



# Pharmacy ethical reasoning: a comparison of Australian pharmacists and interns

H. Laetitia Hattingh<sup>1,2</sup> · Michelle A. King<sup>1,2,3</sup> · Denise L. Hope<sup>1,2,3</sup> · Elizabeth George<sup>1</sup>

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## Abstract

**Background** Ethical reasoning informs decision making and professional judgement, is guided by codes of ethics and conduct, and requires navigation through a regulatory framework. Ethical reasoning should evolve throughout the pharmacy internship year and prepare interns for independent practice. **Objective** To explore the ethical reasoning and processes of Australian pharmacists and pharmacy interns. **Setting** Queensland community pharmacists and interns. **Method** A survey to determine use of resources to guide ethical decisions, management of ethical dilemmas, and exposure to potential practice privacy breaches. Participants were recruited at pharmacy intern training events, a pharmacist education session and through telephone contact of randomised community pharmacies. **Main outcome measure** Comparison between pharmacist and intern responses using 5-point Likert scales, listings and prioritising. **Results** In total 218 completed surveys were analysed: 121 pharmacy interns and 97 pharmacists. The Code of Ethics was identified as the resource most frequently consulted when faced with ethical dilemmas. Interns were more likely to consult legislation and regulatory authorities whereas pharmacists with colleagues. Responses to ethical vignette scenarios and exposure to privacy breaches varied between interns and pharmacists, with some scenarios revealing significant differences. Most participants had been exposed to a variety of potential privacy breaches in practice. **Conclusion** Interns focussed on legislation and guidelines when presented with hypothetical ethical dilemmas. In contrast to this positivist approach, pharmacists reported using a social constructionist approach with peers as a reference. Pharmacists avoided ethical scenario options that required complex management. Interns reported more exposure to potential practice privacy breaches.

**Keywords** Australia · Decision making · Ethics · Interns · Moral development · Pharmacists

## Impacts on practice

- Interns are less likely to consult with more experienced pharmacists when presented with dilemmas which would potentially stimulate local conversation and reduce professional isolation.
- Financial pressures on the profession impact on pharmacists' management of complex scenarios and highlight the need for ongoing development of ethical reasoning skills.
- Pharmacists in Australia need to accept independent professional responsibility as a culture of subordination to doctors may impact on patient care.
- In Australia, there seems to be an ongoing need to upskill pharmacy staff members in privacy requirements.

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✉ H. Laetitia Hattingh  
l.hattingh@griffith.edu.au

Michelle A. King  
michelle.a.king@griffith.edu.au

Denise L. Hope  
d.hope@griffith.edu.au

<sup>1</sup> School of Pharmacy and Pharmacology, Griffith University, Clinical Sciences 2, G16\_3.26, Gold Coast Campus, Gold Coast, QLD 4215, Australia

<sup>2</sup> Quality Use of Medicines Network, Griffith University, Gold Coast Campus, Gold Coast, QLD 4215, Australia

<sup>3</sup> Menzies Health Institute Queensland, Griffith University, Gold Coast Campus, Gold Coast, QLD 4215, Australia

## Introduction

Over recent decades pharmacy practice broadened from mainly medicines provision to pharmacists having more clinical and patient-centred healthcare relationships [1]. Community pharmacists are accessible health professionals, providing a range of primary and public health services and are often confronted with challenging scenarios that require professional judgement [2]. In addition to clinical knowledge, it is recognised that the ability to apply moral and ethical reasoning is a critical factor that affects pharmacists' decision making when making professional judgements [2, 3]. Moral reasoning involves forming judgments about what one ought, morally, to do. This can be a practical question, a certain way of asking about what to do, and hence moral reasoning is also referred to as practical reasoning [4].

With regard to the development of ethical reasoning for health professionals, moral reasoning philosophy has over recent years been used to explain and facilitate the development of professional ethical reasoning processes [5–8]. Theories of moral reasoning argued that moral reasoning involves a cognitive decision-making process that is based on cognitive moral decision-making capabilities [9, 10]. One such theory was Kohlberg's Cognitive Moral Development model that involved six stages of cognitive moral development [11, 12]. Kohlberg's model had been applied to pharmacy scenarios to illustrate how these stages could be mapped to pharmacists' chosen actions when confronted with a practice scenario that requires professional judgement [13, 14]. According to this model a pharmacist's actions involve decision-making processes that rely on the pharmacist's cognitive moral development, which in turn impacts on the pharmacist's ethical reasoning processes.

The integrity and standing of the profession are contingent on a strong basis of ethical reasoning to facilitate good patient care. However, research in pharmacy ethics is scarce [15, 16], especially when compared to other health professional groups such as medicine and nursing [17]. Professional ethics are commonly described in codes of ethics and conduct for various health professionals, which reflect public expectations of the profession. In Australia, the Pharmacy Board of Australia Code of Conduct [18] and the Pharmaceutical Society of Australia (PSA) Code of Ethics for Pharmacists [19] provide guidance for acceptable behaviours and the foundation for Australian pharmacists' ethical conduct. Pharmacy practice is highly regulated with complex legislative requirements [20]. To facilitate practice provision the profession has developed a guiding framework of regulatory requirements, standards and other documents to enhance and maintain standards of professionalism, supplementing the legislative requirements.

