



ROYAL  
PHARMACEUTICAL  
SOCIETY  
England



# The Right Medicine: Improving Care in Care Homes

FEBRUARY 2016

## Introduction

The Royal Pharmaceutical Society (RPS) believes it is time to change the way medicines are used in care homes.

Too many care home residents are taking medicines which are doing them more harm than good.

At a time when every pound of NHS resource needs to be scrutinised, we believe that a far more efficient system would have one pharmacist, as part of a multidisciplinary team, responsible for the whole system of medicines and their use within a care home.

We believe, and evidence shows, that this improves care, reduces NHS medicines waste and reduces the serious harm that can be caused by inappropriate use of medicines.

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# EXECUTIVE SUMMARY

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## What needs to change?

We have talked with the families of care home residents, care home providers, local authorities, care professionals and expert pharmacists as well as reviewing the available evidence to produce this report which describes what needs to be done to address the issues of medicines use in care homes.

## This includes:

### Better communication systems

Resident safety could be improved if their clinical information was more easily shared between GPs, pharmacists and other care providers and was easily accessible in the care home.

**The Royal Pharmaceutical Society (RPS) believes that, with patient consent, all pharmacists directly involved in patient care should have full read and write access to the patient health record in the interest of high quality, safe and effective patient care.**

### Reducing falls in care homes

Residents of UK care homes for the elderly fall on average two to six times per year<sup>1</sup>. A review found that interventions to reduce falls in care homes were effective if they were coordinated via multi-disciplinary teams<sup>2</sup>, and pharmacist-led medicine reviews have been shown to lead to a reduction in the number of falls<sup>3</sup>.

**The RPS believes that a resident must receive a falls assessment on admission into a care home, and regularly thereafter, and that a pharmacist should be involved in assessing falls risk from the medicines the resident takes.**

### Reducing inappropriate use of psychotropic medicines

Psychotropic medicines are those which affect a person's mental state. There are various types of psychotropic medicines. In 2009<sup>4</sup> it was estimated that 25% of residents of care homes for the elderly were prescribed antipsychotics. One study showed antipsychotic dispensing increased from 8.2% before a person enters a care home to 18.6% after entering and dispensing of hypnotics increased from 14.8% before entry to 26.3%<sup>5</sup> after entering.

As long ago as 1987, care homes in the USA were required to employ an independent consultant pharmacist to undertake regular reviews of antipsychotics, with the aim of reducing or discontinuing the medicines. Evidence suggests this has been effective<sup>6</sup>.

**The RPS believes that pharmacists should play a key role as part of the multidisciplinary team in providing oversight of psychotropic medicines prescribed in care homes to ensure that their use is kept to a minimum.**

## Improving end of life care

In a recent study, up to 53% of care home residents had symptoms of illness in their last days of life<sup>7</sup>. The National Institute for Health and Care Excellence (NICE) guideline of 2014<sup>8</sup> includes the need to plan ahead at the end of a resident's life, ensuring the right medicines are available should their condition change. The guideline calls for these so-called anticipatory medicines to be as equally available in residential homes as they are in other settings.

**The RPS believes that advice about, and access to, end of life medicines and anticipatory care medicines should be formalised between prescribers, pharmacists and care home providers.**

### Reducing medicines waste in care homes

Research undertaken in 2009 estimated that medicines wastage in England cost £300 million each year. Of this, £24 million is medicines that are disposed of unused by care homes<sup>9</sup>.

**The RPS believes that if pharmacists have responsibility for medicines use in care homes this will help to solve the issue of medicines waste, improve efficiency and provide better health outcomes for care home residents.**

# EXECUTIVE SUMMARY

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## **What difference does a pharmacist make?**

Evidence from many and various schemes shows that including a pharmacist in the team that is responsible for the care of residents reduces medicines waste and emergency hospital admissions and most importantly improves the quality of life for residents.

The RPS believes this powerful evidence shows pharmacists, as experts in medicines use, can play a significant role in reducing the use of unnecessary and sometimes harmful medicines, particularly through regular reviews of the efficacy and safety of medicines taken by residents.

Now is the time for the NHS to follow the evidence and improve the care of residents by ensuring a pharmacist, as part of a multidisciplinary team, has responsibility for the whole system of medicines and their use within a care home.

