

The 'third class' of medications: Sales and purchasing behavior are associated with Pharmacist Only and Pharmacy Medicine classifications in Australia

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Abstract

Objective: Nonprescription (over-the-counter) medications in Australia are classified as Pharmacist Only Medicines, Pharmacy Medicines, or unscheduled medications. This report characterizes these medication classifications using key sales and purchasing behavior variables.

Design: Descriptive, nonexperimental, cross-sectional study.

Setting: 15 pharmacies in southeast Queensland, Australia, with data recorded over 36 hours per pharmacy in mid-August, 2006.

Participants: Eligible purchasers (n = 3,470 medication purchases) of all nonprescription medications (including nutritional supplements).

Intervention: Researchers documented details of all observed nonprescription medication sales and interviewed all available patients following the transaction.

Main outcome measures: Incidence of product-related consultation, products purchased (brand, dosage form, classification), and purchasing behavior data (including previous purchase, intended use, intended user, and intention to purchase a particular brand).

Results: More restrictive classification of the purchased medication was significantly ($P < 0.01$) associated with younger purchasers, purchase of a single nonprescription medication, intent to self-use the medication, intent to purchase a particular brand, repeat purchase, brand-switching interventions by pharmacy staff, pharmacy staff influence on first-time purchases, and observed consultation by pharmacists. Legislative compliance issues were identified: Pharmacists consulted in only 54.7% of Pharmacist Only Medicine sales and 13 cases (1.7% of observed sales) occurred in which Pharmacist Only and Pharmacy Medicines had been sourced from publicly accessible areas of the store.

Conclusion: Pharmacist Only Medicines received greater levels of professional involvement during their sale than Pharmacy Medicines and unscheduled medications, despite higher levels of product familiarity among patients. To optimize the benefits of this classification system, emphasis on professional guidelines is recommended.

Keywords: OTC products, nonprescription medications, pharmacist-only class of drugs, pharmacy-access drug products, behavior, surveys.

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Australia operates a tiered risk-management system for nonprescription (over-the-counter [OTC]) medications, in which nonprescription medications are legally classified as unscheduled medicines, Pharmacy Medicines (also referred to as Schedule 2 medications), or Pharmacist Only Medicines (Schedule 3). *Unscheduled* medicines may be sold in nonpharmacy outlets. Sales of *Pharmacy Medicines* are restricted to pharmacies but may be undertaken by a nonpharmacist employee. Interstate differences exist in whether these medications must be stored in the professional services area (behind the counter) away from public access. *Pharmacist Only Medicines* require a pharmacist's involvement in their sale to ascertain the therapeutic need for the medication and the us-

er's identity and to advise on the appropriate use of the medication.¹⁻³ Pharmacist Only Medicines must also be individually labeled as per prescription medications at the time of sale, and in all states of Australia, they must be stored out of public access, although interstate legislative differences exist in recording of sales.² An example of a medication in different classifications is ibuprofen 200 mg with codeine phosphate 12.8 mg, which is a Pharmacy Medicine in packs of 24 tablets and a Pharmacist Only Medicine in larger packs.

Equivalent classifications exist in Canada and New Zealand, and minor differences denote the systems in the United Kingdom and France.³ In the United States, an official third, or behind-the-counter, category of drugs has been debated since the 1980s.^{4,5}

The primary reason for a Pharmacist Only Medicine classification is increased control over medications of higher clinical risk, as opposed to unadvised self-medication by patients if no restrictions were in place.^{1,3,6} The tiered system in Australia facilitates the reclassification of prescription medications to nonprescription status; the first reclassification step usually is pharmacist-only availability.⁷ The legal requirement for a pharmacist to be involved in the provision of these medications confers a degree of control over medications of potential abuse. A key example is pseudoephedrine. Converse to the usual situation of "down scheduling," pseudoephedrine-containing medications were rescheduled from Pharmacy Medicine to Pharmacist Only or Prescription Medicine availability (depending on dosage form and pack size) in early 2006,⁸ in an attempt to curb sales intended for illicit purposes.

Methods for assessing aspects of sales and purchasing behavior for nonprescription medications involve self-documentation by pharmacy staff of their clinical interventions performed during sales³ and use of "pseudo-patrons" (simulated patients) who covertly present to pharmacies with a defined problem to document the level and quality of service received.^{9,10} Surveys monitoring actual sales¹¹⁻¹⁶ also provide insight into patient behavior and decision making.