Pharmacists need to understand how to navigate the regulatory framework to support their professional decision making. This requires practice as decision making could involve conflicts between legal and ethical reasoning. It is hence not surprising that some pharmacists have difficulty distinguishing between ethical and legal issues, lack confidence in making decisions, avoid their responsibilities by passing the decision to other health professionals, or indeed do nothing at all [21]. There is evidence indicating that pharmacists may not always adhere to best practice standards, have difficulty with ethical decision-making and overlook aspects of the law [22, 23].

Ethical reasoning and professionalism skills are embedded in pharmacists' competency standards [24] and are mandatory skills to be developed throughout the pharmacy curriculum, as specified by the Australian Pharmacy Council [25]. Although the foundation of ethical reasoning is established during university studies and student placements [21, 26], this skill needs to be continuously practised and developed. Research highlighted that medical students' ethical behaviour is influenced by internal factors such as university teaching as well as external factors including work-related role models or family values [27], although the evidence for this in pharmacy students is limited. While it is possible to teach pharmacy students about the conflicts between legal and ethical reasoning, dilemmas can be more complex in real practice [28]. Ethical reasoning should thus evolve throughout the internship year that follows graduation as interns gain practice experience that involves exposure to challenging scenarios, whilst working under supervision [29–31].

Community pharmacy service provision has increased in complexity with a myriad of factors to consider including ethics and law, standards and procedures, and financial pressures. It is important to identify how the relationship of these factors influences ethical reasoning and the ability to provide the best possible patient-care. There is, however, a scarcity of research into contemporary pharmacy ethics with a lack of research comparing the ethical reasoning processes and resources used by pharmacy interns and pharmacists.

## Aim of the study

The aim of this study was to compare ethical reasoning between Australian pharmacists and interns.

## Ethics approval

Ethics approval was obtained from the Griffith University Human Research Ethics Committee (2017/640).

## Method

This quantitative comparative study involved surveying Australian community pharmacists and intern pharmacists to explore their reasoning and the processes they apply to inform their decisions and actions when confronted with ethical dilemmas. Specific objectives were to explore:

- Their use of resources to guide ethical decisions,
- Options they choose when presented with ethical dilemmas, and
- How frequently they experience potential privacy breaches in practice.

## Survey development

A survey was developed based upon focus group discussions [32], pharmacy ethics literature, experience with use of vignettes for ethical reasoning research [33–35], evidence supporting advantages of using of vignettes in research to simulate practice [36–40], the Australian community pharmacy context and the authors' extensive teaching, research and practice experience. The survey provided participants with an overview of the study that included definitions of ethics and ethical dilemmas and consisted of four sections:

- Section A—general demographic information such as age, gender, current pharmacy roles and qualifications. It also requested listing of up to five resources used when presented with an ethical dilemma in practice;
- Section B—two ethical dispensing scenario vignettes with five Likert-scale ratings (*strongly agree*, *agree*, *neutral*, *disagree* and *strongly disagree*) to indicate the level of agreement with hypothetical options. Scenario 1 listed seven hypothetical options whilst scenario 2 was divided into two sub-scenarios: the first had seven hypothetical options and the second had five hypothetical options. Participants were also given the opportunity to list alternative options they would consider in practice;
- Section C—17 short pharmacy privacy scenarios with five ranked timeframes namely *daily*, *weekly*, *fortnightly*, *monthly* and *less often* to indicate how often participants were exposed to the scenarios; and
- Section D—numerical prioritising of 12 resources used to inform ethical decision making with 1 as the most and 12 as the least relevant.

The survey was face and content validated by four academic pharmacists and four pharmacist practitioners with advanced expertise in pharmacy law and ethics. Feedback was discussed and incorporated following consensus.

## Participant recruitment

The target population was Queensland intern pharmacists and pharmacists who worked in community pharmacies. Participants were offered a gift card as an appreciation of their contribution.

The three Queensland intern training providers, namely the Pharmacy Guild of Australia (the Guild), PSA and National Alliance for Pharmacy Education (NAPE), were approached and all three agreed to distribute the surveys at face-to-face intern training sessions. Members of the research team attended five workshops in Brisbane throughout August to November 2017 during which a PowerPoint slide was used to explain the study; participant information sheets and surveys were then distributed. A total of 203 interns were invited to participate in the survey and completion of the survey was regarded as consent.

Two approaches were followed to recruit pharmacists. The first was to invite participation from pharmacists attending an annual PSA Queensland education seminar during October 2017. The second was to randomly select Queensland community pharmacies from a list of 740 pharmacies that provided needle and syringe services, using a randomisation calculator [41]. Randomly selected pharmacies were telephoned by a team member (EG) who explained the project to a pharmacist at the pharmacy. If the pharmacist agreed to participate and provided their email address the information sheet with a link to an online version of the survey was emailed through.

## Data analysis

All hardcopy responses were entered by a trained computer data entry clerk into SPSS, Version 22 (IBM USA, 2013). The online survey automatically populated into an Excel spreadsheet. Duplicates were removed, and the data transferred to the SPSS file. Sources identified as those most likely to be consulted to inform decision making were coded either during the data entry process or before transfer to SPSS. All data entries were independently audited and corrected where necessary.

