

1    **Research Article**

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3    **Caregivers’ experiences of medication management advice for**  
4    **people living with dementia at discharge**

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6    **Short running title:** Caregiver guidance on medication management  
7    for people living with dementia at discharge

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61 **Abstract**

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63 **Rationale, aims and objectives:** People living with dementia admitted  
64 to hospitals are more likely to experience poorer outcomes than people  
65 without dementia. Caregivers play an important role in managing

66 medications across transitions of care. This qualitative study explores  
67 the experiences and perspectives of caregivers about the medication  
68 management guidance provided at hospital discharge.

69 **Methods:** A qualitative approach using semi-structured, telephone  
70 interviews was conducted with 31 caregivers of people with dementia  
71 across Australia. Purposive sampling was used to ensure maximum  
72 variation of diverse experiences and perspectives.

73 **Results:** Caregivers' experiences of medication guidance for people  
74 with dementia at discharge were described in three themes including: a)  
75 inadequate information about medication management at discharge; b)  
76 limited caregiver engagement in medication management decisions; and  
77 c) difficulties ensuring medication supply post discharge. Most  
78 participants indicated they would like to be included in discussions at  
79 discharge. However, participation was influenced by caregivers being  
80 overwhelmed by discharge processes; proactively seeking information  
81 on medication-related harm; and belief in advocacy as part of their  
82 caregiver role. Caregivers reported they would like to receive a tailored

medication list for people with dementia which included information on medications that may impact on the patient's cognition, and for hospital staff to communicate with both the community pharmacist and primary care physician, to improve co-ordination post transition.

**Discussion:** In our study of caregivers of people with dementia, we identified key recommendations that could be tested to facilitate regular participation of people living with dementia and their caregiver around medication guidance at discharge.

**Key Words:** Transitions in care, hospital discharge, carers, caregiver education, decision making

## **1. Introduction**

Older people living with dementia use acute healthcare services commonly. In the US, a study of community-dwelling older adults with a dementia diagnosis found that 50% of patients had at least one

99 hospitalisation in 2012 <sup>1</sup>. Similarly, a recent UK study found that 50%  
100 of adults 65 years and over with dementia were admitted to hospital  
101 during the first year following a dementia diagnosis <sup>2</sup>. During  
102 hospitalisation, patients living with dementia are more likely to be  
103 exposed to inappropriate polypharmacy than those without dementia <sup>3,4</sup>.  
104 Inappropriate polypharmacy may lead to reduced quality of life, higher  
105 mortality and greater incidence of medication-related problems and  
106 potentially avoidable hospital re-admissions <sup>3,4</sup>. As such, optimizing  
107 medication use at hospital discharge is vital as hospital discharge has  
108 been reported to be a vulnerable stage in the patient pathway, with  
109 research highlighting communication failures, delayed, poorly timed  
110 discharges contributing to preventable medication related problems <sup>5-7</sup>.  
111  
112 Caregivers of people living with dementia play a central role in decision  
113 making, information giving and receiving with healthcare professionals,  
114 and managing medications across transitions of care without formal  
115 training <sup>8-10</sup>. Adequate guidance and support to caregivers of people

with dementia in medication management at discharge is required to optimise medication use and reduce caregiver burden <sup>11,12</sup>. Also, the engagement of individuals living with dementia and caregiver with health professionals to discuss and identify patient's goals, values and preferences ensures medication decisions are person-centred <sup>13</sup>. However, care transitions at discharge can be challenging for patients and their caregivers. Studies have reported that caregivers experience poor communication about medication plans and changes in medications, limited opportunities to participate in medication decisions and difficulties in following complicated medication regimens <sup>9,14-18</sup>. To date, there has been a limited focus on caregivers' experience of medication management advice for people with dementia and factors that influence caregiver participation in medication plans specifically at discharge <sup>14-16</sup>.

