers.

Only 39% of dispensers who work in a hospital setting use electronic prescriptions, compared with 95% of their peers who are not hospital-based.

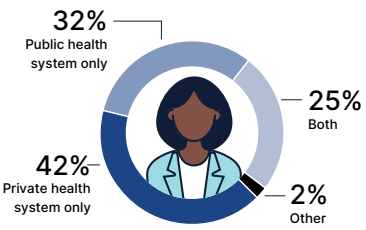
The types of patients that dispenser users are more likely to regularly see include:

- mothers and newborns
- people with mental health conditions
- parents of children aged under 12
- people with chronic or complex conditions
- older people.

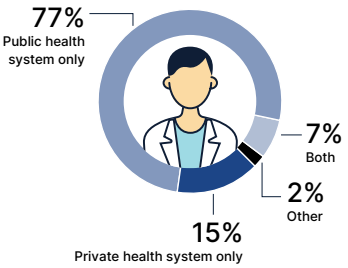
Table 3 Likelihood of different dispenser groups being electronic prescription users

Dispenser group characteristic	Dispensers in this group who currently use electronic prescriptions	Dispensers not in this group who currently use electronic prescriptions
Dispenser groups *more* likely to be electronic prescription users		
Workplace setting		
Work in community pharmacy	96%	33%
Workplace has 15 or fewer dispensers	88%	67%
Perceive organisation as being digitally mature[a]	81%	59%
Patient types seen regularly (once a day or more)		
The general community	85%	58%
Mothers and newborns	89%	68%
People with mental health conditions	85%	66%
Parents with children aged under 12	78%	54%
People with chronic or complex conditions	81%	65%
Older Australians	82%	61%
Dispenser groups *less* likely to be electronic prescription users		
Workplace setting		
Work in a hospital	39%	95%

[a] Answered 6–10 to the question 'Thinking about your organisation as a whole, how well do you believe technology and digital solutions are utilised to improve healthcare for patients?' on an 11-point scale where 0 means 'Extremely poorly' and 10 means 'Extremely well'.



Of the dispenser users who were hospital or accredited pharmacists, most (42%) worked only in the private healthcare system, 32% worked only in the public system and 25% worked in both.



Of the dispenser non-users who were hospital or accredited pharmacists, most (77%) worked only in the public healthcare system, 15% worked only in the private system and 7% worked in both.

User and non-user healthcare settings

Pharmacy type	Users	Non-users
Community pharmacy	89%	17%
Hospital pharmacy	13%	93%
Accredited pharmacist	8%	17%

Note: Respondents could select multiple options

User and non-user practice sizes

Size of practice	Users	Non-users
Small (3 or fewer pharmacists)	34%	15%
Medium (4–5 pharmacists)	27%	11%
Larger (6+ pharmacists)	26%	55%

Types of patients dispensers see regularly (respondents could select multiple options)

Patient types	Users	Non-users
People aged 65+ years	78%	54%
People with chronic or complex conditions	74%	56%
People with mental health conditions	60%	33%
Parents with children aged under 12	50%	22%
Mothers and newborns	44%	17%
People with disability	41%	33%
People who do not speak English	41%	32%
People without a regular healthcare provider	29%	22%
First Nations people	24%	22%
People from regional/rural/remote communities	19%	20%
Victim-survivors of domestic or family violence	19%	11%

Percentages may not add up to 100% due to missing data or rounding.

Dispensers are more likely to be **satisfied** with electronic prescriptions if they:

- see their organisation as digitally mature
- have practiced for fewer than 20 years.

When we analysed the survey results, we found that dispenser satisfaction is also affected by the brand of dispensing software used.

Perspectives

Dispensers value the following benefits of electronic prescriptions over paper scripts:

- **legibility** – they're more legible than handwritten scripts
- **speed** – patients can get their prescriptions immediately after a telehealth appointment
- **reduced errors** – there are fewer data entry mistakes
- **better script management** – it's easier for patients to find scripts
- **environmentally friendly** – there's no paper wastage.

> *I especially like no handwriting for S8 drugs.*
>
> *– Dispenser*

Dispensers who don't use electronic prescriptions cite the time it would take to implement a new system as the main reason for not using them. There are opportunities for education and training activities to improve uptake.