Descriptive statistics were used to summarise demographic information and questionnaire responses. For the listed resources in Section A: comparisons between pharmacists and interns using the Chi squared test were based on counts of the ten most frequently identified resources. For Sections B, C, and D: the pharmacists' and interns' rankings of scenarios and the resources were compared using the Mann–Whitney U test. A  $p$  value  $< 0.05$  indicated a statistically significant association.

**Table 1** Summary of participants' demographic data

	Intern n = 121		Pharmacist n = 97	
	n	(%)	n	(%)
Gender				
Male	46	(38.0)	35	(36.1)
Female	75	(62.0)	62	(63.9)
Age				
21–30	106	(87.6)	44	(45.4)
31–40	14	(11.6)	30	(30.9)
41–50	1	(0.8)	11	(11.3)
51–60	0	(0.0)	11	(11.3)
> 61	0	(0.0)	1	(1.0)
Primary role				
Interns	n = 121			
Community pharmacy intern	87	(71.9)		
Hospital pharmacy intern	33	(27.3)		
Academic intern	1	(0.8)		
Pharmacists			n = 94	
Pharmacy owner			17	(17.5)
Community pharmacy manager			29	(29.9)
Community pharmacy dispensary manager			9	(9.3)
Community pharmacist			35	(36.1)
Hospital pharmacist			2	(2.1)
Academic pharmacist			1	(1.0)
Locum pharmacist			1	(1.0)

**Table 2** Resources most likely to be consulted when presented with an ethical dilemma (top ten by overall frequency)

Resource	Total		Intern		Pharmacist		p value
	n	(%)	n	(%)	n	(%)	
Code of Ethics	92	(42.2)	63	(52.1)	29	(29.9)	<b>0.001</b>
Professional indemnity insurer	84	(38.5)	49	(40.5)	35	(36.1)	0.506
PBA/AHPRA	78	(35.8)	56	(46.3)	22	(22.7)	<b>&lt; 0.001</b>
SUSMP/poisons legislation	59	(27.1)	28	(23.1)	31	(32.0)	0.145
Pharmaceutical Society of Australia	56	(25.7)	27	(22.3)	29	(29.9)	0.932
Colleague	55	(25.2)	18	(14.9)	37	(38.1)	<b>&lt; 0.001</b>
Legislation	48	(22.0)	43	(35.5)	5	(5.2)	<b>&lt; 0.001</b>
Clinical resources	41	(18.8)	23	(19.0)	18	(18.6)	0.203
Supervisor/preceptor	21	(9.6)	16	(13.2)	5	(5.2)	<b>0.045</b>
Practice Standards	19	(8.7)	3	(2.5)	16	(16.5)	<b>&lt; 0.001</b>

*PBA/AHPRA* Pharmacy Board of Australia/Australian Health Practitioner Registration Agency, *SUSMP* Standard for the Uniform Scheduling of Medicines and Poisons (The Poisons Standard)

Bold represents the statistically significant association ( $p$  value < 0.05)

## Results

Of the 203 interns attending the intern training sessions 117 (57.6%) returned surveys. The education seminar was attended by approximately 110 pharmacists and interns; approximately 30 pharmacists were approached about the

project with 16 returning surveys. The online survey was emailed to 250 community pharmacists with 92 responses received. Seven were identified as duplicates and excluded. Of the remaining 85, four identified as interns and were grouped with the intern data. Hence, 81 online pharmacist surveys were included in the analysis. Overall there were

**Table 3** Relevance of resources: most relevant (= 1) and least relevant (= 12)

Resource	Total			Intern			Pharmacist			p value			
	n	Mean	Median	IQR	n	Mean	Median	IQR	n		Mean	Median	IQR
Codes of Ethics and Conduct	214	3.29	2.00	1.00–5.00	119	2.55	2.00	1.00–3.00	95	4.21	3.00	1.00–7.00	< <b>0.001</b>
Practice standards	215	4.68	4.00	3.00–6.00	119	4.61	4.00	3.00–6.00	96	4.76	4.50	3.00–7.00	0.939
PBA documents	215	4.71	4.00	2.00–7.00	119	4.77	5.00	2.00–7.00	96	4.63	4.00	2.00–7.00	0.625
Protocols and guidelines	214	5.54	5.00	4.00–7.00	118	5.86	6.00	4.00–7.00	96	5.15	5.00	3.00–7.00	<b>0.019</b>
Competency standards	214	5.58	5.00	4.00–7.00	118	5.47	5.00	4.00–7.00	96	5.71	6.00	4.00–8.00	0.339
SUSMP, Commonwealth and jurisdiction legislation	215	5.59	6.00	2.00–8.00	119	5.32	5.00	2.00–8.00	96	5.93	6.00	2.25–9.00	0.230
Privacy Act and privacy resources	215	6.54	6.00	4.00–9.00	119	5.95	6.00	4.00–8.00	96	7.28	7.00	5.00–10.00	<b>0.002</b>
Co-workers/healthcare professionals	213	6.76	8.00	3.00–10.00	117	7.27	8.00	5.00–10.00	96	6.13	6.00	2.00–10.00	<b>0.044</b>
Professional indemnity insurer	212	6.94	8.00	4.00–9.00	116	7.38	8.00	5.00–10.00	96	6.41	7.00	4.00–9.00	<b>0.025</b>
Colleagues at professional organisations	214	8.17	9.00	5.00–10.00	118	8.28	9.00	7.00–10.00	96	8.03	8.00	4.00–10.00	<b>0.016</b>
Staff at PBA or AHPRA	214	8.42	9.00	7.00–9.00	118	8.46	9.00	7.00–10.00	96	8.36	9.00	7.00–11.00	0.776
Social media	212	11.01	12.00	11.00–12.00	116	11.26	12.00	11.00–12.00	96	10.71	12.00	10.00–12.00	0.157

