



Original Research

## Deprescribing in frail older people – Do doctors and pharmacists agree?

Amy T. Page, M.Clin.Pharm., G.C.H.P.E., B.Pharm.,  
B.H.Sc. (Comp.Med.)<sup>a,\*</sup>, Christopher D. Etherton-Ber, M.B.B.S.,  
G.C.H.P.E., Ph.D., F.R.A.C.P.<sup>a,b</sup>, Rhonda M. Clifford, B.Pharm.,  
Grad.Dip.Hosp.Pharm., Ph.D.<sup>a</sup>, Sally Burrows, B.M.A.T.H.,  
Grad.Dip.Med.Stat.<sup>a</sup>, Marnee Eames, B.Pharm.<sup>a</sup>,  
Kathleen Potter, B.Med.Sc., M.B., B.S., Ph.D.<sup>a</sup>

<sup>a</sup>School of Medicine and Pharmacology, University of Western Australia, Perth, Western Australia, Australia

<sup>b</sup>Royal Perth Hospital, Perth, Western Australia, Australia

### Abstract

**Background:** Deprescribing may reduce harmful polypharmacy in older people and is an accepted clinical practice; however, data to guide deprescribing decisions are scarce.

**Objectives:** This study aimed to determine if physicians and pharmacists agree on medicines to deprescribe.

**Methods:** Two physicians and two pharmacists independently applied a deprescribing decision-making aid to clinical and medicines data collected during a deprescribing trial of frail older people in four residential aged care facilities. The consensus list of medicines selected for deprescribing by the physicians was compared with the consensus list selected by the pharmacists. Lin's concordance correlation coefficient (CCC) was used to assess agreement in the number of medicines, and agreement on each specific medicine was assessed using the level 2 intra-cluster correlation (ICC) for medicine within patient.

**Results:** Physicians and pharmacists had substantial agreement on the number of medicines to deprescribe (CCC = 0.70; 95% CI: 0.58, 0.82), with a difference of  $1.8 \pm 2.0$  total targeted medicines. For specific medicines, the agreement was moderate (ICC = 0.45, 95% CI: 0.32, 0.58). When considering only orally administered medicines, physicians and pharmacists had substantial agreement (CCC = 0.73; 95% CI: 0.61, 0.84) in the number of medicines, but only moderate agreement for the specific medicines (ICC = 0.44, 95% CI: 0.30, 0.59).

**Conclusions:** Physicians and pharmacists had substantial agreement in the number of medicines they targeted to deprescribe and to continue, but physicians targeted a greater number of medicines for deprescribing than pharmacists. However, they had only moderate agreement in the specific medicines to deprescribe. This suggests that the deprescribing decision-making aid is a useful tool for health professionals to use when considering medicines to deprescribe.

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\* Corresponding author.

E-mail address: [amy.page@uwa.edu.au](mailto:amy.page@uwa.edu.au) (A.T. Page).

## Introduction

Appropriate medicine use in older people living in residential care can enhance their quality of life and health outcomes. Polypharmacy and potentially inappropriate medicines in older people are risk factors for poor outcomes such as adverse drug reactions, falls, and premature death.<sup>1</sup> Despite the apparent risk, nine out of ten older adults living with dementia in residential aged care use five or more medicines.<sup>2</sup> Not simply the number of medicines, but also medicine inappropriateness adversely affects older people. Approximately 30% of older people residing in residential aged care facilities are inappropriately prescribed anticholinergic medicines, and 40% are prescribed sedative medicines.<sup>3</sup> Both groups of medicines are associated with poor outcomes, including impaired cognition and reduced physical function.<sup>4–7</sup>

Deprescribing may be one way to optimize medicine use and improve function in older people by reducing the number of potentially harmful or inappropriate medicines prescribed.<sup>8</sup> To deprescribe, the health professional uses a person-centered approach to weigh the risks and benefits of each medicine against the specific goals of the individual patient, with the aim of reducing the total number of prescribed medicines. Either a physician or a pharmacist may initiate deprescribing, but only physicians are able to cease medicines – pharmacists are limited to making recommendations. Of the medicine optimization strategies suggested to general practitioners by pharmacists, only 9–19% of the recommendations are to cease a medicine<sup>9,10</sup> and approximately 70% of all recommendations are implemented.<sup>10</sup>

Prescribing tools are available to support health professionals to optimize medicine use; they can be categorized as either implicit or explicit tools.<sup>11</sup> Implicit tools require clinicians' judgment; they are person-specific and can be time-consuming.<sup>12</sup> Implicit tools (e.g. medicines appropriateness index)<sup>13</sup> often have poor inter-rater reliability, and training is often required to use the tool reliably.<sup>14</sup> The decisions may not be reproducible between users with implicit tools, but allow for individualized decisions.<sup>15</sup> On the other hand, explicit tools require less clinician judgment; they are general and standardized.<sup>12</sup> Explicit tools (e.g. Beers criteria, STOPP/START criteria)<sup>16,17</sup> guide decisions that are often more reproducible between users than with implicit tools, but may not allow for legitimate

individualized prescribing.<sup>11</sup> When health professionals use a prescribing tool, studies of both physicians and pharmacists have shown greater agreement when using explicit tools than when using implicit tools.<sup>14</sup>

A specific deprescribing tool for use by physicians and pharmacists might be beneficial to reduce polypharmacy and potentially inappropriate medicine use. Recently, Garfinkel et al described a Good Palliative-Geriatric Practice (GPGP) tool, an implicit tool for deprescribing,<sup>18,19</sup> but inter-rater reliability using this tool has not been established. A simplified version of the GPGP tool was used to standardize decision-making in a randomized deprescribing trial.<sup>20</sup>

This study aimed to determine agreement between physicians' and pharmacists' with respect to medicines to deprescribe when using the simplified GPGP tool. Qualitative analysis was used to define reasons for any observed differences between physicians and pharmacists on medicines selected for deprescribing.

## Methods

### *Ethics*

The University of Western Australia's Human Research Ethics Committee approved this study (RA/4/1/4517) and the parent study was prospectively registered with the Australian and New Zealand Clinical Trials Registry.<sup>20</sup>

### *Study design*

This study used clinical and medicine data from participants enrolled in a randomized controlled deprescribing trial.<sup>20</sup>

### *Aim*

To test the inter-rater reliability between physicians and pharmacists using an implicit tool to select medicines for deprescribing in frail older people living in residential aged care facilities (RACFs).

### *Clinical and medicines data*

Criteria for inclusion in the trial required participants to be aged over 65 years taking at least one regular medicine, and not in the final terminal stages of cancer or other serious disease. All residents living in the four participating RACFs in Dongara and Geraldton in Mid-West

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