## **Recommendations**

- Pharmacists should have overall responsibility for medicines and their use in care homes.
- One pharmacist and one general practitioner should be responsible for medicines in each care home ensuring co-ordinated and consistently high standards of care.
- Where a care home specialises e.g. in dementia care, the pharmacist should ensure they are competent to support the relevant clinical speciality.
- Local commissioners (such as Clinical Commissioning Groups or NHS England) should commission pharmacists to provide medicine reviews within care homes.
- Pharmacists should lead a programme of regular medicine reviews and staff training, working in an integrated team with other healthcare practitioners ensuring medicines safety.

## THE RIGHT MEDICINE: IMPROVING CARE IN CARE HOMES

### More of us will need care as we get older

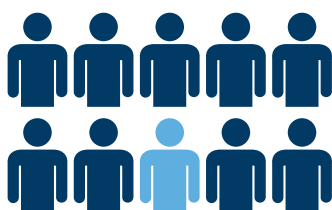
Life expectancy in the United Kingdom has increased by 10 years since 1960<sup>10</sup>. This and the increased prevalence of long term conditions have had a significant impact on health and social care, requiring an estimated £5 billion of additional expenditure by 2018<sup>11</sup>.

In 2014, there were an estimated 426,000 people living in residential care homes in the UK<sup>12</sup>. After a huge expansion of care homes in the late 20th century, the number of residential places is now decreasing with smaller homes being replaced by newer, larger ones. Residents tend to be older, have multiple health conditions and live with a high level of disability. As many as 76% of residents require assistance with mobility or are immobile and 78% have at least one form of mental impairment<sup>13</sup>.

The Royal Pharmaceutical Society (RPS) believes pharmacists should have an embedded role in care homes, as part of a multidisciplinary team, with overall responsibility and accountability for medicines and their use.

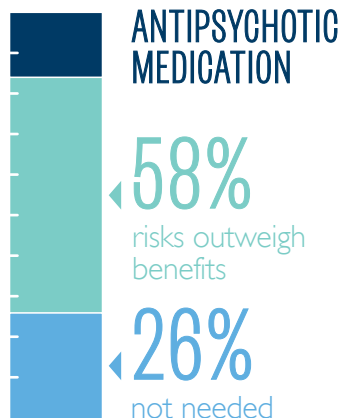
### Facts and Figures

- The average age of residents in care homes for the elderly is 85 and they are prescribed an average of 7.2 medicines per day<sup>14</sup>.



ONE IN TEN

- Only 1 in 10 older people discharged from hospital remain on the same medicines they were taking when admitted to hospital<sup>15</sup>. One study estimated that risk of an adverse drug event post-discharge increased by 4.4% for every drug alteration or change<sup>16</sup>.

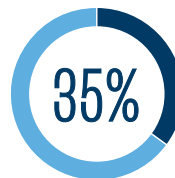


- In an audit and review of care home residents receiving antipsychotic medication, 26% did not need the medication and, in 58%, the risks of taking the medication were felt to outweigh the benefits<sup>17</sup>.

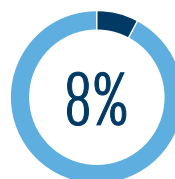
- A 2009 report found that 50% of communication errors around medicines management were directly between the care home and community pharmacy<sup>18</sup>.