IQR inter-quartile range, SUSMP Standard for the Uniform Scheduling of Medicines and Poisons (The Poisons Standard), PBA Pharmacy Board of Australia, AHPRA Australian Health Practitioner Registration Agency

Bold represents the statistically significant association (p value < 0.05)

121 completed intern surveys (117 + 4) and 97 completed pharmacist surveys (16 + 81); 218 participants in total.

Most interns and pharmacists were female (62.0% and 63.9%) and, as expected, most interns were less than 30 years old (106/121, 87.6%) while 45.4% (44/97) of the pharmacists were aged 21–30 years and 30.9% (30/97) were between 31 and 40 years old. Most pharmacists (58.5%; 55/94) were in a managerial or ownership role. Table 1 provides a summary of the participants’ demographic data.

**Ethics resources**

Sections A and D requested information about resources used when presented with an ethical dilemma in practice: in section A participants had to list resources and in section D they had to prioritise 12 named resources.

The ten resources most frequently listed ranged from legislation, to professional guidance to personal communication. Overall, the Code of Ethics was the most frequently identified resource (Table 2). Table 3 summarises the prioritisation of resources. Interns were approximately twice as likely to identify the Code of Ethics and the Pharmacy Board of Australia (PBA)/Australian Health Practitioner Registration Agency (AHPRA) as resources and almost seven times more likely to identify legislation as a resource to consult. In contrast, pharmacists were far more likely to identify colleagues and the practice standards as resources.

**Dispensing scenario ratings**

Some Section B vignette scenarios were responded to differently by interns when compared with pharmacists (Table 4). There were statistically significant differences between two of the responses to the scenario 1 options.

- 85.2% of interns *disagreed* or *strongly disagreed* that they would ‘... dispense the drug without saying anything to the patient because you accept the doctor’s explanation of the adverse reaction being all in the patient’s mind’ whereas a much lower 75.0% of pharmacists *disagreed* or *strongly disagreed* with this option (p = 0.017), and.
- 79.3% of interns *strongly agreed* or *agreed* that they would ‘... inform the patient that both medications are similar and therefore he may experience the same response as previously’ compared to 71.5% of pharmacists who *strongly agreed* or *agreed* with this option (p = 0.031).

Three of the scenario 2 options resulted in statistically significantly different responses between interns and pharmacists:

**Table 4** Comparison of dispensing scenario responses

Scenario 1	Pharmacists														<i>p</i> value						
	Interns							Pharmacists													
	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	Strongly agree	Agree	Neutral	Disagree	Strongly disagree											
n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%						
a. ... without saying anything to the patient because you do not want to discredit the doctor. [n = 117; 96]	2	(1.7)	7	(6.0)	14	(12.0)	58	(49.6)	36	(30.8)	2	(2.1)	11	(11.5)	14	(14.6)	41	(42.7)	28	(29.2)	0.230
b. ... without saying anything to the patient because you accept the doctor's explanation of the adverse reaction being all in the patient's mind. [n = 115; 96]	1	(0.9)	3	(2.6)	13	(11.3)	56	(48.7)	42	(36.5)	0	0	8	(8.3)	16	(16.7)	49	(51.0)	23	(24.0)	<b>0.017</b>
c. ... without saying anything to the patient as his previous adverse reaction was not serious [n = 115; 96]	1	(0.9)	2	(1.7)	11	(9.6)	62	(53.9)	39	(33.9)	0	0	2	(2.1)	15	(15.6)	50	(52.1)	29	(30.2)	0.355
d. ... without saying anything to the patient as it is more important for the patient to be compliant with his medication and telling him of the side effects may result in him being non-compliant. [n = 115; 94]	1	(0.9)	8	(7.0)	14	(12.2)	56	(48.7)	36	(31.3)	3	(3.2)	12	(12.8)	12	(12.8)	41	(43.6)	26	(27.7)	0.185