Electronic prescribing can be further improved for dispensers by addressing concerns around the accessibility of electronic scripts, particularly for people who may not have a smartphone or who may not be comfortable using technology.

Other concerns from dispensers include:

- issues with stable internet connectivity
- difficulties with managing multiple workflows to accommodate both paper and electronic prescriptions
- software issues and hardware availability.

> *It is difficult when the internet goes down or there is an outage then we are left with not being able to dispense.*
>
> *– Dispenser*

Time-and-motion study findings

Five community pharmacies in New South Wales and Queensland took part in the study.

Observations in each pharmacy occurred over a 2-day period. In each session, on-site Agency researchers recorded the time taken for pharmacists to complete the end-to-end dispensing process and associated activities.

Findings from the pharmacy observations indicate that the use of electronic prescribing improves time efficiencies within dispensing workflows.

Data analysis for the most common script types – handwritten, printed electronic transfer of prescription (ETP), printed QR token and mobile QR tokens – showed the average time:

- for a patient to drop off a script was fastest for printed ETP scripts and slowest for handwritten scripts
- to queue a prescription for dispensing was fastest for handwritten scripts and slowest for printed QR tokens
- to complete the dispensing process was fastest for scripts presented using a mobile QR token and slowest for handwritten scripts
- to select, label and scan medication, repeats and paperwork was fastest for scripts presented using a mobile QR token and slowest for handwritten scripts
- to check accuracy and appropriateness was fastest for scripts presented using a printed QR token and slowest for handwritten scripts
- to complete counselling and handover was fastest for scripts presented using a mobile QR token and slowest for handwritten scripts.

Table 4 Average time to complete dispensing activities for single scripts across different script types and presentations

High-level activity	Script type/presentation	Count	Average time to dispense (seconds)
Patient drops off script	Handwritten	21	71.13
	Printed ETP	98	47.50
	Mobile QR token	21	62.90
	Printed QR token	19	55.16
Queue prescription for dispensing	Handwritten	18	89.16
	Printed ETP	87	120.62
	Mobile QR token	16	156.02
	Printed QR token	15	160.15
Dispensing process	Handwritten	19	130.59
	Printed ETP	90	72.04
	Mobile QR token	27	61.45
	Printed QR token	20	66.88
Select, label and scan medication, repeats and paperwork	Handwritten	16	60.41
	Printed ETP	74	49.06
	Mobile QR token	23	29.92
	Printed QR token	12	38.21
Check accuracy and appropriateness	Handwritten	17	56.89
	Printed ETP	83	37.04
	Mobile QR token	24	43.12
	Printed QR token	15	36.42
Counselling and handover	Handwritten	18	73.61
	Printed ETP	70	44.03
	Mobile QR token	14	35.37
	Printed QR token	16	52.42

ETP = electronic transfer of prescription; QR = quick response

Learnings

Our research uncovered 5 categories of learnings that can help inform future strategies around electronic prescriptions:

1. Benefits and challenges
2. Medicines safety
3. Education and support
4. Managing tokens
5. Projected use.

1. Benefits and challenges

For most Australian consumers, electronic prescriptions have many benefits. They:

- work well with telehealth
- are convenient, accessible and portable
- can be shared with others.

Many prescribers found that electronic prescriptions streamlined health care and saved time. Dispensers also reported time savings.

All cohorts largely felt that the move away from paper scripts was good for the environment. Some dispensers, however, reported that they sometimes have to print tokens on paper, at the pharmacy's cost.

For consumers, those who are more 'digitally included' experience more of the benefits of electronic prescriptions than those who are less digitally included.

'Digital inclusion' means having:

- better wi-fi
- access to a smartphone
- a good data plan
- higher digital literacy.

These people tend to be younger, be more educated and speak English as a first language.

Those who are less digitally included tend to have:

- no or limited wi-fi access
- no smartphone or a shared smartphone
- a limited data plan
- lower digital literacy.

These people tend to be older, be less educated, or speak a language other than English at home or not speak English.

Some respondents expressed concern that people who can't easily use or access electronic prescriptions may feel vulnerable and dependent on others.