According to one study, 50% of care home residents fall every year<sup>19</sup>



35% of falls result in serious injury<sup>20</sup>

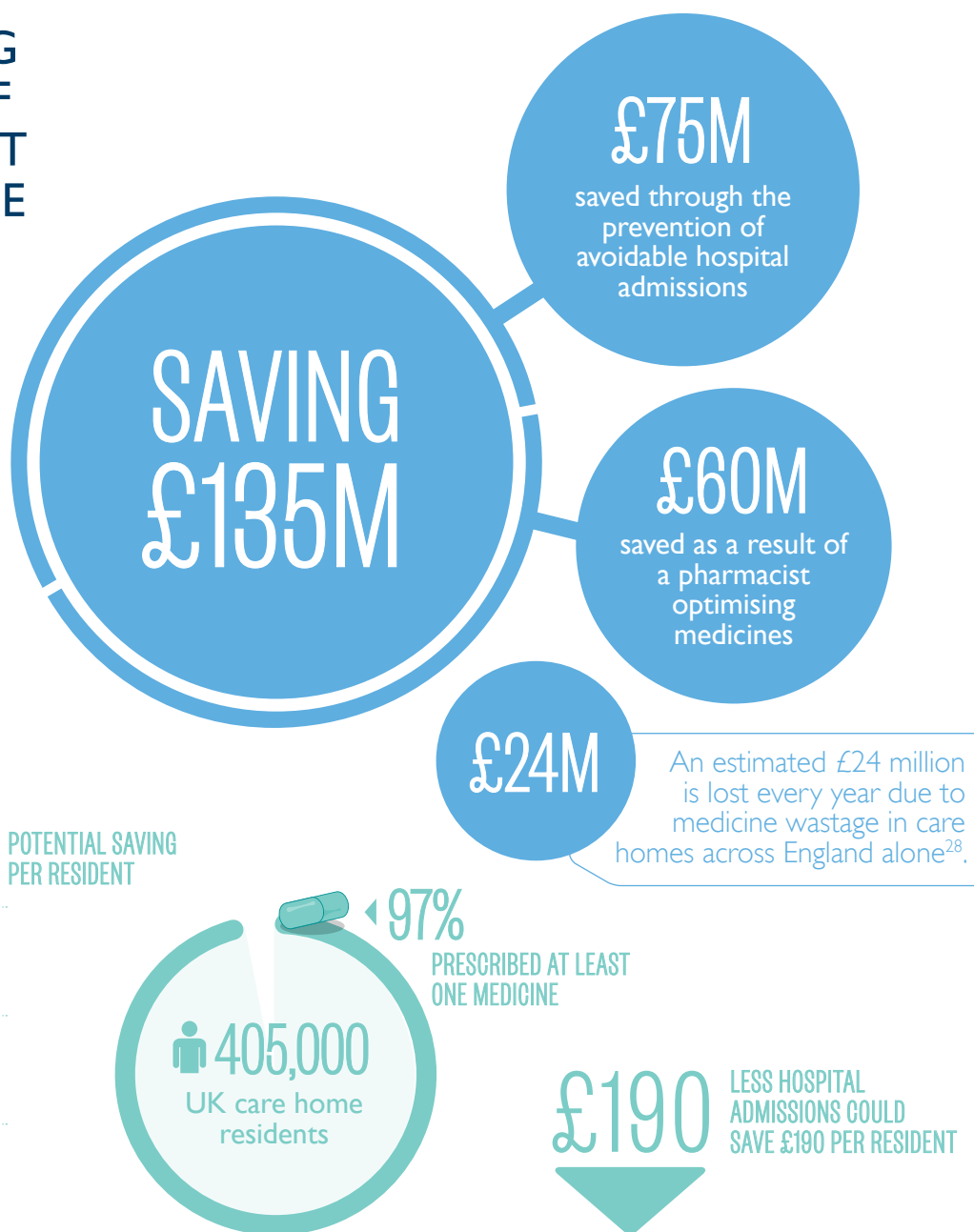


8% of falls result in fractures<sup>21</sup>

- Increased risk of falls has been linked to taking multiple medicines, also known as polypharmacy<sup>22</sup>.
- In 2012, the Scottish Care Inspectorate found that 1.6% of all Scottish care home residents were being given covert medication. This means they were being given medicines without their knowledge or consent, for example crushed into food or drink. Some individuals were receiving as many as ten different medications in covert form<sup>23</sup>.

## CALCULATING THE VALUE OF A PHARMACIST IN EVERY CARE HOME

Following a review of three local pilots that measured the impact of a pharmacist in a care home setting, it is estimated that **£135 million** a year could be saved through pharmacist-led interventions and medicine reviews in care homes across the UK.



All three pilots<sup>24</sup> assessed the impact of medicine optimisation. The lowest saving was £110 per resident reviewed, the highest estimate was £184 per resident reviewed, and a pilot in Brighton & Hove calculated a saving of £165 per resident reviewed. The average savings were calculated as £153 per resident.

According to Age UK<sup>25</sup>, there are 405,000 care home residents in the UK aged 65+ and experts estimate that around 97% are being prescribed medicine<sup>26</sup>. If a named pharmacist policy was implemented across the UK, then up to £60 million could be saved through improved medicines use in care homes.

The pilot in Brighton & Hove also concluded that pharmacist-led medicine reviews in care homes could save £190 per resident by avoiding an unplanned hospital admission<sup>27</sup>. When applied to the number of care home residents on medication, this equates to potential savings of over £75 million per year in avoidable hospital admissions.