For a comprehensive evaluation of Australia's medications classification system, however, further insight is required into the characteristics of Pharmacist Only Medicines, Pharmacy Medicines, and unscheduled medications according to patient behavior and suppliers' compliance with legal requirements regarding consultation and medication storage.

Objective

This analysis aims to characterize Pharmacist Only Medicines, Pharmacy Medicines, and unscheduled medicines using key sales and purchasing behavior variables, in order to provide insight for governments considering similar medication classification systems.

Methods

A study of purchasing behavior for nonprescription medications was conducted in southeast Queensland, Australia, from August 5 to 13, 2006. The protocol, approved by the University of Queensland Human Research Ethics Committee, involved

At a Glance

Synopsis: At 15 pharmacies in Australia, researchers observed sales of nonprescription medications (classified as Pharmacist Only Medicines [most restrictive], Pharmacy Medicines, or unscheduled medications [least restrictive]) and interviewed patients to determine the frequency of product-related pharmacist consultation, products purchased, and patient purchasing behavior (e.g., previous purchase, intended use, intended user, intention to purchase particular brand). Significant associations were observed between increased restrictive classification of purchased medications and, for example, younger patient age, intent to self-use the medication, intent to purchase a particular brand, and repeat purchases. Pharmacists consulted in only 54.7% of Pharmacist Only Medicine sales, and 13 instances occurred in which patients obtained Pharmacist Only and Pharmacy Medicines from publicly accessible areas of the store, therefore signaling the need for improved compliance with Australian regulations.

Analysis: *The majority of purchases observed in this study were of an intended brand that had been purchased before for self-use. This trend was particularly evident for Pharmacist Only Medicines, suggesting that these purchases were largely deliberate. The convenience of obtaining these medications without prescription or appointment with a health professional suggests that a certain social value is attached to this classification of medications. Although pharmacist counseling of patients regarding Pharmacist Only Medicines should be relatively straightforward, the need for vigilance by pharmacy staff still exists, as Pharmacist Only Medicines consist of former prescription-only medications and those with abuse or misuse potential. Pharmacy staff appeared to pay greater attention to higher-risk medications during the transactions captured by this study; however, pharmacist involvement in sales of Pharmacist Only Medicines was suboptimal and warrants further investigation.*

15 senior student pharmacists stationed in a pharmacy to unobtrusively observe and document all eligible nonprescription medication sales and, when possible, interview the patient immediately following the sale. Data collection took place for an average of 36 hours per pharmacy over 5 business days, as per three previous successful applications of this method,¹¹⁻¹⁷ and totaled 540 hours. The use of 15 pharmacies was determined by established estimates of sales rates (40 recordable sales per day for an average pharmacy), generating a minimum sample of 3,000 sales to allow hypothesis testing regarding key purchasing behavior and demographic variables (e.g., proportions of men and women patients, purchases in major product categories, purchases for self-use) with a significance level of $P < 0.05$ and a power of more than 0.8.

The pharmacies represented a range of sizes (range 1–3 pharmacists, mean 1.5, and 1–15 pharmacy assistants, mean 4.7), inner-city ($n = 2$) and suburban ($n = 6$) Brisbane sites, and regional sites ($n = 6$) within a 200-km radius of Brisbane. The sample consisted of discount pharmacies ($n = 4$), other banner groups ($n = 4$), and independently owned pharmacies ($n = 6$), including one medical center pharmacy and one adjacent to a medical specialist. Three were “day and night” (extended hours) pharmacies, for which the standard data collection period was applied. The managers of all selected pharmacies provided consent for their pharmacy’s participation in the study.

Eligible purchases were all Pharmacist Only Medicines, Pharmacy Medicines, and unscheduled medicines, including nutritional supplements but excluding sunscreens. Inclusion criteria for purchasers of these medications were age 16 years or older and able to speak English. Verbal consent from patients was considered sufficient to participate, in accordance with the institutional review board approval of the protocol.

The researchers were trained in administration of the survey. The questionnaire (Appendix 1 in the electronic version of this article, available online at www.japha.org), adapted from the previous applications of this method, was designed for simplicity and brevity and formatted as a pamphlet to give the impression of privacy when folded. Questions validated in previous applications included the product purchased, its intended use, the intended user, influences on first-time purchases, intention to purchase a particular brand, mode of purchase, in-store substitutions, characteristics of the purchaser, and observed product-related consultation with a staff member (which included a “not observed” category). New questions documented the legal classification of the medication, patients’ privacy concerns and perception of whether verbal and/or written advice had been provided, and location of the medication in the pharmacy.