Less digitally literate consumers often asked pharmacists or doctors for help, which all cohorts reported as time-consuming.

The most common issue that both prescriber and dispenser users experienced was patients requiring assistance with electronic prescriptions. However, only 10% of patients said they experienced these issues. This may be due to the consumer sample being representative of the wider Australian population, and therefore containing a large proportion of young, digitally literate people.

Table 5 Electronic prescription-related issues experienced by prescribers, dispensers and consumers

Issue	Prescriber electronic prescription users	Dispenser electronic prescription users	Consumer electronic prescription users
Issues related to implementation			
Dissatisfaction with the support received during initial set-up	18%	14%	NA
Dissatisfaction with the information available to them about electronic prescriptions	12%	7%	NA
Issues related to consumers			
Consumers struggling to use the technology	62%	77%	10%
Consumers experiencing issues with their phone not working	NA	NA	28%
Consumer hesitancy or concerns about electronic prescriptions	48%	51%	NA
Consumers struggling to manage multiple prescriptions	41%	64%	NA
Consumers accidentally deleting their electronic prescription token	NA	NA	28%
Consumers struggling to keep track of electronic prescriptions	NA	NA	30%
Consumers thinking their electronic prescription tokens were linked to other pharmacies	23%	44%	NA

Table continues on next page.

Table 5 *continued*

Issue	Prescriber electronic prescription users	Dispenser electronic prescription users	Consumer electronic prescription users
Issues related to connectivity and service availability			
Connectivity issues (e.g. with prescribing software, PBS Online, PES)	36%	62%	NA
Lack of internet access	NA	NA	21%
Pharmacies unable to dispense electronic prescriptions	30%	38%	NA
Healthcare workers not offering electronic prescriptions	NA	NA	20%
Tokens not working the way they should	23%	51%	NA
Error in the way prescription data flow through the system (e.g. data reporting discrepancies)	15%	39%	NA
Patients receiving an incorrect prescription token	7%	18%	NA
Technology at the pharmacy not working	NA	NA	30%
Issues related to software and workflow			
Issues setting up electronic prescribing in the software system	22%	16%	NA
Issues with workflow to generate repeat tokens	19%	36%	NA
Needing to learn substantial new steps in the software	17%	24%	NA
Needing to make substantial changes to workflow	8%	22%	NA

NA = not applicable or not asked; PBS = Pharmaceutical Benefits Scheme; PES = prescription exchange service

Also of note is that around 20% of prescribers and dispensers who use electronic prescriptions experienced issues with setting up electronic prescriptions in their systems. Around the same proportion were dissatisfied with the support they received during the initial set-up.

Connectivity and service availability

Some prescribers (13%), dispensers (21%) and consumers (21%) with experience using electronic prescriptions cited internet connectivity and access as an issue.

These issues are not just found in rural and remote areas, but can also be seen in metropolitan pharmacies and GP practices. One of the Sydney pharmacies in the time-and-motion studies experienced poor internet connectivity.

Almost a quarter of prescribers (23%) and more than half of dispensers (51%) had experienced tokens not working. Meanwhile, more than a third of prescribers (36%) and almost two-thirds of dispensers (62%) had experienced connectivity issues with software and exchanges such as PBS Online.

Server or connectivity issues could potentially prevent a dispenser from being able to fill an urgent script.

> *We also live in an area which does not have coverage of some networks. We also do not have phone service when there is no power which is a frequent occurrence. The phone tower has backup batteries that only last a few hours, so the signal is lost once the power is out for 3 to 4 hours.*
>
> *– Dispenser*

Consumer choice

Our research found that some prescribers don't give patients a choice in how they receive scripts or repeats. Similarly, dispensers are not always giving patients a choice in how they receive repeats for their electronic prescriptions, with some dispensers printing evidence of prescriptions or tokens.

This lack of choice can lead to consumers feeling negatively about electronic prescriptions.

> *The biggest issue is that I have seen two doctors. One was set up for ePrescriptions and comfortable with using it. The other wasn't, so I didn't even have a choice.*
>
> *– Consumer*

Costs to healthcare providers

More than 1 in 5 prescribers and 1 in 10 dispensers who didn't use electronic prescriptions cited costs and time as barriers to use.

