

# Pharmacy RESEARCH REVIEW™



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Issue 1 – 2020

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### Abbreviations used in this issue

**DHB** = District Health Board

**NSAID** = non-steroidal anti-inflammatory drug

**OTC** = over-the-counter

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## Welcome to the latest issue of Pharmacy Research Review.

In this issue, an Australian study looks at the usefulness of Mental Health First Aid training for community pharmacy staff in rural and remote areas, a local report finds inequalities in the risk of serious adverse outcomes associated with NSAIDs in different ethnic groups, and another NZ article explores the experiences of kaumātua regarding medicines and medicine-related services. Two Australian studies analyse the impact of the up-scheduling of codeine from OTC to prescription only medicine in 2018 (interesting given the up-scheduling of codeine planned for here), and a case-note review finds that prescribing and monitoring errors are common in English general practice.

We hope you find these and the other selected studies interesting, and welcome your feedback.

Kind regards,

**Dr Chloë Campbell**

[chloecampbell@researchreview.co.nz](mailto:chloecampbell@researchreview.co.nz)

## Evaluation of mental health training for community pharmacy staff members and consumers

**Authors:** Shams S et al.

**Summary:** This Australian study evaluated the usefulness of Mental Health First Aid (MHFA) training in community pharmacy staff members and consumers in rural and remote areas. 32 pharmacy staff and 14 members of the local farming community attended collaborative MHFA training in 4 Queensland towns, completed pre- and post-training questionnaires, and provided email feedback after practise application of skills. Understanding the need to ask an individual directly about suicide improved markedly as a result of the training in both consumers and pharmacy staff members. Community members' perceptions about how pharmacy staff can help with mental health issues also improved significantly, and pharmacy staff reported more confidence when approaching consumers with regards to mental health issues. Qualitative feedback 8–12 weeks after the training was positive for both consumers and pharmacy staff.

**Comment:** MHFA training is a training programme for members of the public and workplaces to improve knowledge and confidence to help someone with a mental illness and reduce stigmatising attitudes that can prevent people from seeking help early. It also helps to improve knowledge of the types of services available. This study took a unique approach of training community members and pharmacy staff together which provided added advantages in terms of building understanding and relationships.

**Reference:** *J Pharm Pract Res* 2020;50(2):160-5

[Abstract](#)

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## Ethnic inequality in non-steroidal anti-inflammatory drug-associated harm in New Zealand

**Authors:** Tomlin A et al.

**Summary:** This NZ population-based cohort study assessed ethnic disparities in risk of hospital admission for upper gastrointestinal (GI) bleeding, heart failure, and acute kidney failure associated with NSAID use. National pharmaceutical dispensing and hospital admissions data were reviewed for the period 2007 to 2015. 3,023,067 patients were dispensed NSAIDs in primary care between 2008 and 2015. Māori, Pacific and Asian patients who received NSAIDs were significantly younger than European patients who received NSAIDs. After adjusting for other risk factors, Māori and Pacific patients were more likely to be hospitalised for upper GI bleeding (rate ratios [RRs], 2.54 and 3.17, respectively) and heart failure (RRs, 2.48 and 1.97, respectively) than Europeans. Risk of acute kidney failure was also higher in Māori patients (RR, 1.46) compared with Europeans. Higher risk for upper GI bleeding and heart failure in Māori and Pacific patients was most pronounced in males and patients aged <60 years.

**Comment:** The findings of this study provide a strong reminder about the risks of prescribing NSAIDs and a message to be especially mindful of increased risk in some groups. The authors indicate further research needed to fully understand the reasons for the observed disparities but this doesn't prevent prescribers, pharmacists and other health professionals from taking their own actions to ensure risks are communicated effectively and people needing these medicines are supported to take them as safely as possible.

**Reference:** *Pharmacoepidemiol Drug Saf* 2020; published online May 31  
[Abstract](#)

## “It is through shared conversation, that I understand” – Māori older adults’ experiences of medicines and related services in Aotearoa New Zealand

**Authors:** Hikaka J et al.

**Summary:** This study explored the experiences of kaumātua regarding medicines and medicine-related services in NZ. 10 kaumātua from Auckland participated in semi-structured interviews. Reflexive thematic analysis of the data showed that kaumātua have the ability, desire and right to retain power and control over their medicines in a way that is relevant to their experiences of medicines, and they value support from their multiple healthcare providers.

**Comment:** This qualitative, kaupapa Māori theory-informed research provides rich information about the lived experience of the older Māori adult participants which may help health practitioners to reflect on what actions might be needed to help prevent disparities such as those illustrated by the data in the previous paper. The authors highlighted that their older Māori adult participants were prepared to take control of their medicines-related decisions, but often need health professionals to provide the information they need to make those decisions, and to support them through the process within a therapeutic partnership.