Data were entered by each researcher and then merged, with a comprehensive screening and data correction procedure. Errors were estimated at one datum per 10 questionnaires. Analysis was undertaken using SPSS version 13.0 (SPSS, Chicago).

The analysis in this paper reports on purchasing and sales behavior across Pharmacist Only Medicines, Pharmacy Medicines, and unscheduled medicines, in order to provide insight

into aspects of this medication classification system not investigated previously. Differences in purchasing and sales behavior among these three groups were hypothesized to have occurred by chance. Univariate descriptive analysis is reported here to allow interpretation of individual variables associated with medication classification rather than their relative influence on a particular behavior.

Results

Description of the sample

A total of 3,470 medication purchases were recorded in the survey by interview and/or observation, consisting of 991 unscheduled medicines (28.6%), 1,712 Pharmacy Medicines (49.3%), and 764 Pharmacist Only Medicines (22.0%), excluding 3 missing classification data. Data relating to the category, intended use, and schedule of the purchased medication were recorded for 2,847 of the purchases. The most prevalent categories of medications in the database were analgesics (including antipyretics, anti-inflammatories, and musculoskeletal pain medications; $n = 1,158$), respiratory medications ($n = 1,124$), and nutritional supplements ($n = 362$) (Table 1). Purchasing tended toward nutritional supplements and dermatological, gastrointestinal, eye/ear, and oral hygiene products among unscheduled medicines, respiratory and circulatory medications and analgesics among Pharmacy Medicines, and respiratory and sexual health medications among Pharmacist Only Medicines.

The most common intended use of the purchases was relief of cough, cold, and sinus symptoms (24.8% of all purchases). Trends toward cough, cold, sinus, and asthma condi-

Table 1. Category of medication by schedule: Assessment of Australian medication classifications using key sales and purchasing behavior variables

Category	Pharmacy		Pharmacist	Total
	Unscheduled (S2)	Medicine (S2)	Only (S3)	
	No. (%)	No. (%)	No. (%)	No. (%)
Respiratory	130 (11.6)	638 (56.8)	356 (31.7)	1,124 (100)
Analgesics ^a	115 (9.9)	745 (64.3)	298 (25.7)	1,158 (100)
Dermatological	90 (43.9)	90 (43.9)	25 (12.2)	205 (100)
Gastrointestinal	129 (62.6)	74 (35.9)	3 (1.5)	206 (100)
Nutritional	322 (89.0)	40 (11.0)	0	362 (100)
Circulatory	11 (27.5)	28 (70.0)	1 (2.5)	40 (100)
Eye/ear	40 (44.0)	49 (53.8)	2 (2.2)	91 (100)
Oral hygiene	48 (60.8)	20 (25.3)	11 (13.9)	79 (100)
Antiparasitic	17 (44.7)	21 (55.3)	0	38 (100)
Sexual health	27 (35.1)	4 (5.2)	46 (59.7)	77 (100)
Miscellaneous ^b	62 (72.1)	3 (3.5)	21 (24.4)	86 (100)
Total	991 (28.6)	1,712 (49.4)	763 (22.0)	3,466 (100)

Abbreviations used: S2, Schedule 2; S3, Schedule 3.

$\chi^2 = 1,442.9$, $df = 20$, $P < 0.001$.

^aIncludes antipyretics, anti-inflammatories, and musculoskeletal medications.

^bMedications for smoking cessation, weight loss, stimulation, and sedation.

tions were noted among the Pharmacist Only Medicines and toward hay fever/allergy, fever, and tinea among the Pharmacy Medicines. Intended uses among the unscheduled medicines tended toward various types of supplementation, treatment of sore throats, cold sores, indigestion, constipation, minor skin breaches, minor eye conditions, topical treatment of muscle sprains/strains, and smoking cessation.

No significant relationship existed between patient gender or self-identified number of regular pharmacies and the schedule of the purchased medication ($P > 0.05$). However, the patient's age (in 5-year brackets) was significantly related to the classification of the medication purchased ($\chi^2 = 62.1$, $df = 24$, $P < 0.001$), with a trend for Pharmacist Only Medicines to be purchased more than expected by patients aged 21 to 30 years and unscheduled medicines purchased more than expected by patients older than 50 years.