The World Health Organisation endorsed Transition of Care as a priority in Medication Without Harm in 2016 to include a set of actions

to ensure coordination and continuity of healthcare as patients transfer between healthcare settings, such as hospitals to the home/ long term care facilities <sup>13</sup>. Elements of the discharge process include verifying the patient's medication list at the point of hospital discharge, ensuring patients can understand what medications they are taking, for how long and why, and transfer of a discharge summary/referral letter to the patient's primary care physician <sup>13</sup>. Medication management decisions for people living with dementia often require a surrogate decision maker <sup>19</sup>. There is a need to identify how existing discharge processes could be further improved to support caregiver medication management for people with dementia. This will inform development of systems of care that optimise the safe and effective use of medications for people living with dementia after discharge from hospital.

Therefore, the aim of this study was to explore the experiences and perspectives of caregivers for people living with dementia about the medication management guidance provided at hospital discharge. Our



specific aims were to: 1) explore caregivers' experiences of medication guidance for people with dementia at discharge; 2) identify factors that influence caregiver participation in medication plans at discharge; and 3) identify recommendations to support caregiver medication management post discharge.

## 2. Methods

### 2.1 Study design, setting and participants

This was a qualitative study involving semi-structured interviews with caregivers of people with dementia involved in hospital discharge processes across Australia. Ethics approval was obtained from the University of Sydney Human Research Ethics Committee (2019/578).

Caregivers were defined as a person who assists and supports a person living with dementia, and: 1) is characterised as the spouse, child, or friend; 2) who are the primary or secondary caregiver; or 4) their

166 caregiving responsibilities may be paid or unpaid <sup>10</sup>. The participant  
167 inclusion criteria were: 1) caregivers who care for a person living with  
168 dementia discharged from the hospital in the last 12 months; and 2) care  
169 recipients living in the community or residing in long term care  
170 facilities.

171

172 Caregivers across Australia were invited to participate. Recruitment  
173 was undertaken from October 2019 until March 2020 and facilitated by  
174 consumer advocacy groups, consumer support organisations and social  
175 media (Twitter). In addition, a research engagement service for  
176 dementia research known as StepUp for Dementia Research Australia  
177 was utilised <sup>20</sup>. If a caregiver wished to participate in the study, they  
178 were able to contact investigators by phone or e-mail. Purposive  
179 sampling was used to ensure maximum variation of diverse experiences  
180 and perspectives were covered including caregivers' education level,  
181 age, gender and relationship with care recipient, as well as care  
182 recipients' total number of medications and location in Australia.

Participant information statement and consent forms were sent based on caregivers' preferred mode of communication (e-mail or mail) identified at the point of contact. Once written informed consent was obtained, the interviews were conducted by the first author (MS) who has experience in qualitative research over the telephone to allow broader reach of geographically dispersed respondents.

## 2.2 Study Procedure

The interview guide (see Table S1 published as supplementary material) was semi-structured and included open-ended questions, followed by specific prompts to elicit the details needed to understand the topic. It comprised three sections. The first section explored if and what medication resources caregivers received at hospital discharge and how useful were they to caregivers. The second section explored caregivers' experiences of medication management guidance at hospital

199 discharge and their perceptions of the barriers and facilitators that  
200 influenced their involvement. The third section explored the types of  
201 support about safe medication administration and use at home which  
202 caregivers wanted. Medication management was defined as the supply,  
203 assistance with administration, communicating with health care  
204 professionals, monitoring for medication related harm and making  
205 decisions about medications <sup>21</sup>. Caregiver and care recipient  
206 demographic characteristics were collected at the time of the interviews.  
207 The interview guide was piloted with the first two interviews. A  
208 preliminary analysis was undertaken by the research team (MS, DG) to  
209 assess responses and minor changes to the interview guide were made.  
210 Data from the first two interviews were included in the final analysis.  
211  
212 Interviews took place between October 2019 and March 2020 until  
213 thematic saturation was reached, whereby additional interviews did not  
214 yield any new insight relevant to the study, and representation of key  
215 characteristics was achieved <sup>22</sup>. All interviews were recorded, and the

216 median duration of the interview was 37 minutes (inter-quartile range  
217 (IQR) 18).