**Table 4** (continued)

You dispense DRUG ZX: [n = intern; pharmacist]	Interns					Pharmacists					p value										
	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	Strongly agree	Agree	Neutral	Disagree	Strongly disagree											
	n	%	n	%	n	%	n	%	n	%											
e. ... and inform the patient that both medications are similar and therefore he may experience the same response as previously. [n = 116; 95]	35	(30.2)	57	(49.1)	15	(12.9)	7	(6.0)	2	(1.7)	16	(16.8)	52	(54.7)	17	(17.9)	9	(9.5)	1	(1.1)	<b>0.031</b>
f. ... and you inform the patient that the medications are not similar and therefore it is unlikely for him to experience the same response as previously. [n = 114; 95]	1	(0.9)	5	(4.4)	17	(14.9)	39	(34.2)	52	(45.6)	0		1	(1.1)	7	(7.4)	37	(38.9)	50	(52.6)	0.096
g. ... and you inform the patient that both medications are similar but they are slightly different and he may not experience the same response. [n = 114; 97]	40	(35.1)	47	(41.2)	21	(18.4)	5	(4.4)	1	(0.9)	42	(43.3)	44	(45.4)	9	(9.3)	1	(1.0)	1	(1.0)	0.053
<b>Scenario 2</b>																					
You are the only pharmacist working in a rural town and receive a new prescription for Drug E. The patient has a concession card. The prescription is for a male patient with a non-life-threatening condition that is causing considerable discomfort. You are under increasing pressure, from the owner, to dispense generic brands. The pharmacy assistant has established that the patient agreed to receive a generic brand. The prescriber agreed to substitution. However, when you check the patient's dispensed history on your software you notice that the patient had previously reported an adverse effect, classified as severe diarrhoea, from the generic brand stocked by the pharmacy. The patient was subsequently dispensed the originator brand, which has a brand premium (additional fee charged for a specific brand) at another pharmacy with no adverse consequences.																					
Your pharmacy stocks the originator brand and one generic brand of Drug E, which is the brand the patient previously received.																					

Table 4 (continued)

Level of agreement with hypothetical options [n = intern; pharmacist]	Interns					Pharmacists					p value										
	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	Strongly agree	Agree	Neutral	Disagree	Strongly disagree											
	n	%	n	%	n	%	n	%	n	%											
a. Dispense the generic brand in stock and explain to the patient that there is a possibility of him again developing the severe diarrhoea. [n = 117; 95]	9	(7.7)	28	(23.9)	16	(13.7)	32	(27.4)	32	(27.4)	4	(4.2)	23	(24.2)	14	(14.7)	20	(21.1)	34	(35.8)	0.314
b. Inform the patient that you can order a different generic but it could take 24 h to arrive. [n = 116; 95]	25	(21.6)	45	(38.8)	27	(23.3)	11	(9.5)	8	(6.9)	14	(14.7)	46	(48.4)	13	(13.7)	11	(11.6)	11	(11.6)	0.482
c. Inform the patient that you can organise for the nearest pharmacy (approx. 50 km away) to supply him with an alternative generic brand. The patient has to organise transport. [n = 118; 95]	6	(5.1)	30	(25.4)	26	(22.0)	35	(29.7)	21	(17.8)	2	(2.1)	11	(11.3)	16	(16.5)	34	(35.8)	32	(33.7)	< 0.001
d. Inform the patient that you can organise for the nearest pharmacy (approx. 50 km away) to supply him with an alternative generic brand. You offer to organise transport. [n = 115; 95]	6	(5.2)	35	(30.4)	25	(21.7)	31	(27.0)	18	(14.9)	3	(3.2)	10	(10.5)	18	(18.9)	38	(40.0)	26	(27.4)	< 0.001
e. Explain to the patient that you need to dispense the originator brand and he will need to pay the brand premium surcharge. [n = 117; 95]	15	(12.8)	39	(33.3)	38	(32.5)	20	(17.1)	5	(4.3)	11	(11.6)	41	(43.2)	25	(26.3)	13	(13.7)	5	(5.3)	0.428

**Table 4** (continued)

Level of agreement with hypothetical options [n = intern; pharmacist]	Interns					Pharmacists					p value										
	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	Strongly agree	Agree	Neutral	Disagree	Strongly disagree											
	n	%	n	%	n	%	n	%	n	%											
f. Explain to the patient that you need to dispense the originator brand but only if he is willing to pay the brand premium surcharge. [n = 118; 96]	28	(23.7)	57	(48.3)	23	(19.5)	6	(5.1)	4	(3.4)	31	(32.3)	37	(38.5)	21	(21.9)	5	(5.2)	2	(2.1)	0.442
You are under increasing pressure, from the owner, to make companion sales with Drug E. The companion product has limited evidence.																					
Level of agreement with hypothetical options [n = intern; pharmacist]	Interns					Pharmacists					p value										
	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	Strongly agree	Agree	Neutral	Disagree	Strongly disagree											
	n	%	n	%	n	%	n	%	n	%											
a. Offer the companion product to meet the quota set by the owner. [n = 117; 94]	2	(1.7)	20	(17.1)	37	(31.6)	39	(33.3)	19	(16.2)	2	(2.1)	18	(19.1)	25	(26.6)	24	(25.5)	25	(26.6)	0.477
b. Offer the companion product, at a reduced cost to the patient (patient has concession card), to meet the quota set by the owner. [n = 117; 94]	2	(1.7)	10	(8.5)	32	(27.4)	47	(40.2)	26	(22.2)	0		4	(4.3)	16	(17.0)	43	(45.7)	31	(33.0)	<b>0.008</b>
c. Offer the companion product to the patient and explain the limited evidence. [n = 119; 95]	23	(19.3)	64	(53.8)	15	(12.6)	11	(9.2)	6	(5.0)	14	(14.7)	45	(47.4)	24	(25.3)	8	(8.4)	4	(4.2)	0.167
d. Do not offer the companion product to the patient as the patient probably cannot afford it. [n = 117; 94]	5	(4.3)	15	(12.8)	40	(34.2)	44	(37.6)	13	(11.1)	1	(1.1)	7	(7.4)	27	(28.7)	51	(54.3)	8	(8.5)	0.074
e. Do not offer the companion product to the patient as there is limited evidence. [n = 115; 95]	12	(10.4)	30	(26.1)	44	(38.3)	23	(20.0)	6	(5.2)	10	(10.5)	21	(22.1)	38	(40.0)	22	(23.2)	4	(4.2)	0.651