**Reference:** *NZ Med J* 2020;133(1516):33-46  
[Abstract](#)

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## Stocks of paracetamol products stored in urban New Zealand households

**Authors:** Kumpula E-K et al.

**Summary:** This cross-sectional study investigated levels of stored paracetamol in urban NZ households to determine how much might be available for impulsive overdoses. 201 households in major urban areas of Auckland and Dunedin were surveyed, and paracetamol-containing products, quantities, and sources were recorded. There was a median of 3 usual residents per household. The 201 households had a combined total of 8757.9g of paracetamol, of which 94.2% was solid formulation and 5.8% was liquid. The majority of this stock (78.2%) had been prescribed. 27 households (13.4%) had no paracetamol, while 86.6% had at least one paracetamol-containing product. Based on the study sample, 19% of NZ households have 10–30g of paracetamol, while 53% have  $\geq 30$ g.

**Comment:** This study presents the numbers from a door-to-door survey in relation to paracetamol products stored in NZ households. The results are interesting and a useful reminder to all health professionals to be mindful of preventing unnecessary accumulation of unused medicines at home. The authors point to specific DUMP campaigns as a possible solution, but in lieu of this, reminders to the public that they can return unused medicines to pharmacies for safe disposal may be beneficial. Many people do not realise this is possible and preferable for the environment than other disposal methods.

**Reference:** *PLoS One 2020*; published online June 1

[Abstract](#)

## Hawke's Bay pharmacists' activities during a campylobacter contamination of public water supply in Havelock North during 2016

**Authors:** Vicary D et al.

**Summary:** All pharmacists and hospital pharmacy management staff working in Hawke's Bay in 2017 were eligible to complete an online questionnaire after *Campylobacter jejuni* contamination of the public water supply. 13 pharmacists and 2 ancillary staff responded to the survey. Analysis of responses revealed that the pharmacy profession played an important role in public wellbeing, pharmaceutical distribution and medicine therapy management during the outbreak. It is likely that their actions reduced demand on other primary care services and prevented hospitalisations.

**Comment:** Reading this paper gives you the sense that this experience may have helped to prepare Hawke's Bay pharmacists for the COVID-19 response. The described connection between the chief pharmacist in the DHB and the Emergency Management team seems like a model worth considering in other DHBs. The authors also alluded to improving links between pharmacy and the public health unit, including a potential role in surveillance.

**Reference:** *J Prim Health Care 2020*; published online Jun 4

[Abstract](#)

## Exploring Australian pharmacists' perceptions and attitudes toward codeine up-scheduling from over-the-counter to prescription only

**Authors:** McKenzie M et al.

**Summary:** This Australian study evaluated pharmacists' attitudes towards the recent up-scheduling of codeine from OTC to prescription only medicine. 191 pharmacists completed a quantitative survey and 10 participated in an in-depth interview. Most respondents supported the decision to up-schedule OTC low-dose codeine-containing analgesics to some degree. However, they were concerned about the impact on the pharmacy business, patient access to pain relief, and the diminishment of their professional role.

**Comment:** I thought this study would be of interest to readers given the upcoming up-scheduling of codeine in NZ (anticipated later this year). One of the key themes from the in-depth interviews in this study was preparation for up-scheduling i.e. the phase we are in currently. Pharmacists in this study believed that preparing patients early reduced the amount of hostility received when the up-schedule was implemented. Some found it useful to learn about referral pathways into local pain clinics. A few noted an increase in the number of requests for codeine-containing products just prior to the up-schedule.

**Reference:** *Pharm Pract 2020*;18(2):1904

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### Independent commentary by Dr Chloë Campbell



Chloë has worked in both hospital and community pharmacy in New Zealand and the United Kingdom since graduating from the University of Otago School of Pharmacy in 1995. She has recently completed a PhD investigating the medicines information needs of general practitioners and the information support roles of pharmacists in New Zealand. Chloë was co-convenor of the Medicines Information and Clinical Pharmacy Special Interest Group of the New Zealand Hospital Pharmacists Association for 7 years. She was awarded a Fellowship of the NZHPA in 2017. She is currently working as Professional Practice Pharmacist at the Pharmaceutical Society of New Zealand and is a member of the Editorial Advisory Board of the New Zealand Formulary. Chloë has a strong interest in the interface between research and practice.



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## Changes in sales of analgesics to pharmacies after codeine was rescheduled as a prescription only medicine

**Authors:** Schaffer AL et al.

**Summary:** This study investigated changes in sales to pharmacies of OTC and prescription analgesics, cold and flu products, and cough suppressants after the rescheduling of codeine from OTC to a prescription only medicine in February 2018. 248,127 tablets of OTC codeine per 10,000 population were sold to pharmacies in 2016; a small increase in monthly prescription codeine sales was seen in the 14 months after rescheduling (2247 tablets/capsules per 10,000 population). Monthly OTC analgesic sales increased by 258 packs per 10,000 population and 37,856 tablet/capsules per 10,000 population. Monthly sales of paracetamol, ibuprofen, paracetamol/ibuprofen, and other paracetamol combinations all increased, but not those of prescription analgesic products not containing codeine. Increases in OTC cold/flu products containing dextromethorphan were small; sales of OTC cough suppressants containing dextromethorphan, pholcodine, or dihydrocodeine did not change.