218

### 219 2.3 Analysis

220

221 Interviews were audio taped, transcribed verbatim, and reviewed for  
222 accuracy by comparing transcription with the audio file by MS.

223 Transcripts were de-identified and entered into QSR NVivo (version  
224 12) for data management. Content analysis was conducted using an  
225 inductive approach to identify categories and themes that emerged from  
226 the data which answered the purpose of our inquiry without the restraint  
227 of a structured framework <sup>23,24</sup>. The method for content analysis was  
228 informed by Downe-Wamboldt <sup>25</sup>. This approach focuses on achieving  
229 trustworthiness of the results throughout the steps of analysis.

230 Researchers (MS and DW) began with line by line coding of transcripts.

231 Subsets of the coded texts were analysed further to provide

quantification of the codes/terms. The codes were also sorted into categories using aims 1 and 2 as a guide. The research team met to review samples of the transcribed data representing the full range of categories and coding framework and discuss emerging themes. These were reviewed and refined to reconcile differences in interpretation until no new categories emerged, and all researchers agreed on the final interpretation of the data. Reflexivity was facilitated by the by on-going dialogues with the research team throughout data collection and analysis.

To address aim 3, the first author (MS) aligned the codes which described proposed recommendations, derived from aligning participant quotes with the themes identified for study aims 1 and 2 using a pragmatic approach to qualitative analysis.

### 247 3. Results

248

249 A total of thirty-one caregivers across Australia participated in semi-  
250 structured interviews (Table 1). The majority of participants were  
251 female and cared for their parent, nine cared for their spouse/partner,  
252 and two were friends of the care recipient. Twenty caregivers who  
253 expressed interest in participating were not able to be interviewed  
254 because they did not meet the inclusion criteria or data saturation had  
255 been reached.

256

257 Caregivers' experiences of medication guidance for people living with  
258 dementia at discharge were described in three themes: a) inadequate  
259 information about medication management at discharge; b) limited  
260 caregiver engagement in medication management decisions; and c)  
261 difficulties ensuring medication supply post discharge. Three categories  
262 emerged which explained the facilitators and barriers to caregiver  
263 participation in medication management guidance and decisions at

264 discharge. Table S2 published as supplementary material contains a  
265 summary of themes with additional participant quotes and participant  
266 identifier.

### 267 **3.1 Caregivers' experiences of medication guidance at discharge**

268

#### 269 **a) Inadequate information about medication management at** 270 **discharge**

271 Many caregivers reported that they received no information concerning  
272 medication management at discharge such as changes in medication,  
273 duration of therapy, indications for treatment or drug-drug interactions.  
274 Upon discharge, caregivers felt they were not counselled on discharge  
275 medications that could impair cognition or exacerbate symptoms of  
276 dementia, which was important in addressing care needs (e.g.  
277 behaviour, cognition, delirium, constipation) post transition. The  
278 absence of specific advice about medications administered during  
279 admission (e.g. anaesthesia during surgery) was also mentioned.



280

281

*I think it was very distressing because he was all over the place,*

282

*the anaesthesia took days to wear off, he was stumbling a lot, even*

283

*getting him from the ward down to the car, so he was stumbling*

284

*and it was quite traumatic for me. (Caregiver 1)*

285

286

Of the caregivers who received medication information, participants

287

reported receiving up to three modes of communication: written

288

discharge summary, medicines list and explanation by the registered

289

nurse, hospital physician or pharmacist (in-person or via the phone).

290

Over half of caregivers reported to have communicated with a

291

healthcare professional at discharge and described that the conversation

292

was brief, focused on supply of medication and scripts and did not

293

include specific medication information such as the risk/benefit of

294

medications, potential adverse effects or duration of treatment. Many

295

caregivers reported that the discharge summary was too long, dense,

296 included technical jargon which made it difficult to read and that they  
297 had limited time to go through it.