Bold represents the statistically significant association (p value < 0.05)

**Table 5** Comparison of exposure to potential privacy breaches

How often exposed to the following scenarios in regular practice [n = intern; pharmacist]	Interns										Pharmacists										p value
	Daily		Weekly		Fort-nightly		Monthly		Less often		Daily		Weekly		Fort-nightly		Monthly		Less often		
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	
a. The pharmacy receives a fax from a health professional intended for another receiver. The fax contains patient identifiers/information. [n = 121; 97]	16	(13.2)	12	(9.9)	4	(3.3)	8	(6.6)	81	(66.9)	3	(3.1)	10	(10.3)	6	(6.2)	13	(13.4)	65	(67.0)	0.508
b. A staff member relates medicines information to a consumer and then realises that he/she may not be entitled to that information. [n = 120; 96]	6	(5.0)	18	(15.0)	10	(8.3)	20	(16.7)	66	(55.0)	2	(2.1)	3	(3.1)	2	(2.1)	9	(9.4)	80	(83.3)	< 0.001
c. A staff member shows one member of a family other family members' repeat prescriptions without obtaining consent from them. [n = 119; 97].	36	(30.3)	19	(16.0)	12	(10.1)	12	(10.1)	40	(33.6)	12	(12.4)	25	(25.8)	7	(7.2)	15	(15.5)	38	(39.2)	0.049
d. A staff member discusses confidential de-identified information about a consumer outside of the pharmacy at a non-professional setting. [n = 118; 96]	11	(9.3)	13	(11.0)	9	(7.6)	24	(20.3)	61	(51.7)	3	(3.1)	10	(10.4)	6	(6.3)	10	(10.4)	67	(69.8)	0.011
e. A staff member discloses confidential identifiable information about a consumer(s) outside of the pharmacy. [n = 120; 96]	6	(5.0)	5	(4.2)	9	(7.5)	19	(15.8)	81	(67.5)	1	(1.0)	2	(2.1)	4	(4.2)	4	(4.2)	85	(88.5)	< 0.001
f. A staff member discloses real practice scenarios on a social media platform such as Facebook. [n = 121; 96]	4	(3.3)	4	(3.3)	3	(2.5)	4	(3.3)	106	(87.6)	2	(2.1)	1	(1.0)	2	(2.1)	4	(4.2)	87	(90.6)	0.450
g. One member of a family receives a PRF printout, tax printout or dispensing summary containing identifiable medicines information of other adult family members. [n = 119; 96]	12	(10.1)	26	(21.8)	17	(14.3)	20	(16.8)	44	(37.0)	3	(3.1)	17	(17.7)	8	(8.3)	18	(18.8)	50	(52.1)	0.009
h. A staff member sorts through prescriptions on a front/ dispensary counter in view of other consumers. [n = 120; 96]	35	(29.2)	27	(22.5)	11	(9.2)	12	(10.0)	35	(29.2)	15	(15.6)	14	(14.6)	12	(12.5)	15	(15.6)	40	(41.7)	0.004
i. A staff member counsels a patient about the use of a medicine, or management of a condition, that is of a sensitive nature in front of other consumers. [n = 121; 95]	39	(32.2)	27	(22.2)	12	(9.9)	21	(17.4)	22	(18.2)	9	(9.5)	13	(13.7)	14	(14.7)	18	(18.9)	41	(43.2)	< 0.001
j. Identifiable patient and/or consumer information disposed of in unsecured rubbish (e.g. incorrect labels, repeats, receipts). [n = 121; 94]	32	(26.4)	19	(15.7)	5	(4.1)	12	(9.9)	53	(43.8)	19	(20.2)	5	(5.3)	4	(4.3)	12	(12.8)	54	(57.4)	0.035
k. Empty, used dose administration aid (DAA) packs with identifiable header cards and medicine details are disposed of in unsecured rubbish. [n = 120; 93]	15	(12.5)	11	(9.2)	8	(6.7)	10	(8.3)	76	(63.3)	4	(4.3)	7	(7.5)	6	(6.5)	8	(8.6)	68	(73.1)	0.074
l. Partially used DAAs with identifiable header cards and medicine details are disposed of in the NatRUM bin. [n = 121; 95]	16	(13.2)	17	(14.0)	7	(5.8)	15	(12.4)	66	(54.5)	6	(6.3)	12	(12.6)	8	(8.4)	12	(12.6)	57	(60.0)	0.249
m. Returned or unwanted medicines with identifiable patient labels are disposed of in the NatRUM bin. [n = 119; 94]	22	(18.5)	28	(23.5)	12	(10.1)	12	(10.1)	45	(37.8)	10	(10.6)	15	(16.0)	11	(11.7)	13	(13.8)	45	(47.9)	0.035