These included the cost to implement the technology and train staff, and the time needed to implement a new system.

Table 6 Cost-related blockers experienced by prescribers and dispensers not using electronic prescriptions

Blocker	Prescriber non-users	Dispenser non-users
Cost of implementing the technology	22%	11%
Cost of training staff	8%	5%
Time needed to implement a new system	26%	14%

Managing multiple scripts and formats

Some survey respondents noted that it is difficult for consumers to manage multiple prescriptions when they are all in electronic format.

Dispensers noted that dispensing multiple electronic prescriptions was inefficient because each token only contains one medicine. They also reported that integrating multiple formats into their workflow made dispensing more time-consuming.

> *At the moment there are too many places to look for prescriptions … fax, email, paper or electronic. It's time-wasting for us and not efficient.*
>
> *– Dispenser*

This is made especially more difficult when emailed electronic prescriptions lack accompanying context.

Software clashing with workflow

Depending on the dispenser's IT skills and software, processing electronic prescriptions can take more time than processing paper.

Prescribers and dispensers also reported that clinical software can clash with their workflow.

Hospital settings

We found that many hospital dispensers and prescribers couldn't use electronic prescriptions, mainly due to issues with technology and software.

They did, however, acknowledge the potential benefits of implementing electronic prescribing in hospitals.

> *[Electronic prescriptions] facilitate the completeness of digital records, which should improve patient care between community and hospital providers.*
>
> *– Prescriber*

2. Medicines safety

Our research showed that electronic prescriptions offer clear safety benefits. The survey showed that 53% of prescribers and 60% of dispensers were satisfied with electronic prescriptions. They felt that electronic prescriptions:

- were, in the words of one survey respondent, 'auditable, accurate, legible and secure'
- made it easier for them to meet their legal obligations
- were helpful in an emergency
- improve medicine safety by being harder to alter and forge.

> *No 'lost scripts' excuses for S8 medications.*
>
> *– Prescriber*

All cohorts, however, still had considerable concerns. For example, prescribers were concerned that the convenience of telehealth and electronic prescriptions may result in consumers not being reviewed by their doctor as regularly as usual.

> *In case of emergency supply of medications, pharmacist can view patient's medication history to make better judgement of the situation.*
>
> *– Dispenser*

Dispensers noted that this extra security made it harder to annotate electronic prescriptions. Prescribers also noted issues with modifying electronic prescriptions that have already been issued.

Although some prescribers found it helpful that they can cancel tokens if they have concerns, dispensers and consumers must deal with the consequences of cancelled scripts. This is especially frustrating when the cancellation is due to prescriber error.

> *Doctors cancelling electronic prescriptions without informing patients leading to pharmacy staff receiving abuse from patients.*
>
> *– Dispenser*

Monitored medicines

Some prescribers and dispensers noted that electronic prescriptions work well for monitored medicines, such as drugs of dependence, Schedule 8 medicines or Schedule 4D medicines.

However, some noted that the extra layer of software makes issuing or dispensing monitored medicines more difficult.

Some prescribers were also concerned about the potential for consumer misuse of electronic prescription tokens for drugs of addiction.

> *[There is potential for misuse if the token] is an S8 drug of addiction which can [be] passed to the wrong persons or abused or sold – hacking of the systems, fake prescriptions digitally [or] digitally fake imitations of digital prescriptions which could be by IT trained persons or programmers, etc.*
>
> *– Prescriber*

There were also some concerns about record keeping and meeting Commonwealth and state legislative obligations.

In fact, some dispensers (14%) expressed a strong preference for paper prescriptions for general record keeping. In our time-and-motion studies, we also observed instances of electronic prescriptions for monitored medicines being printed in case of audit.

Cybersecurity and privacy

Prescribers and dispensers had relatively few concerns about the security and privacy of electronic prescriptions.

Overall, dispensers feel that electronic prescriptions increase security and privacy. To ensure this privacy and confidentiality, dispensers now verify consumers' phone numbers and email addresses before sending repeat prescriptions.

Most consumers also appreciate the privacy and security offered by electronic scripts. However, among those who use electronic prescriptions, 16% had security concerns and 10% had privacy concerns.