298

299 *There were five medications initially one to keep him calm, to*  
300 *elevate his mood and to manage his restlessness, aggression. They*  
301 *did not give specific information other than ‘ we’ve tried to give*  
302 *him this tablet but he wouldn’t take it’. (Caregiver 8)*

303

304 Some caregivers noted there was a lack of timely exchange between the  
305 hospital and primary care physician or long-term care facility, and  
306 others reported that the information on the discharge summary was  
307 inconsistent or not updated with the hospital treatment plan for  
308 discharge. Inadequate documentation on medication was reported to  
309 result in caregivers making up recipient medication lists post-discharge  
310 without the help of a healthcare professional.

311

312        *While he was in hospital, he developed delirium, when the*  
313        *geriatrician spoke to them she said we are going to stop with the*  
314        *oxycodone because that could be causing it. On the discharge*  
315        *summary which you know, we got two weeks later, they actually*  
316        *discharged him with oxycodone. (Caregiver 13)*

317  
318    A number of caregivers reported receiving a medication lists and  
319    described that the content was useful as it outlined medications which  
320    were initiated and/or changed at discharge, indications for the use of  
321    medications and instructions which were easy to understand. The  
322    medication list was considered a valuable reference as it elucidated  
323    medication administration schedules and highlighted medication  
324    changes and possible side effects; information that was not received  
325    from the physician or registered nurses during hospitalisation.

327 **b) Limited caregiver engagement in medication management**  
328 **decisions**

329 A number of caregivers reported that they felt included in treatment  
330 discussions with physicians and received information on the risk and  
331 benefits of medications and explanations for treatment changes.  
332 However, many caregivers felt that they were not given opportunities to  
333 be involved in medication decisions throughout hospitalisation.

334  
335 *I stopped in to see him, and he was very sleepy. The nurse told me*  
336 *that because of his agitation he had been given risperidone, and*  
337 *this was without any consent. Nobody called me, nobody asked*  
338 *about this at all, I know what the side effects are, and you have got*  
339 *to be very careful about not giving risperidone because of the*  
340 *dementia and the heart problems. (Caregiver 7)*

341

342 Some caregivers felt that there were limited efforts by the hospital staff  
343 to listen to them during hospitalisation and at discharge regarding  
344 concerns with potential medication adverse effects.

345

346 *He was literally sleeping that whole time, we didn't think it was*  
347 *necessary for him to probably be on melatonin at the time. In*  
348 *hospital we didn't get too many answers to be honest. It was sort*  
349 *of, well this is what he's taking, there was really no communication*  
350 *regarding that. (Caregiver 3)*

351

352 Many caregivers also reported at discharge, that the hospital staff spent  
353 limited or no time to ask if they had preferences or concerns that  
354 included how to improve medication adherence or supervise the person  
355 with dementia managing their medication in light of their declining  
356 cognitive ability.

357

358 *There was no real assistance given in terms of any method I should*  
359 *employ to ensure that she was in fact taking them but also, you*  
360 *know, how to sort of organise the taking of them. All the sort of*  
361 *actual administration was kind of basically up to me. (Caregiver*  
362 *14)*

363  
364 In several cases, caregivers felt to have been overlooked by hospital  
365 staff as they were not the recognised as the primary care giver or the  
366 communication (discharge letter/instructions) was provided to the long  
367 term care facility. This left several caregivers to perceive that their  
368 voice did not matter as they experienced limited communication with  
369 health professionals, which presented a challenge to caregivers to  
370 ensure follow-up of medication post transition/discharge.

371  
372 *There is no discussion at all, you're not given any details, you're*  
373 *irrelevant. They just tell the nursing home. I feel that they if you're*

not a blood relation or next of kin, you could say you're the carer  
you don't get the respect you deserve. (Caregiver 20)

### **c) Difficulties ensuring medication supply post discharge**

Many caregivers highlighted they experienced challenges ensuring continuity of medication supply post discharge as the hospital provided three days supply of medication. If the discharge took place before or during the weekends, caregivers had difficulty organising an immediate appointment with the primary care physician to obtain prescriptions and ensure medications were purchased from the pharmacy and administered. The pressure to ensure the timely administration of medications contributed to the caregiver stress and burden.