**Table 5** (continued)

How often exposed to the following scenarios in regular practice [n = intern; pharmacist]	Interns						Pharmacists						p value								
	Daily		Weekly		Fort-nightly		Monthly		Less often		Monthly			Fort-nightly							
	n	%	n	%	n	%	n	%	n	%	n	%		n	%						
n. Medicines awaiting collection have dispensing labels visible to other consumers. [n = 121; 95]	3	(2.5)	16	(13.2)	8	(6.6)	6	(5.0)	88	(72.7)	4	(4.2)	2	(2.1)	4	(4.2)	6	(6.3)	79	(83.2)	0.057
o. Computer dispensing histories are visible to non-dispensing front shop staff. [n = 121; 95]	25	(20.7)	9	(7.4)	7	(5.8)	9	(7.4)	71	(58.7)	17	(17.7)	4	(4.2)	7	(7.3)	9	(9.4)	59	(61.5)	0.555
p. Consumer names are called out when the medications are ready to be collected. [n = 121; 96]	91	(75.2)	8	(6.6)	1	(0.8)	2	(1.7)	19	(15.7)	74	(77.1)	8	(8.3)	2	(2.1)	2	(2.1)	10	(10.4)	0.631
q. Collected medicines are visible to other consumers (e.g. when taking to front counter). [n = 120; 96]	57	(47.5)	9	(7.5)	8	(6.7)	6	(5.0)	40	(33.3)	47	(49.0)	10	(10.4)	1	(1.0)	4	(4.2)	34	(35.4)	0.948

PRF Patient Record Form, *NatRUM* National Return of Unwanted Medicines  
**Bold** represents the statistically significant association ( $p$  value < 0.05)

- 13.4% of pharmacists *agreed* or *strongly agreed* to ‘... inform the patient that you can organise for the nearest pharmacy (approx. 50 km away) to supply him with an alternative generic brand. The patient has to organise transport’ compared to 30.5% of interns ( $p < 0.001$ ),
- 13.7% of pharmacists *agreed* or *strongly agreed* to ‘... inform the patient that you can organise for the nearest pharmacy (approx. 50 km away) to supply him with an alternative generic brand. You offer to organise transport’ compared to 35.6% of interns ( $p < 0.001$ ), and.
- 4.3% of pharmacists *agreed* or *strongly agreed* to ‘... offer the companion product, at a reduced cost to the patient (patient has concession card), to meet the quota set by the owner’ compared to 10.2% of interns ( $p = 0.008$ ).

**Privacy scenario exposure**

Participants had been exposed to a variety of potential privacy breaches in practice (Table 5). Daily exposure to ‘A staff member discloses real practice scenarios on a social media platform such as Facebook’ and ‘Medicines awaiting collection have dispensing labels visible to other consumers’ were reported by few respondents. In contrast daily exposure to ‘Consumer names are called out when the medications are ready to be collected’ and ‘Collected medicines are visible to other consumers (e.g. when taking to front counter)’ was identified by almost half of respondents.

Of interest was that there were statistically significant differences between interns and pharmacists in nine of the 17 scenarios with interns identifying being exposed to the scenarios more often than pharmacists. The following scenarios showed the greatest statistical difference:

- A staff member relates medicines information to a consumer and then realises that he/she may not be entitled to that information ( $p < 0.001$ ),
- A staff member discusses confidential de-identified information about a consumer outside of the pharmacy at a non-professional setting ( $p = 0.011$ ),
- A staff member discloses confidential identifiable information about a consumer(s) outside of the pharmacy ( $p < 0.001$ ),
- One member of a family receives a patient record form (PRF) printout, tax printout or dispensing summary containing identifiable medicines information of other adult family members ( $p = 0.009$ ),
- A staff member sorts through prescriptions on a front/dispensary counter in view of other consumers ( $p = 0.004$ ), and.

- A staff member counsels a patient about the use of a medicine, or management of a condition, that is of a sensitive nature in front of other consumers ( $p < 0.001$ ).

## Discussion

There were some differences in the resources used by interns and pharmacists when confronted with an ethical dilemma. The choices on the management of the two ethical scenarios were mostly similar between the interns and pharmacists, although pharmacists avoided choices that required complex management. Interestingly, interns' responses showed that they were more often exposed to potential practice privacy breaches compared to pharmacists.

There were statistically significant differences in the relevance of the Code of Ethics and PBA/AHPRA resources with interns relying on them more than pharmacists. A potential explanation for this is that these resources form the basis of ethics teaching with interns being familiar with them. In contrast, pharmacists showed a higher preference for consultation with co-workers. This finding is similar to United Kingdom (UK) qualitative research with 23 purposively selected community pharmacists that showed some pharmacists were of the opinion that codes of practice and university-based training were unhelpful. They instead relied on their experience and common sense to respond to challenging ethical scenarios [42].