Security and privacy were less assured for consumers with no smartphone or low digital literacy. In such cases, prescribers often email electronic prescriptions directly to pharmacies, which can pose challenges for both prescribers and dispensers as they need to ensure they email the correct address. Dispensers were also concerned about pharmacies sharing their wi-fi connections with individuals who lack phone credit or have poor phone reception, as it leads to increased costs and security risks for the pharmacies.

Table 7 Prescribers, dispensers and consumers with security and privacy concerns

Concern	Prescriber electronic prescription users	Dispenser electronic prescription users	Consumer electronic prescription users	Consumer electronic prescription non-users
Security	1%	4%	16%	16%
Privacy	2%	1%	10%	Not asked

3. Education and support

A high percentage of prescribers (96%) and dispensers (94%) reported that they were aware of electronic prescriptions, but only 62% of consumers surveyed were aware of them.

A high percentage of dispensers also reported that they were aware of ASLs (75%), but only 13% of consumers and 31% of prescribers were aware of them.

The most common ways dispensers and prescribers learned about electronic prescriptions were from colleagues or professional bodies. The most common ways consumers learned about them were from prescribing doctors and pharmacists. This suggests that consumers rely on healthcare providers to adopt and increase their use of electronic prescriptions.

Of the 191 community pharmacy dispensers who responded to the survey, 47% were aware of the legislative requirement to view an aged care resident's electronic National Residential Medication Chart in full when dispensing an order generated on an electronic medication chart. This chart is used to electronically prescribe medicines in residential care facilities, removing the need for paper prescriptions.

Dispensers and prescribers must rapidly learn how to manage and incorporate electronic prescriptions into their workflows. It was found that both cohorts would benefit from additional support and training to get the most out of electronic prescriptions.

As the go-between, dispensers also reported an extra burden when dealing with prescribers and consumers who don't have much experience with electronic prescriptions. Some dispensers reported that the task of educating and supporting consumers about electronic prescriptions often fell to them.

> *Patients are not usually aware of what an electronic script is – they usually present and state, "My doctor has sent you a script". We then ask, "How has it been sent to us? By fax, by email or is it an electronic script?" Patients usually don't know, and so begins the search. This can take between 5 to 10 minutes, including signing patients up to MySL [My Script List].*
>
> *– Dispenser*

4. Managing tokens

The most common issues experienced by all cohorts related to the difficulties consumers had in either using the technology or managing their tokens.

Consumers are actively seeking solutions to help them manage their electronic prescriptions, with some users developing workarounds.

> *It took me quite a while to get used to it. My doctor sends [the token] via SMS and then I send it to my email address and place it in a folder for scripts. Very easy indeed. I can actually email the electronic script to the pharmacy.*
>
> *– Consumer*

Consumers who preferred electronic prescriptions over paper mostly wanted their prescriber to send the token by email (50%) or SMS (43%). Only 4% preferred a printed token and 3% preferred to receive it via a third party, such as a carer or an ASL. Older consumers (those aged older than 50) were more likely than younger consumers (those aged between 18 and 49) to prefer these alternative formats.

Table 8 How consumers prefer to receive their electronic prescription tokens, by age band

Preference	Overall consumers	Consumers aged 18–49 years	Consumers aged 50+ years
Via an email to themselves	50%	53%	47%
Via an SMS to themselves	43%	42%	43%
Printed QR token[a]	4%	2%	6%
Other[a b]	4%	3%	5%

QR = quick response; SMS = short message service
Note: This question was only asked to consumers who preferred electronic prescriptions over paper scripts in at least one situation (*n* = 868). Most (526) of these consumers were aged 18–49 years and 342 were aged 50+ years.
[a] Format was statistically significantly preferred more often by older consumers (aged 50+ years) compared with younger consumers (aged 18–49 years).
[b] Includes email to carer/family/relative/agent, SMS to carer/friend/relative/agent, and ASLs.

Active Script Lists

An ASL is a digital list of a consumer's electronic prescriptions.