*They only gave me some of his medication, they told me that was all, and they only give you like three days' worth. For somebody with dementia and they discharge you on a Friday and the*

390       *medication takes you to Monday morning. That's not good*  
391       *because you can't get the doctor, I have a lot of trouble getting him*  
392       *anywhere, you know. (Caregiver 16)*

393

394   Some caregivers reported reasons for delayed visits to the community  
395   physician (General Practitioner) to follow-up on medications and  
396   prescriptions post discharge. These included feeling tired from their  
397   involvement in their care recipient's hospital admission, difficulties  
398   associated with managing behavioural symptoms of the person with  
399   dementia during transportation or unable to take time off work. One  
400   caregiver reported a positive experience at discharge as they obtained  
401   additional supply of medications from the hospital upon request to  
402   ensure continuity of care post discharge.

403

404       *After spending five weeks in hospital. I was tired from going in and*  
405       *out. That was the reason they gave me extra medication because I*



*thought she was too dangerous to get in and out of the car. They gave me enough medication for a couple of weeks. (Caregiver 22)*

Caregiver burden from ensuring immediate supply of medications also extended to several caregivers who utilised dose administration aids (DAA) packed by community pharmacists. A number of caregivers reported a positive experience, with the hospital pharmacy communicating directly with the community pharmacists to ensure medication changes be implemented in the DAA. Some caregivers reported that medication changes were not communicated to the community pharmacist resulting increased responsibility to ensure medication supply.

### **3.2 Factors that influence caregiver participation in medication management plans at discharge**

421 **a) Caregivers overwhelmed by discharge processes**

422 Many caregivers felt overwhelmed by the nature of the hospital  
423 discharge processes because of multiple competing responsibilities at  
424 the time of and post discharge, including managing medications. A  
425 number of caregivers reported that the discussion at discharge revolved  
426 around the suitability of discharging the patient leaving limited or no  
427 time to discuss important information about medications.

428

429 *We were given 24-hours notice to prepare how we were going to*  
430 *take her home. And so suddenly, I'm given all this paperwork, and*  
431 *somebody is just flicking through these pages. The sheer volume of*  
432 *information was very confusing to me and it all came at discharge.*  
433 *It was too much information at that point in time, which was highly*  
434 *emotionally charged. (Caregiver 31)*

435

436 Several participants reported that that they were not able to be present at  
437 the time of discharge because the discharges were unplanned, abrupt, or

438 the timing conflicted with their work commitments. A number of  
439 caregivers reported that they were contacted by hospital staff via  
440 telephone and received information to support medication management  
441 post transition. Caregivers reported that the experience was positive as  
442 they felt involved even though they had not been present at discharge.

443

444 Some caregivers reported that the hospitalisation caused caregivers'  
445 tiredness and stress from managing the emotional needs of the person  
446 with dementia and addressing exacerbation of symptoms triggered by  
447 the unfamiliar hospital environment. The stress created by the discharge  
448 process limited the caregiver's ability to ask questions about their care  
449 recipients' medications at discharge. As a result, caregivers reported  
450 that they required additional support at the time of and post discharge to  
451 facilitate engagement and planning of medication management post  
452 transition.

453

454 *I'm happy to ask, but I don't always think of the right questions to*  
455 *ask. I'm confident to ask, but it's just thinking of what to ask. I don't*  
456 *know, and then you sometimes you're tired and you've been there a*  
457 *long time and you just want to go home. You get home and you*  
458 *think I should have asked them. (Caregiver 22)*  
459

460 **b) Caregivers proactively seeking information to ensure avoidance**  
461 **of medication harm**

462 Most participants reported involvement in several activities to ensure  
463 medication safety at discharge. Some caregivers questioned hospital  
464 staff during admission or at discharge about the benefit of medications.

465 This included raising concerns about medications that may be  
466 impacting on the patient's cognition or exacerbating symptoms of  
467 dementia, and querying the use of medications, such as psychotropics  
468 and opioids, with hospital staff due to concerns about side effects and/or  
469 multiple medications (i.e. polypharmacy).