**Comment:** Another study looking at the impact on the up-scheduling of codeine in Australia which took place in 2018. The authors of this study highlight that while the products which had increased pharmacy sales after the up-scheduling (i.e. paracetamol and ibuprofen) carry no risk of dependence, their inappropriate use can be associated with harms that warrant monitoring.

**Reference:** *Med J Aust* 2020;212(7):321-7

[Abstract](#)

## The prevalence and nature of prescribing and monitoring errors in English general practice

**Authors:** Avery AJ et al.

**Summary:** To evaluate prescribing and monitoring errors, 15 general practices across England participated in a case-note review of medications prescribed in the previous year. A total of 6048 unique prescription items prescribed to 1777 patients over the previous 12 months were examined. Prescribing and/or monitoring errors were detected for 4.9% of all prescription items. Most of the errors were of mild to moderate severity, with only 0.2% being a severe error. After adjusting for covariates, patient-related factors associated with an increased risk of prescribing and/or monitoring errors were age <15 or >64 years, and higher numbers of items prescribed.

**Comment:** This English study is interesting in that it explored both prescribing and monitoring errors. The authors highlighted that there is considerable scope for general practice computer systems to help reduce many of the prescribing errors identified in their study. However, they also emphasised the need to avoid 'over-alerting' prescribers and to minimise the risk of accidentally overriding alerts for potentially fatal errors. Further research was suggested to examine the extent to which the prevalence of prescribing and monitoring errors can be decreased by more involvement of clinical pharmacists promoting high-quality, safe prescribing in general practice.

**Reference:** *Br J Gen Pract* 2013;63(613):e543-53

[Abstract](#)

## Enhancing pharmaceutical packaging through a technology ecosystem to facilitate the reuse of medicines and reduce medicinal waste

**Authors:** Hui TKL et al.

**Summary:** This review examined the use of smart technologies to facilitate the reuse of medicines and reduce medicinal waste. Using active sensing technologies applied to pharmaceutical packaging, storage conditions could be digitally sensed and analysed through embedded microprocessors or via cloud computing services. A decision for returning and re-dispensing may be displayed directly on the packaging, or indirectly on a smartphone or other smart device. A judgment on re-dispensing returned medicines could be made at the pharmacy level using dedicated analysers. Active technologies together with network connectivity will empower smart pharmaceutical packaging for the reuse of returned, unused, and unexpired medicines.

**Comment:** The idea of reusing dispensed medicines is appealing to the general public given the potential to help reduce medicinal waste and protect the environment. These authors reviewed the technologies available and though legal and other frameworks are not in place to support this yet, it is an interesting read to learn more about the possibilities in this area.

**Reference:** *Pharmacy* 2020;8(2):e58

[Abstract](#)

## Reducing expectations for antibiotics in primary care: A randomised experiment to test the response to fear-based messages about antimicrobial resistance

**Authors:** Roope LSJ et al.

**Summary:** This UK study examined the impact of fear-based messages about antimicrobial resistance on patient consultations/antibiotic requests for influenza-like illnesses. 4000 adults were randomised to receive 3 different messages about antibiotic use and antimicrobial resistance, designed to induce varying degrees of fear about antimicrobial resistance. Two of the messages (one 'mild-fear' and one 'strong-fear') also contained information regarding influenza-like symptoms being easily self-managed without antibiotics. The 'fear-only' message was 'very/somewhat new' to 28.5% of respondents, the 'mild-fear-plus-empowerment' message was 'very/somewhat new' to 22.4% of respondents, and the 'strong-fear-plus-empowerment' message was 'very/somewhat new' to 25.9% of respondents. Of those for whom the information was 'very/somewhat new', only those given the 'strong-fear-plus-empowerment' message said they would be less likely to request antibiotics if they visited a doctor for an influenza-like illness. Across all 3 messages, those who thought the information was not 'very/somewhat new' said they would be less likely to request antibiotics for influenza-like illness.

**Comment:** These results are important to keep in mind when communicating to the public about antimicrobial resistance. They suggest that fear-based messages about antibiotics and antimicrobial resistance are more likely to be effective in reducing consultations and antibiotic requests if they include 'empowering' information that viral infections can be self-managed such as with paracetamol, rest, and fluids. This seemed to be particularly true for people with low prior awareness about the issue of antimicrobial resistance.

**Reference:** *BMC Med* 2020;18(1):110

[Abstract](#)



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