It gives dispensers greater visibility of a consumer's active medication history, which can help to prevent adverse events. However, it is not a full medication history as it doesn't show cancelled or expired scripts, and a consumer can choose to exclude scripts. ASLs offer an option for managing tokens and have many benefits for dispensers and prescribers. They can:

- save time in communication between pharmacies and doctors
- improve workflow and script management
- help dispensers prepare Webster packs and other dose administration aids (DAAs).

Awareness of ASLs is high among dispensers but could be heightened among consumers and prescribers. Further awareness and education are required to increase the uptake of ASLs and improve consumer, dispenser and prescriber understanding.

Dispensers and prescribers

Of all the cohorts, dispensers had the highest percentage of respondents who were aware of ASLs (75%), and 63% of dispensers had used them. The most common actions were:

- dispensing an electronic prescription from an ASL (80%)
- viewing someone's ASL (79%)
- registering someone for an ASL (67%)
- recommending an ASL to patients (66%)
- solving an issue with a patient's ASL (65%).

Dispensers reported that they mainly recommend ASLs to customers who:

- keep their prescriptions on file (66%)
- are using more than 3 medications (64%)
- use DAAs (60%)
- have chronic conditions (55%)
- access medication for multiple people (53%).

Although awareness and use are relatively high among dispensers compared with prescribers and consumers, dispensers have reported challenges with using ASLs. There also seem to be variable levels of ASL use by dispensers and prescribers.

Dispensers and prescribers shared different views about who is responsible for training consumers, citing time constraints as an issue.

Some dispensers also noted that it can be time-consuming to register consumers for ASLs and to obtain consent.

Dispensers also shared that:

- consumers who wish to use an ASL need to register at every pharmacy they use
- the electronic consent process is challenging for consumers with low digital literacy
- the privacy and security of the consent process may have issues.

> *Although consent is required it is not well safeguarded in my opinion.*
>
> – Dispenser

Empowering consumers to sign up for an ASL themselves could address some of these concerns.

Some respondents suggested improvements to ASLs to increase uptake, such as:

- including the Medicare Safety Net
- making ASLs accessible from a universal and free platform, such as My Health Record.

> *I think ASLs should be included with My Health Record (all in one place).*
>
> – Consumer

Table 9 Types of customers who are recommended ASLs by dispensers

Customer type	Dispensers
All customers	37%
Customers who keep their prescriptions on file	66%
Customers with DAAs	60%
Customers using more than 3 medications	64%
Customers with Schedule 8 repeat medications	40%
Customers accessing medications for multiple people or family members	53%
Customers with chronic conditions	55%
Customers who misplace their electronic or paper scripts	6%
Customers who travel frequently	3%
Customers who are not technologically savvy	2%
None	14%

DAAs = dose administration aids

Among the dispensers who use ASLs, 14% had not recommended ASLs to their customers. Their reasons included that ASLs weren't used in their pharmacy and that there was a lack of awareness of how ASLs work. For healthcare providers, some indicated that service or exchange delays and software issues detracted from the value of ASLs.

> *I provided a neutral response for ASL because we do not implement it that frequently [and] are not fully knowledgeable on how to recommend its use to customers.*
>
> *– Dispenser*

Among prescribers, one-third of survey respondents had heard of ASLs. We also found that prescribers were relying on dispensers to promote ASLs to consumers.

The survey highlighted the correlation between low promotion of ASLs to consumers and low education among prescribers and dispensers. This provides a valuable opportunity for further awareness and education to increase the uptake of ASLs and improve dispenser and prescriber understanding.

Consumers

Although only 13% of consumer respondents were aware of ASLs, with only 5% using them, those who had used them appeared satisfied. Further awareness and education are required to increase consumer uptake of ASLs.

ASLs have many benefits for consumers. For example, with a consumer's consent, pharmacists can log into their ASL and see their active prescription history, which allows pharmacists to assist consumers with their electronic prescriptions. This is particularly useful for consumers who are less digitally literate or who do not have smartphones or the necessary phone credit.

It is also helpful for consumers who have lost prescriptions or repeats (with barcodes on them). The pharmacist can still dispense the medication, which saves the consumer time and money as they don't need to go back to their doctor for a new script.

> *If a patient loses their script, we can sign them up and dispense. So much easier.*
>
> *– Dispenser*

In urgent situations, dispensers can access scripts via an ASL.