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*He started to show signs of hallucination. And I remembered one of my colleagues saying she had been given strong painkillers that made her hallucinate. So that's when I said to them, what is it exactly that you're giving him (Caregiver 27)*

Post discharge, many caregivers reported seeking information about the indication, duration of therapy and potential adverse effects of medications initiated by the hospital. Caregivers wanted to gain more understanding of medications to increase confidence in managing medications to ensure medication safety post transition and preparing for triggers that exacerbate confusion in people living with dementia. Sources of information included the internet search engines, education materials accessible through support organisations (e.g. the Wicking Dementia Centre and National Prescribing Service MedicineWise) and on-line courses on dementia, medicines information provided by the

486 community pharmacists, primary care doctor and long term care facility  
487 staff.

488

489 *Well the internet gave me an idea for how long the medication*  
490 *would be given, it's almost like it's only like a short thing, like a*  
491 *short term measure and the dangers of what's to come, like*  
492 *possibilities of heart attacks and compromised health and all that*  
493 *sort of stuff. (Caregiver 21)*

494

495 **c) Belief in advocacy as part of the caregiver role**

496 For some caregivers, involvement in medication guidance during  
497 discharge related to their belief in their role as an advocate on the  
498 patients' behalf. It was seen that it was the caregivers' duty to fill in  
499 gaps in the healthcare system that was perceived to have limited  
500 hospital resources in staffing. The belief in advocacy was evident when

501 caregivers participated in medication decisions or objected to the use of  
502 medications in patients.

503

504 *I'm absolutely aware of the threat that hospital staff are under. I*  
505 *am aware of putting a lot of pressure on them, but at the same*  
506 *time, I want to advocate for myself and my mother. I kind of try*  
507 *more to tread a fine line between being pushy and also getting*  
508 *information that we need. (Caregiver 5)*

509

510 Other caregivers did not see it as their responsibility to fill in gaps  
511 within the healthcare system, relying on health professionals  
512 (community physician, pharmacist or the long term care facility) to  
513 make medication-related decisions or accepted the status quo.

514

515 *I was so fed up with the situation that she was discharged in the*  
516 *way she was. And then I gave up and just thought what's the point.*  
517 *You know, I've got to there's no point, they're just going to do*

what they want and I've trusted the aged care home so I thought  
well I'm just going to wait till she's back there to talk with them.  
(Caregiver 4)

### **3.3 Recommendations identified to support caregiver medication management post discharge**

Table 2 outlines proposed recommendations identified to support  
caregiver medication management post discharge. Recommendations  
were derived from the analysis of participant quotes and aligned with  
the themes identified in sections 1 and 2.

## **4. Discussion**

This qualitative study provides insights into the experiences and needs  
that are specific to caregivers of people living with dementia.  
Caregivers reported they received limited information on medication  
management guidance and experienced limited engagement in  
medication management decisions at discharge. Factors that influenced



534 participation in medication management plans at discharge included  
535 caregivers overwhelmed by the discharge process, caregivers'  
536 proactively seeking information to ensure avoidance of medication  
537 harm and belief in advocacy as part of the caregiver role. In addition,  
538 the study identified targeted recommendations that could be  
539 incorporated into existing discharge processes to support caregivers in  
540 medication management for people with dementia.

541

542 Many participants highlighted the lack of information regarding the  
543 management of medications provided at discharge. This is consistent  
544 with previous studies that have shown that standard discharge  
545 consultation with patients and their caregivers are seldom provided  
546 <sup>15,16,26</sup>. Several studies involving caregivers of patients living with or  
547 without dementia reported that caregivers receive limited medication  
548 information at discharge. This study further revealed that specific  
549 discharge information for duration of therapy and potential adverse  
550 effects important for people living with dementia were absent. This is of

concern given that high-risk medications, are associated with increased risk of medication-related harm and recommended to be used for short-term<sup>4</sup>. The findings highlight the need for tailored information for caregivers of people with dementia needs to be provided during discharge to inform monitoring and appropriate use of medications.