Purchasing behavior

Patients purchased an average of 1.2 nonprescription medications per transaction. This was significantly related to medication classification ($\chi^2 = 14.2$, $df = 4$, $P < 0.001$); the purchase of three or more medications in a single transaction was more likely to involve unscheduled medicines than Pharmacy Medicines or Pharmacist Only Medicines.

A significant relationship was also identified between classification of the medication and the intended user ($\chi^2 = 43.4$, $df = 4$, $P < 0.001$), with a tendency for Pharmacist Only Medicines to be intended for self-use and less likely to be for shared use compared with the other categories, particularly unscheduled medicines (Table 2).

Although all three classifications of medications were more likely than not to have been bought before (68.2% overall), Pharmacist Only Medicines were significantly more likely to have been repeat purchases (Table 3) and to have been bought with a particular brand in mind (Table 4).

The most prevalent primary influence on first-time nonprescription medication purchases was "pharmacy staff" across all classifications of medications (totaling 459 of 807 influences indicated), followed by "doctor" ($n = 160$) and "family/

Table 3. Previous purchase by medication schedule: Assessment of Australian medication classifications using key sales and purchasing behavior variables

Previous purchase	Pharmacist			Total
	Unscheduled (S2)	Pharmacy Medicine (S2)	Only (S3) Medicine	
	No. (%)	No. (%)	No. (%)	No. (%)
No	285 (37.1)	362 (30.0)	152 (24.6)	799 (30.4)
Yes	483 (62.9)	845 (70.0)	466 (75.4)	1,794 (68.2)
Total ^a	768 (100)	1,207 (100)	618 (100)	2,631 (100)

Abbreviations used: S2, Schedule 2; S3, Schedule 3.

$\chi^2 = 25.9$, $df = 2$, $P < 0.001$.

^aExcludes "can't remember" responses.

Table 4. Intended brand by medication schedule: Assessment of Australian medication classifications using key sales and purchasing behavior variables

Intended brand	Pharmacist			Total
	Unscheduled (S2)	Pharmacy Medicine (S2)	Only (S3) Medicine	
	No. (%)	No. (%)	No. (%)	No. (%)
No	289 (33.4)	366 (27.7)	165 (26.0)	820 (29.1)
Yes	577 (66.6)	954 (72.3)	470 (74.0)	2,001 (70.9)
Total	866 (100)	1,320 (100)	635 (100)	2,821 (100)

Abbreviations used: S2, Schedule 2; S3, Schedule 3.

$\chi^2 = 11.9$, $df = 2$, $P < 0.003$.

friends" ($n = 90$). Advertising sources ($n = 50$) and miscellaneous factors ($n = 48$) were minor influences. When analyzed by classification of the purchased medication, the influence of pharmacy staff was more evident for Pharmacy Medicines and Pharmacist Only Medicines (66.4% and 64.7% of influences on first-time purchases, respectively) compared with 41.2% of influences on unscheduled medicine purchases.

A significant relationship existed between medication classification and incidence of in-store brand switching by pharmacy staff ($\chi^2 = 10.1$, $df = 2$, $P < 0.01$), in which patients had entered the pharmacy intending to purchase a particular brand but were offered and sold another; the intervention rate during the purchase of unscheduled medicines was 5.6% compared with 10.2% for Pharmacy Medicines and 9.6% for Pharmacist Only Medicines. This does not indicate, however, whether the originally intended brand belonged to the same classification as the subsequently purchased medication.

A total of 19 patients reported privacy concerns during their medication purchase (0.8% of purchases). Details were provided for 18 cases, 8 of which were related to requirements to issue personal details. Seven of the eight cases were purchases of Pharmacist Only Medicines, which require the patient to provide a name and address for dispensing purposes.

Compliance with legislative requirements

A highly significant correlation was identified between observed consultation with a staff member during the purchase and increasing level of classification ($\chi^2 = 105.1$, $df = 2$, $P <$

Table 2. Intended user by medication schedule: Assessment of Australian medication classifications using key sales and purchasing behavior variables

Intended user	Pharmacist			Total
	Unscheduled (S2)	Pharmacy Medicine (S2)	Only (S3) Medicine	
	No. (%)	No. (%)	No. (%)	No. (%)
Self	530 (64.8)	760 (57.5)	462 (71.6)	1,752 (62.9)
Other person	223 (27.3)	453 (34.3)	158 (24.5)	834 (30.0)
Sharing	65 (7.9)	108 (8.2)	25 (3.9)	198 (7.1)
Total	818 (100)	1,321 (100)	645 (100)	2,784 (100)

Abbreviations used: S2, Schedule 2; S3, Schedule 3.