## PUTTING THE PERSON AT THE HEART OF MEDICINES USE

The RPS held a summit in December 2015, including professionals, regulators and, most importantly, carers and patient representatives. All were asked what they felt residents wanted from their medicines:

- **Effectiveness** – to only take medicines that are needed and get the best outcomes from them with regular medicine reviews and reassessments when circumstances change e.g. on discharge from hospital.
- **Involvement** – to be involved in decisions about their medicines. This includes residents understanding more about their medicines, enabling them to self-medicate, to take medicines how and when they want and to safely take over the counter medicines when needed. As one carer commented:

*“Staff should not assume a lack of capacity on admission. This needs to be tested first before a care plan is laid down which is followed from then onwards.”*

- **Culture** – to build medicines optimisation around the residents’ needs not the home’s routines e.g. stopping medicines rounds taking place at times which benefit the staff but not the residents.

- **Personalisation** – to know that the team looking after them have their overall care in mind and residents are not seen as a series of tasks rather than an individual.

- **Safety** – to know that care, including medicines, is safe and that all the different health professionals are working together to achieve this. It means that professionals with the right skills such as a pharmacist and GP should be an integral part of care. There is a need to make residents “confident about the medication giver’s competence and skill” as one carer at the summit commented.

- **Support** – to see audit and national inspection and guidance as a support for residents and their families and carers and know that help is in place to ensure the resident’s best interests are always paramount.

## WHAT NEEDS TO IMPROVE?

In 2014 National Institute for Health and Care Excellence (NICE) published ‘Managing Medicines in Care Homes’<sup>29</sup> a guideline on the provision of care or services relating to medicines in care homes. This was followed by a Quality Standard for medicines management in care homes during 2015<sup>30</sup>.

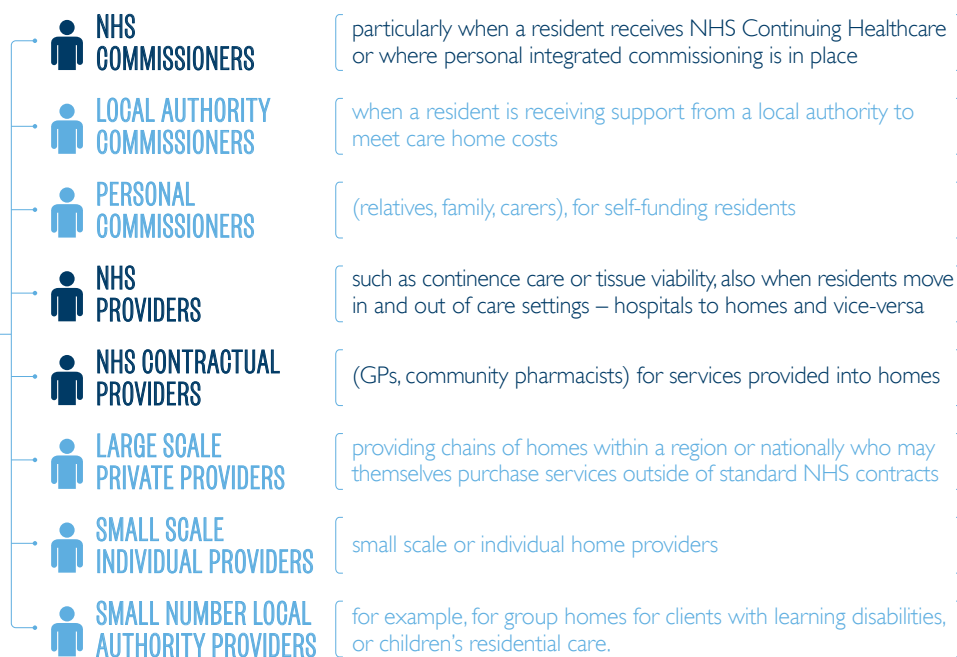
The RPS believes that pharmacists and pharmacy technicians have a central role to play in ensuring this quality standard is achieved by care homes throughout England.

The extent of problems with medicines management in care homes has been known since a wide ranging study in 2009 that looked at the prevalence of medication errors received by 256 patients in 55 homes. Patients were on an average of 7.2 medicines each and 69.5% of patients had at least one error<sup>31</sup>. None of the improvements needed are, of themselves, difficult to achieve but require a new approach by all professionals involved in care at a local level. Professional leadership by pharmacists as part of a multidisciplinary team is the catalyst that is needed to make change happen.