Apps

In our survey, 9% of consumers reported using medication management apps (such as community pharmacy-branded apps) to easily manage and store electronic prescriptions.

> *I can add [the prescription] directly to my pharmacy app on my phone – this then shows me how many repeats I have and enables me to order via the app and arrange collection, quick and simple.*
>
> *– Consumer*

However, other respondents, including dispensers, felt that pharmacy-branded apps restricted consumer choice as they force consumers to use a particular pharmacy.

5. Projected use

The national survey made it clear that preferences for electronic or paper prescriptions vary considerably based on context.

Overall, of the prescribers, dispensers and consumers who used electronic prescriptions, most preferred them over paper scripts. This preference is more pronounced in certain situations and contexts, including:

- telehealth consultations
- dispensing for customers with a one-off prescription.

The benefits cited were:

- workflow and administration efficiencies
- better security
- better accountability and record keeping
- ease of locating and accessing prescriptions.

However, the survey shows that a minority of users consider paper prescriptions to be easier to use for:

- prescribing drugs of dependence
- in-person consultations
- busy days in the pharmacy
- dispensing for customers with many medications
- dispensing scripts quickly
- in-person appointments
- managing multiple prescriptions.

Some users also believe that, with paper prescriptions, it is easier to understand the medications being taken. There is also the perception that paper prescriptions are easier to fix if something goes wrong.

For these reasons, it is likely that paper scripts will continue to coexist with electronic prescriptions.

Table 10 Cohort preferences for electronic or paper scripts in different contexts

Context	Strongly prefer electronic scripts[a]	Strongly prefer paper scripts[a]
Prescribers who currently use electronic prescriptions		
For telehealth consultations	82%	1%
To reduce administration time	61%	5%
For speed and ease in workflow	61%	6%
For patients who need ongoing prescriptions or repeats	58%	5%
For the ease of patients	50%	4%
To save costs	49%	6%
For patients who need long-term DAAs	46%	11%
For practice record keeping	43%	4%
For patients who need a one-off prescription	42%	11%
For drugs of dependence	40%	21%
For in-person consultations	36%	17%
For aged care facility visits	34%	11%
For patient safety	34%	7%
For ease of fixing if something goes wrong	29%	19%
Dispensers who currently use electronic prescriptions		
For customers with a one-off prescription	56%	7%
For security	54%	7%
For accountability and record keeping	52%	14%
For accuracy in filling a script	49%	11%
For customers with many medications	47%	17%
For busy days in the pharmacy or dispensary	45%	18%
For patient safety	45%	8%
For speed of dispensing a script	44%	13%
Consumers who have ever used electronic prescriptions		
When having a telehealth appointment	64%	5%
To avoid losing a prescription	59%	9%
For ease of access to prescriptions or medication	58%	10%
When storing and carrying prescriptions	57%	11%
For speed and ease of getting prescriptions dispensed	52%	9%
When managing multiple prescriptions	52%	12%
To have flexibility in the choice of pharmacy	50%	11%
For a one-off prescription	49%	11%
When having a face-to-face appointment with a doctor	43%	15%
To better understand the medications being taken	30%	12%

DAAs = dose administration aids

[a] A 'strong' preference for electronic scripts was defined as answering 8–10, and a strong preference for paper scripts was defined as answering 0–2, on an 11-point scale where 0 means 'strongly prefer paper' and 10 means 'strongly prefer electronic'.

Many prescribers and dispensers felt that electronic prescribing had a positive impact on their practice and patients.

Table 11 Electronic prescription satisfaction

Satisfaction	Prescriber electronic prescription users	Dispenser electronic prescription users	Consumer electronic prescription users
Satisfied	63%	52%	72%
Neutral	32%	36%	24%
Dissatisfied	3%	4%	4%

Note: Satisfaction was determined using an 11-point Likert scale where 'satisfied' = score of 8–10, 'neutral' = score of 3–7 and 'dissatisfied' = score of 0–2.

Table 12 Perceived impact of electronic prescriptions

Impact	Prescriber electronic prescription users		Dispenser electronic prescription users	
	Positive	*Negative*	*Positive*	*Negative*
On practice	83%	3%	71%	9%
On patients	82%	2%	70%	9%

Note: Impact was determined using a 5-point Likert scale where 'positive' = score of 4 or 5 and 'negative' = score of 1 or 2.