$\chi^2 = 43.4$, $df = 4$, $P < 0.001$.

Table 5. Observed consultation by medication schedule: Assessment of Australian medication classifications using key sales and purchasing behavior variables

Observed consultation	Pharmacy Medicine		Pharmacist Only (S3) Medicine	Total
	Unscheduled (S2) No. (%)	No. (%)	No. (%)	
Consultation	674 (77.6)	1,440 (90.1)	682 (92.9)	2,796 (87.3)
Pharmacist alone	112 (12.9)	228 (14.3)	131 (17.8)	471 (14.7)
Assistant/nurse/naturopath alone	522 (60.1)	1,107 (69.2)	280 (38.1)	1,909 (59.6)
Both pharmacist and assistant	40 (4.6)	105 (6.6)	271 (36.9)	416 (13.0)
No consultation	194 (22.4)	159 (9.9)	52 (7.1)	405 (12.7)
Total	868 (100)	1,599 (100)	734 (100)	3,201 (100)

Abbreviations used: S2, Schedule 2; S3, Schedule 3.
 $\chi^2 = 105.1$, $df = 2$, $P < 0.001$.

0.001), specifically greater incidence of involvement by pharmacists. The overall observed incidence of pharmacist involvement, both alone and via a pharmacy assistant, was 54.7% of Pharmacist Only Medicine sales compared with 20.9% of Pharmacy Medicine sales and 17.5% of unscheduled medicine sales (Table 5).

The 52 Pharmacist Only Medicines (Table 5) observed to have been sold without product-related consultation included 28 respiratory medications (pseudoephedrine-containing “cold and flu” tablets, antihistamines, and asthma inhalers), 18 analgesics containing codeine or doxylamine succinate, 3 vaginal thrush treatments, and 3 miscellaneous medications. The 280 Pharmacist Only Medicines supplied with consultation, but not by pharmacist, included 153 respiratory medications, 105 analgesics, 7 sexual health products (for vaginal thrush and emergency contraception), and 15 miscellaneous medications.

One case (of 763 responses) of a Pharmacist Only Medicine (diclofenac [anti-inflammatory analgesic] tablets) being sourced from the publicly accessible area of a pharmacy was reported. Further, 12 Pharmacy Medicines were reportedly obtained from front-shop shelves ($n = 9$) or “specials bins” ($n = 3$), with no trends toward a particular medication or category.

Discussion

Discussion of the method

This analysis reports on sales and purchasing behavior for nonprescription medications, according to the legal classification of the medication in a three-tiered system consisting of Pharmacist Only Medicines, Pharmacy Medicines, and unscheduled medicines.

The mixed-method observational/interview protocol offers several advantages over simulated patient methods: labor efficiency in generating a substantial database of medication

sales, from which the incidence of certain behaviors can be determined: the monitoring of actual sales rather than a limited number of simulated cases and collection of relevant data from the purchaser’s perspective. Compared with self-recording of consultations or interventions by pharmacy staff, this method avoids recording bias by virtue of an independent researcher hosted in the pharmacy, and minimal research demands are placed on the pharmacy staff. Further, the primary analysis indicated no evidence of a Hawthorne effect from the presence of the researcher, in that staff consultation rates were not higher at the start of the study or start of each day, as might be expected before the pharmacy staff become accustomed to the researcher’s presence.¹⁸ The high incidence of observed consultation, even for unscheduled medicines (77.6% of sales; Table 5) is likely a result of the Quality Care Pharmacy Program,¹⁹ which is widely adopted in Australian pharmacy practice and encourages quality business services in pharmacies.

Discussion of the findings

The purpose of restricting medication availability is to facilitate greater clinical control over the provision of higher-risk medications available without prescription.^{1,3,6} No previous analysis has focused on sales and purchasing behavior in relation to classification of medications; therefore, comparison with previous studies is limited. In this study, numerous behavioral variables differentiated the classifications of medications, rejecting the hypothesis that differences were due to chance.