Apart from improving the effectiveness and safety of residents’ care, the savings from better management of medicines and the reduction of error-related admissions to hospital could be large. Re-investment of these savings in improved medicines optimisation services into residential homes would help to transform care. The RPS believes that now is the time to act.

## BETTER MEDICINES USE IN CARE HOMES

The commissioning and provision of residential care in each health and care community in England involves a wide range of organisations inside and outside the NHS including:



Participants at the RPS Summit held in December 2015 were clear about the need for consistency of medicines optimisation in care homes but recognised the issues this might bring. For instance, would all care homes want or could they afford to align their practice or purchase additional services? Would GPs, who need to have a wide knowledge of different health issues, also recognise the need to include pharmacists in such activities as medicines reviews, indeed for pharmacists to lead such reviews, to ensure these were completed at the most effective level? How should local geriatricians be involved in planning local systems and how could the culture and habits of health professionals working together be changed, to develop more collaborative working patterns?

In some parts of England, Clinical

Commissioning Groups (CCGs) commission pharmacy services into care homes. In Ealing, London, a CCG commissioned service covers 23 care homes, with a lead GP, lead pharmacist and a lead medication nurse in each home. This service has seen an 11% reduction in items prescribed and 20% fall in hospital admissions in one year<sup>32</sup>. A medication review service run through Leeds West CCG showed that 28% of residents required a follow up review with 25% requiring a further referral to other services<sup>33</sup>. However, this co-ordinated approach is by no means universal and summit participants expressed their frustrations over the local variability of systems and the need for a national outline of service expectations.

The involvement of so many organisations can produce variable practice and training, complex

communication systems and differing priorities. In some areas, for example Sheffield, where a city wide service looks at training and quality standards in homes, local systems have been developed<sup>34</sup>. However, in most areas, no single body is accountable for overall organisation of medicines optimisation and training in relation to medicines that are available in care homes at a local level. As one commissioner commented:

*“There is a lack of clarity about whose responsibility it is to plan the whole local system.”*

This can mean that pharmacists, who are experts in this field, may not be included in key conversations about how local systems and patient safety could be improved.

**Similarly, whilst understanding the need for personal choice, the RPS**



believes that one pharmacy and one GP practice should be aligned to a care home to enable the provision of a co-ordinated and consistently high standard of care across all service users. This is in line with the views of the Royal College of General Practitioners and the British Geriatrics Society.

In light of the fractured commissioning and provision of care for residents the RPS key recommendation is that one pharmacist, as part of a multidisciplinary team, should have responsibility for the whole system of medicines and their use within a care home.

## MEDICINES REVIEW

NICE guidance<sup>35</sup> states that care home staff should assume residents are able to manage their own medicines when they move into a care home, unless indicated otherwise by an individual risk assessment undertaken on admission to a home.

**The RPS believes that initial risk assessments should include advice from a pharmacist who knows the individual resident, the home and its working practices.**

Similarly, the care home manager or the person responsible for a resident's transfer into a care home should coordinate the accurate listing of all the

resident's medicines (medicines reconciliation) as part of a full needs assessment and care plan.

**The RPS believes that the pharmacy team must lead the medicines reconciliation within the care home setting as part of the multidisciplinary team.**

Care home residents take on average 7.2 medicines each day<sup>36</sup>. With each additional medicine comes an increased risk of errors in prescription, monitoring, dispensing or administration, adverse drug reactions, impaired medicines adherence and compromised quality of life for patients.

Brighton and Hove CCG contracted an independent organisation to undertake medicine reviews for 2,000 care home residents working closely with all GP surgeries. The scheme was well received by GPs, care homes and residents. Savings due to medicines stopped were over £300K in a single year with about the same again estimated as savings from avoided hospital admissions<sup>37</sup>.

**The RPS believes that examples like these show that pharmacists, as experts in medicines use, can play a significant role in reducing the unnecessary prescribing of some medicines, particularly through regular reviews of efficacy and safety.**

**The RPS believes that every care home resident should have a**

A recent project<sup>40</sup> undertaken in Northumbria demonstrated the benefit of pharmacist interventions in care homes. Using pharmacist prescribers employed by the local NHS Trust to carry out medicine reviews with residents and their families, the results showed that 1.7 medicines could be stopped for every resident reviewed. Net annualised savings of £184 per person could be achieved and, for every £1 invested in the intervention, £2.38 could be released from the medicines budget.