The survey showed that, although electronic prescriptions are currently not used as widely as paper scripts, their use is expected to grow:

- 89% of consumers would use electronic prescriptions over paper ones in the next 12 months.
- 57% of prescribers intend to increase their use of electronic prescriptions.
- 34% of dispensers intend to seek more information about electronic prescriptions and ASLs.

Table 13 Current and expected future electronic prescription use and behaviours

Cohort		Dispensers	Consumers
Current behaviour			
Have used electronic prescriptions	64%	74%	42%
Scripts issued or dispensed that are electronic	37%	35%	NA
Future behaviour			
Intend to seek additional information about electronic prescriptions/ASLs	31%	34%	26%
Intend to increase use of electronic prescriptions in the future	57%	NA	NA
Intend to use electronic prescriptions in the future	54%	NA	NA
Would use electronic prescriptions instead of paper scripts in the next 6 months	NA	NA	89%
Intend to request electronic prescriptions over paper in the future	NA	NA	39%

ASLs = Active Script Lists; NA = not applicable or not asked

The survey showed that most prescribers, dispensers and consumers had a supportive or neutral view of electronic prescriptions. Some had less positive experiences, with 2% of prescribers and 6% of both dispensers and consumers finding electronic prescriptions to be obstructive.

Table 14 Proportion of users who find electronic prescriptions to be supportive *vs* obstructive

Response	Prescriber electronic prescription users	Dispenser electronic prescription users	Consumer electronic prescription users
Supportive	47%	39%	45%
Neutral	51%	54%	49%
Obstructive	2%	6%	6%

Note: Opinion is determined using a 7-point Likert scale where 'supportive' = score of 1 or 2, 'neutral' = score of 3–5 and 'obstructive' = score of 6 or 7.

Summary of findings and next steps

Based on the analysis of our survey results and observational studies, we identified 8 areas for improvement. The Agency will explore these areas for improvement in consultation with users.

Key finding	Areas for improvement
Some Australians face barriers to implementing or using electronic prescriptions. This may lead to a poorer experience compared with using paper scripts.	Consider changing the design of electronic prescriptions to help consumers understand how to use them. This could include increasing ASL use for consumers with low digital literacy. Empower consumers to choose the prescription format that best suits them.
Consumers who don't speak English or don't speak English at home are less likely to have used electronic prescriptions.	Consider targeted promotions for people in these communities.
There are multiple unintended consequences of using electronic prescriptions, such as the potential casualisation of care and dispensers having extra printing costs.	Conduct research to further explore and quantify these unintended consequences.
Technology, connectivity and service availability are the key issues all users experience with electronic prescriptions.	Work with relevant organisations to mitigate these issues. Build in redundancies for electronic prescription solutions to accommodate outages.
There is low consumer awareness and use of both electronic prescriptions and ASLs, and low general awareness of ASLs.	Support education and training programs for prescribers and dispensers, and awareness campaigns for consumers. Consider changing the ASL design and registration process.
Prescribers and dispensers learn about electronic prescriptions and ASLs from peak bodies and colleagues, while consumers learn (and would prefer to learn) from their healthcare providers.	Consider educating all cohorts through a multichannel approach. Define whether it's the prescriber's or dispenser's role to promote ASLs to consumers.
Managing multiple electronic prescription tokens is a key issue. This is particularly true for multiple prescriptions and repeats, and among digitally excluded populations.	Re-evaluate the current token-based distribution and dispensing system. Consider designing alternative pathways that cater for digitally excluded groups; for example, enable consumers to access their own ASL or implement a 'one token for life of the prescription' system.
The preference for electronic prescriptions or paper prescriptions is highly contextual. Scripts in circulation are likely to remain hybrid. This may lead to a burden on dispensers.	Support dispensers to fully digitise dispensing workflows to accommodate hybrid options.

List of abbreviations

ASL	Active Script List
DAA	dose administration aid
ETP	electronic transfer of prescription
PBS	Pharmaceutical Benefits Scheme

Australian Government

Australian Digital Health Agency