As expected, the Pharmacist Only Medicines monitored in this survey tended to include respiratory medications, largely pseudoephedrine-containing cough and cold medications (recently reclassified because of their abuse potential⁸) and bronchodilators (asthma inhalers), as well as sexual health medications, namely topical and oral treatments for vaginal thrush and emergency hormonal contraceptives. It should be noted that the survey was conducted in mid-winter, and seasonal trends involving sales of respiratory medications are likely. A number of analgesics are also available as Pharmacist Only Medicines, but their numbers were dominated in this survey by sales of analgesics classified as Pharmacy Medicines or unscheduled medicines.

Younger patients (21–30 years) tended to purchase Pharmacist Only Medicines compared with Pharmacy Medicines and unscheduled medicines. One likely explanation is that older patients may have received medications for more serious conditions via prescription, particularly if they were entitled to subsidies via entitlement or pension cards.

Increasing medication classification was associated with numerous behavioral trends:

- Greater tendency for the purchase to have involved only one nonprescription medication
- Greater tendency for the medication to have been bought for self-use than for another person or for sharing
- Greater tendency to have been a repeat purchase
- For first-time purchases, greater tendency for influence by pharmacy staff, as opposed to recommendations by doctors, family, friends, or advertising

- Greater tendency for the patient to have intended to buy a particular brand
- For intended-brand purchases, greater tendency for in-store brand switching by pharmacy staff (albeit marginally higher for Pharmacy Medicines than Pharmacist Only Medicines)
- Higher incidence of a pharmacist's consultation during the sale

Several conclusions can be drawn from these findings. Although overall, the majority of purchases were of an intended brand that had been bought before and for self-use, this trend was particularly evident for Pharmacist Only Medicines, suggesting that these purchases were largely deliberate. The convenience of these medications being available without prescription or appointment with a health professional therefore suggests a certain social value of this classification of medications.

Second, these behavioral trends also suggest that OTC product consultations with patients requesting or requiring Pharmacist Only Medicines should be relatively straightforward; cases involving information transfer to/from an absent third person were less likely to present, the patient was highly likely to have previous experience with the medication, and the consultation was likely to involve a single medication. However, this does not detract from the need for vigilance by pharmacy staff, and it should be remembered that Pharmacist Only Medicines consist of former prescription-only medications and those with abuse or misuse potential. Protocols are suggested to guide OTC product consultations for staff to ascertain the therapeutic need for the medication and appropriate therapeutic response (in the case of repeat purchases) and to provide individualized advice. Pharmacist Only Medicines are recommended by the pharmacist for an individual, and their safe and effective use in the community is paramount.

Third, although documenting the content of the OTC product consultations was beyond the scope of this method, the data provide an insight into the potential clinical value of a Pharmacist Only Medicine classification, which is consistent with previous research.^{1,3} Significantly higher rates of pharmacist consultation and in-store intervention (resulting in change of intended-brand purchases) were observed for Pharmacist Only Medicines compared with unscheduled medicines. Therefore, it appears that pharmacy staff prioritized their attention to higher-risk medications during the transactions captured by this study.

However, one of the key findings of this study—the suboptimal incidence of pharmacist involvement in sales of Pharmacist Only Medicines—warrants further investigation. In the provision of these medications, pharmacists are legally required to ascertain the therapeutic need for the medication and the identity of the intended user and to advise on safe and effective use of the medication. In total, 54.7% of 734 Pharmacist Only Medicine sales were observed to involve a pharmacist's consultation, despite the presence of the researcher and the pharmacy manager's approval of the questionnaire, which might be expected to encourage higher standards of professionalism.

Reasons for this level of noncompliance likely were multifactorial and related to workflow practices and workload in pharmacies. Other compliance issues, which could be addressed using professional guidelines, involved patients' concerns about privacy during the purchase and location of Pharmacist Only Medicines and Pharmacy Medicines from publicly accessible areas of the store.