**pharmacist led medicines review at least once a year or whenever a medicine is started, stopped or changed and when a resident moves between care settings.**

The NICE guidance<sup>38</sup> states that a named health professional should be identified who is responsible for medicine reviews for each resident. This should take into account their clinical experience and skills, how much they know about the resident and the resident's condition, and whether they can access relevant information.

NHS England's Five Year Forward View<sup>39</sup> calls for more shared models of care including medicine reviews helping to reduce hospital admissions for this vulnerable group. The RPS believes that a pharmacist should be a central part of the development and implementation of these models.

**The RPS believes that the pharmacy team should lead the medicines reconciliation and medicines reviews within the care home setting as part of the multidisciplinary team.**

## MEDICINES SAFETY

A study<sup>41</sup> in 2009 found that 70% of care home residents experienced at least one error associated with their medicines. This study suggested that to prevent errors, pharmacists should regularly review residents and their medicines and rationalise regimes to help care home staff work more safely. For example, a four-month trial in a care home in London where a pharmacist was given full responsibility for medicines management saw a 91% reduction in errors associated with medicines<sup>42</sup>.

**The RPS believes that the regular presence of a pharmacist at a care home would have a positive and measurable impact on patient safety.**

Currently, pharmacy services for care homes are mainly limited to supply of medicines and care homes are often served by multiple GP surgeries and pharmacies.

**The RPS believes that the government needs to review the commissioning of residential care provision to highlight where consistency of approach and overall safety and efficiency could be improved in relation to medicines and their use.**

## BETTER COMMUNICATION SYSTEMS

Medicines safety could be improved if patients' clinical information was shared between GPs, pharmacists and other care providers and was easily accessible in the care home. One study<sup>43</sup> found that not knowing a resident or prescribing without computerised notes or prescribing software led to poor communication between primary and secondary care and prescribing errors that had a negative impact on patients' health. Summit participants highlighted, for example, the ongoing use of faxes between hospitals and homes which can break patient confidentiality and be hard to read. Participants felt that information transfer is not joined up, with a number of different records held in different places for a single individual. However, as one regulator suggested at the summit:

*“If it's about stopping somebody being admitted, then this may open up sources of funding and a greater will to change things”.*

**RPS believes that, with patient consent, all pharmacists directly involved in patient care should have full read and write access to the patient health record in the interest of high quality, safe and effective patient care.**

## FALLS IN CARE HOMES

Residents of UK care homes for the elderly fall on average two to six times per year<sup>44</sup>. A review found that interventions to reduce falls in care homes were effective if they were coordinated via multi-disciplinary teams<sup>45</sup> and pharmacist led medicine reviews have been shown to lead to a reduction in the number of falls<sup>46</sup>.

**The RPS believes that a resident must receive a falls assessment on admission into a care home, and regularly thereafter, and that a pharmacist should be involved in assessing the falls risk from the medicines the resident takes.**

## USE OF PSYCHOTROPIC MEDICINES

In 2009<sup>47</sup> it was estimated that 25% of residents of care homes for the elderly were prescribed antipsychotics. A national programme to reduce their use lowered this to 12% but the use of psychotropic medicines has been shown to increase in the months after admission to residential care. In one study, antipsychotic dispensing increased from 8.2% before entry to 18.6% after entering and dispensing of hypnotics increased from 14.8% to 26.3%<sup>48</sup>. A pharmacy-led programme within GP surgeries

in Medway demonstrated that pharmacist interventions led to withdrawal or dose reduction of psychotropic drugs in 61% of cases<sup>49</sup>.

In 1987, legislation was introduced in the USA to reduce antipsychotic prescribing in care homes<sup>50</sup>. Homes were required to employ an independent consultant pharmacist to undertake regular reviews of antipsychotics, with the aim of reducing or discontinuing the medicines. Evidence suggests this has been effective.

Recent studies have also raised concerns about the prescribing of psychotropic drugs for people with learning disabilities. A 2015 census showed that two thirds of service users (68.3% or 2,220) had been given an antipsychotic in the lead up to census day<sup>51</sup>. NHS England has now proposed a 'Call to Action' for all parties including pharmacists to implement planned supervised dose reduction and the stopping of inappropriate psychotropic drugs.