Practice standards should provide a framework to assist with ethical decision-making [43, 44] and both interns and pharmacists indeed rated practice standards as useful. This differed from a qualitative study conducted in England and Wales that reported pharmacists perceived standards to be unhelpful and contribute to procedure overload [45]. The difference in outcomes between Australia and the UK study could be due to Australian community pharmacists' familiarity with quality care accreditation requirements with integrated practice standards into processes [46]. Many Australian community pharmacists are therefore already conversant with the standards. However, questions still remain as to the relevance and usefulness of practice standards [23].

The pharmacy intern year facilitates the transition from being a pharmacy student to a registered pharmacist through practising in a supervised environment. However, the interns in our study did not select to consult with colleagues, such as mentors or preceptors (supervisors), but rather focussed on the resources they were familiar with through university teachings. Although this is a positive finding in that it seems interns consult relevant resources, this could indicate a more positivist approach to ethical dilemmas rather than an appreciation of the nuances of complex situations and that if their actions are brought into question, they will be judged against their peers. Pharmacists, on the other hand, refer to their

peers to inform their decision making (social constructivism). Alternatively, it could indicate a lack of trust interns have in colleagues' ethical reasoning competence, or low confidence in asking colleagues for assistance and awareness of the support provided by professional indemnity organisations. Australian pharmacy intern preceptors do not undergo a credentialing process. Our study shows that there may be benefit in preceptor training and assessment to ensure preceptors act as mentors for interns as personal accounts of ethical dilemmas have shown to be of value in appreciating and understanding ethical reasoning [5]. Consulting with more experienced pharmacists when presented with dilemmas to stimulate conversation reduces professional isolation, which is a risk in community pharmacy practice [47].

The responses in the management of the second scenario that required organising transport to the nearest pharmacy showed statistically significant differences with interns being more willing to facilitate provision of patient-care. This finding could show that pharmacists have more pressure to balance patient-care with financial aspects compared to interns or are more time poor. More research on this is needed in the Australian community pharmacy context as international studies have shown that patient-care activities often clash with profitability and time management. With the corporatisation of community pharmacy, owners may be more interested in pharmacists achieving financial targets compared to professional performance with professional autonomy influenced by business settings [45], causing conflict between business targets and patient-care [48, 49]. It is therefore particularly important for pharmacists to have ethical reasoning skills to guide their decision making when providing professional services [50].

Another interesting finding was that the pharmacists' responses in the first scenario showed higher preference to accept the doctor's explanation of the adverse reaction 'being all in the patient's mind' compared to the interns. Therefore, interns were less likely to withhold information from the patient and more inclined to support patient autonomy. This finding suggests that some pharmacists did not want to challenge the doctor's decision. This shows that there is still a degree of subordination to doctors, even though the pharmacy profession has evolved towards the provision of patient-care. This finding is similar to the UK study finding that showed a culture of subordination to doctors in community pharmacy practice [47]. However, as health professionals, pharmacists need to accept independent professional responsibility for patients. The need for independent professional responsibility in the interest of patients was highlighted in a recent Australian inquest that followed the death of a patient due to a medication overdose [51]. The Coroner stressed that pharmacists should not underestimate their importance in the delivery of healthcare and that regard

for the doctor–patient relationship should not prevail against their own duty of care.

The interns indicated that potential privacy breaches occurred more frequently with nine of the 17 scenarios showing statistically significant differences to pharmacists' responses. Although reasons for these differences are unknown one potential explanation could be that pharmacists become more complacent with privacy issues. It could also be that managers and owners may be less aware of activities in the front area of pharmacies. More research is needed to explore these differences and the possible upskilling of pharmacy staff members in privacy requirements. Australian research highlighted the challenges community pharmacies have in safeguarding privacy and confidentiality and the need for all pharmacy staff members to be familiar with privacy requirements [52, 53]. Ensuring adherence to privacy in pharmacy practice is particularly important considering developments with the national rollout of the online personal medical record system [54].

### Limitations

This study involved a quantitative survey of interns and pharmacists. Additional insights would have been obtained if the survey incorporated explanations of responses however the authors decided to limit the survey to quantitative responses. The sample represented approximately 41.7% (121/290) of all Queensland interns and 1.7% of all Queensland pharmacists (97/5648) [55]. The number of interns that participated could therefore be regarded as representative but the number of pharmacists was small and there is a possibility of bias as pharmacies were selected from a list of pharmacies providing needle and syringe services. This study was also limited to one state of Australia and, due to potential jurisdictional variation in legislation and practice requirements, may not be representative of all Australian interns and pharmacists. There are limitations of self-reported data in terms of the privacy questions, especially as some of the respondents could have considered information as business sensitive. The responses to the vignettes were hypothetical and may not reflect actual practices.

### Conclusion

There are differences between interns and pharmacists in which resources they prefer most when presented with ethical vignette dilemmas and their preferred actions, and also in their perceptions of how often they are exposed to potential privacy breaches. The results of this study will be used to inform further research into preparation of the pharmacy profession in ethical reasoning skills.

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### Conflicts of interest

The authors declare that they have no conflict of interest with regard to the study or the manuscript.

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