Limitations

Although the 15 pharmacies participating in this study cannot be claimed as representative of all Australian pharmacies, the key purchasing behavior variables from the primary analysis indicated consistency with previous applications in other geographic regions and different time periods.¹⁸

The limitations of this method, under the current protocol, are its inability to document the quality or content of the consultations because ethical approval did not extend to overhearing and recording the staff-patient conversations. As such, this analysis was limited to incidence of certain staff behaviors and, therefore, legal compliance. Other quality assessments can then use this incidence as a reference point. Other factors, such as store image, may also influence patient behavior.²⁰ Further, in-depth investigation of specific cases was not possible, as the purpose of the survey was to generate a comprehensive database that included all observed eligible medication purchases rather than to focus on purchases of interest. Tailoring the questionnaire to record further details, such as whether the patient was known to the pharmacy (which may be related to the provision of consultation) and whether consultation was expected by the patient, and to survey the pharmacy staff about their decision-making processes is possible.

Conclusion

Pharmacist Only Medicines received greater levels of professional involvement during their sale than Pharmacy Medicines and unscheduled medicines, despite higher levels of product familiarity among patients. To optimize the benefits of this classification system, emphasis on compliance with legislation and professional guidelines is recommended.

For countries considering the introduction of an equivalent medication classification system or reviewing their current medication classifications, this study recommends the following:

- Further research specifically monitoring legal compliance by pharmacy staff. Although the economic value of Pharmacist Only Medicines and Pharmacy Medicines classifications has been estimated,^{1,3} the true value is dependent on acceptance of professional responsibilities and, hence, compliance with legal requirements specified for those classifications.
- Implementation of professional initiatives for pharmacy staff with a focus on workflow management to facilitate pharmacists' availability during sale of Pharmacist Only Medicines and on consultation skills for staff to undertake consultations privately and competently, even in the case of repeat purchases for which previous use was considered

satisfactory.

- Development of clinical protocols to guide the sale of recently reclassified medications.
- Development of a specialist “over-the-counter” role for pharmacists. This would facilitate a pharmacist’s involvement in, and add clinical value to, the provision of higher-risk nonprescription medications.

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**THE UNIVERSITY
OF QUEENSLAND**
AUSTRALIA

Customer Survey

Purchases of Medicines in Pharmacies

Please help us by giving
brief information about
your medicine purchase.

This information will be
kept totally confidential.
Your name and address
are not required.

A research project by:
Quality Use of Medicines Group
School of Pharmacy
The University of Queensland

IS THIS CUSTOMER ELIGIBLE TO PARTICIPATE?

- At least 16 years of age
- Conversant in English
- Purchased a medicine (product containing an active ingredient)

FOR RESEARCHER'S USE

Date: _____ / _____ / 06

Time: _____ : _____

- Interacted with:
- Pharmacist (incl Pre-Reg)
 - Assistant
 - Assistant then pharmacist
 - Pharmacist then assistant
 - Other: _____
 - Neither
 - Not observed

- Declined: _____
- Missed

Pharmacy Stamp

*Thank you for
your assistance*

Would you show me the product you have just purchased? (Write product name)

Sighted: Price: \$

Schedule: NS S2 S3

What condition(s) is this product going to be used for?

Who did you buy this product for?

Yourself Someone else Sharing

How old is this person?

Have you bought this product before?

No Can't remember Yes

What influenced you to choose this product? (please **rank** the relevant influences: 1, 2, 3 etc)

- Family/friends
- Doctor
- Pharmacy staff
- In-store advertising
- Other advertising (eg TV, magazine)
- Other: _____

Did you enter the pharmacy with a specific brand in mind?

No Yes

Did you ...

Choose the product yourself off the shelf

Describe the problem and let staff choose

Ask for a product by **drug** name (eg aspirin)

Ask for a certain **group** of products (eg painkillers)

Did you ...

Ask for the brand you wanted

Choose a product yourself off the shelf

Did you end up buying the product you originally wanted?

No Yes

Why was the product changed? (tick as many as applicable)

Cheaper one available

Suggestion from pharmacist

Suggestion from assistant

Unavailable

Other: _____

How do you feel about this change?

Very happy Happy OK Unhappy Very unhappy Don't know

Did you have any concerns about privacy during this purchase?

No Yes Not sure/NA

What information or advice did you receive with this purchase? (tick as many as applicable)

None Written Verbal

Picked up Given by staff

Where was the product kept?

Behind the counter Front shop shelf

Specials bin Dispensary

FOR STATISTICAL PURPOSES ...

Your sex: Male Female

Your year of birth:

Who do you usually buy medicines for? (tick as many as applicable)

Yourself Partner/family Friend/s

How many pharmacies do you regularly shop at?

One Two

Three Four or more

Thank you for your assistance