**The RPS believes that pharmacists should play a key role as part of the multidisciplinary team in providing oversight of psychotropic medicines prescribed in care homes to ensure that their use is kept to a minimum.**

## END OF LIFE CARE

A review of medicine use at the end of life found that care home staff had variable confidence and competence in the appropriate use of palliative medicines. They found that syringe drivers were only used when specialist palliative care staff were involved<sup>52</sup>. In a recent study, up to 53% of care home residents were symptomatic in their last days of life<sup>53</sup> and the NICE guideline of 2014<sup>54</sup> includes the need for anticipatory medicines to be equally available in residential homes as they are in the community.

**The RPS believes that advice about and access to end-of-life medicine and anticipatory care medicines should be formalised between prescribers, pharmacists and care home providers.**

## MEDICINES WASTE

Research undertaken in 2009 estimated that medicines wastage in England cost £300 million each year; £150m of which is recoverable. Of this, £24 million is medicines that are disposed of unused by care homes<sup>55</sup>.

**The RPS believes that if pharmacists have responsibility for medicines use in care homes this will help to solve the issue of medicines waste, improve efficiency and provide better health outcomes for care home residents.**

## IMPACT ON PHARMACY PRACTICE

The community pharmacy contract covers six core areas with little funding for additional or enhanced services. The variability in community pharmacies from the large corporate providers to small independent outlets means that getting consistency in what services are provided to local care homes is difficult. Additional services such as audits and reviews can be undertaken but the funding and time required to do this universally are not always available.

Pharmacists may also not be confident in taking on these responsibilities. Summit participants felt that more training would be necessary along with support in new roles and mentorship networks to ensure consistent good practice. There was also felt to be little incentive for pharmacists to take up interim posts in pilot schemes where long term prospects were less clear than in conventional community practice. As one pharmacist at the summit suggested, the emphasis needed to be on producing "super pharmacists (with the right skills and experience)".

## MAKING THIS A REALITY – OVERCOMING THE BARRIERS

### Participants at the RPS summit believed that there should be:

- A blueprint for commissioners on what good pharmaceutical care in residential homes looks like which applies across England. Accountability should rest with the CCGs to co-ordinate care at local level with joint funding from health and social care, joint commissioning and localised agreements within the national blueprint.
- Clearer definition of the role of Health and Wellbeing Boards in commissioning residential care services.
- Involvement of the multidisciplinary team in commissioning; professionals who run services and have ideas on how to improve them should always be consulted.
- Better IT systems which improve the flow of information across local providers, be they independent, NHS or involved in social care.
- A professional contract between the care home or CCG and a pharmacist to provide additional professional services based on their knowledge, skills and competencies. This role should be supported by a mentorship network with regular peer review for the pharmacists working in this setting.
- A wider understanding of the impact of a good medicines review on the wider system such as decreased hospital admissions, reduced waste and the capacity to re-invest these savings in improved services.
- A centralised collection of resources to support local working and to share, publicise and collate examples of best practice.
- Better support by local pharmacists to enable care homes to understand how to best meet inspectorate recommendations.
- Further development of the evidence base for pharmacists' involvement in supporting care homes.
- Local systems for undertaking medicines reviews linked to transitions of care.

The RPS is keen to hear a wide range of views on whether the areas outlined are the most important, or if any area has been missed in our summary and any ideas on how this work could be taken forward.

If you have any comments, please contact Heidi Wright, Practice and Policy Lead, Royal Pharmaceutical Society [heidi.wright@rpharms.com](mailto:heidi.wright@rpharms.com)