This study revealed some caregivers did not engage in medication guidance at discharge because they felt that there were no opportunities for engagement, or they relied on other community healthcare professionals. These issues are also experienced by caregivers of patients with chronic conditions during discharge<sup>15,16,27</sup>. In addition, for caregivers of people living with dementia, the study found that limited communication from hospital staff can be complicated by not recognising the caregivers as the person responsible to receive all relevant information about the individual's medication. Our study highlights the need for patients and caregivers tools, such as question

prompt, to enhance communication between the caregiver and hospital staff to improve medication management at discharge.

Additionally, this study revealed caregivers of people living with dementia experienced emotional and psychological burden linked to the lack of medication guidance post discharge and feeling unprepared to conduct adequate medication management post-transition. Caregivers requested that they were advised of discharge processes at admission so that they had time to process the information and think about what questions to ask. Early discharge planning (initiated during the acute phase of an illness or injury) delivered to caregivers of older adults has been shown to be effective in improving outcomes in older adults<sup>28,29</sup>. Given that caregivers of people with dementia experience a higher degree of burden than the caregiver of a person without dementia<sup>30</sup>, early pre-discharge intervention delivered to caregivers of people with dementia may improve medication management activities post discharge.

584

585 We also found caregivers experienced challenges with ensuring  
586 continuity of medication supply post discharge and communication with  
587 the community pharmacist to ensure dose administration aides were  
588 available. Complex medication regimens and ensuring medication  
589 supply are factors which also contribute to burden on caregivers and  
590 increase the risk of medication-related problems and rehospitalisation  
591 <sup>31,32</sup>. Previous studies recommend communication with the primary care  
592 physician to improve co-ordination post transition <sup>8</sup>. In addition, our  
593 study highlights the important role of pharmacists to provide  
594 medication guidance post discharge. Pharmacist-led medication review  
595 and caregiver education could ensure the safe use of medications in  
596 people with dementia <sup>33,34</sup>. This aligns with recent calls for more  
597 advanced roles of pharmacists, such as working within the primary care  
598 physician practice, to ensure the successful transition of care <sup>35,36</sup>.  
599

500 The strength of this qualitative study was the use of maximum variation  
501 sampling and analyst triangulation to enhance the credibility of the  
502 findings. However, the results may not be transferable to other  
503 countries, as the data was collected from participants who only resided  
504 in Australia, other studies indicate that the issues with guidance at  
505 discharge for people living with dementia are not unique to Australia  
506 <sup>14,15</sup>. Although this study described the perspectives and experiences of  
507 caregivers regarding medication management guidance for people with  
508 dementia, future studies should consider including participants living  
509 with dementia. Another study limitation was that several months  
510 elapsed between the care recipient hospital admission and qualitative  
511 interviews due to study design. The time delay would have potentially  
512 influenced participant recollection of their experiences at hospital  
513 discharge regarding medication management and may not reflect what  
514 was reported. Further research using participant observation and audio-  
515 recordings of discussions between patients, their caregivers and health  
516 professionals is needed to evaluate discharge processes. Another

617 limitation was that interviews were conducted over the telephone which  
618 may have limited in-depth discussion of the topic <sup>37</sup>. However,  
619 telephone interviews allowed a broad reach of geographically dispersed  
620 responses.

## 621 **5. Conclusions**

622 The findings of this study revealed that there are opportunities to  
623 improve the processes in discharge medication management guidance  
624 for caregivers of people living with dementia. Caregivers reported that  
625 they would like to receive tailored medication information for people  
626 with dementia to manage medications safely. Future studies are needed  
627 to improve the implementation of existing resources, such as medicines  
628 lists, and explore the development of additional resources to encourage  
629 participation and alleviate caregiver stress during medication guidance  
630 at discharge.

631  
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633

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635 acquisition of data, analysis and interpretation of data, drafting, revising  
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637 Hilmer, Chen: conception and design, analysis and interpretation of  
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