## REFERENCES

- 1,44** Rubenstein L Z, Josephson K R, Osterweil M D. (1996) Falls and Fall Prevention in the Nursing Home. *Clinics in Geriatric Medicine* 12(4): 881-902.
- 2,45** Cameron ID, Murray GR, Gillespie LD et al. Interventions for Preventing Falls in Older People in Nursing Care Facilities and Hospitals (Review). The Cochrane Collaboration, John Wiley and Sons Limited, 2010. <http://www.bhfactive.org.uk/userfiles/Documents/Cochranereviewfalls.pdf>
- 3,46** Zermansky AG, Alldred DP, Petty DR et al. Clinical medication review by a pharmacist of elderly people living in care homes a randomised trial. *Age Ageing* 2006; 35: 586–91.
- 4,47** Banerjee S, 2009. The Use of antipsychotropic medication for people with dementia time for action. Report to the minister of State. <http://www.rcpsych.ac.uk/pdf/Antipsychotic%20Bannerjee%20Report.pdf>
- 5,48** Maguire, A., Hughes, C., Cardwell, C. & O'Reilly, D. Psychotropic medications and the transition into care: a national data linkage study. *Journal of the American Geriatrics Society*, 2013; 61: 215-221.
- 6,50** Gurvich T, Cunningham JA. Appropriate use of psychotropic drugs in nursing homes. *Am Fam Physician*. 2000 Mar 1;61(5):1437-46.
- 7,53** Morris, K, Hockley, J. Implementing stock end-of-life medication in UK nursing homes *End of Life Journal*, 2013, Vol 3, No 3
- 8** NICE Guidance. Managing medicines in care homes (2014) <https://www.nice.org.uk/guidance/scl>
- 9,28,55** York Economics Consortium and University of London (2010) Evaluation of the Scale, Causes and Costs of Waste Medicines.
- 10** [https://www.google.co.uk/?gfe\\_rd=cr&ei=EhNvVOXeCNCq8wez5YC4Ag&gws\\_rd=ssl#q=life+expectancy+uk](https://www.google.co.uk/?gfe_rd=cr&ei=EhNvVOXeCNCq8wez5YC4Ag&gws_rd=ssl#q=life+expectancy+uk)
- 11** Health expectancy at birth and at age 65 in the United Kingdom, 2008-10, Statistical Bulletin, Office for National Statistics, 2012 .
- 12,25** Age UK estimate calculated from Care of Elderly People Market Survey 2013/14, Laing and Buisson, 2014. As referenced in Age UK (2015) *Later Life in the United Kingdom* [http://www.ageuk.org.uk/Documents/EN-GB/Factsheets/Later\\_Life\\_UK\\_factsheet.pdf?dtrk=true](http://www.ageuk.org.uk/Documents/EN-GB/Factsheets/Later_Life_UK_factsheet.pdf?dtrk=true)
- 13** Bowman, C., Whistler, J., Ellerby, M. A national census of care home residents. *Age Ageing* 2004; 33: 561–6
- 14,18,31,36,41,43** Alldred DP, Barber N, Buckle P , Carpenter J, Dickinson R, Franklin BD, Garfield S, Jesson B, Lim R, Raynor DK, Savage I, Standage C, Wadsworth P, Woloshynowych M, Zermansky AG. Care Home Use of Medicines Study (CHUMS) Medication errors in nursing & residential care homes – prevalence, consequences, causes and solutions, Report to the Patient Safety Research Portfolio, Dept of Health. <http://www.birmingham.ac.uk/Documents/college-mds/haps/projects/cfhcp/psrp/finalreports/PS025CHUMS-FinalReportwithappendices.pdf>
- 15** Mansur, N., Weiss, A., Beloosesky, Y. (2008) 'Relationship of in-hospital medication modifications of elderly patients to post discharge medications, adherence and mortality', *Ann Pharmacotherapy*, 42 (6): 783-9
- 16** Boockvar, K. et al (2004) 'Adverse drug events due to discontinuations in drug use and dose changes in patients transferred between acute and long-term care facilities'. *Archives of Internal Medicine*, 164(5):545-550
- 17** Parsons C, Johnston, S, Mathie, E, Baron N, Machen I (2012) 'Potentially inappropriate prescribing in older people with dementia in care homes: a retrospective analysis', *Drugs and Aging*, 29(2): 143-155.
- 19** Kannus P., Sievanen H., Palvanen M., Jarvinen T., Parkkari J. (2005) Prevention of falls and consequent injuries in elderly people. *Lancet* 366: 1885–1893
- 20,21** Rubenstein L Z, Josephson K R, Osterweil M D. (1996) Falls and Fall Prevention in the Nursing Home. *Clinics in Geriatric Medicine* 12(4): 881-902.
- 22** Hsueh-Hsing Pan, Chung-Yi Li, Tzeng-Ji Chen, Tung-Ping Su, Kwua-Yun Wang Association of polypharmacy with fall-related fractures in older Taiwanese people: age- and gender-specific analyses. *BMJ Open* 2014;4:e004428 doi:10.1136/bmjopen-2013-004428
- 23** Mental Welfare Commission for Scotland (2013) *Good Practice Guide: Covert Medication* [http://www.mwscot.org.uk/media/140485/covert\\_medication\\_finalnov\\_13.pdf](http://www.mwscot.org.uk/media/140485/covert_medication_finalnov_13.pdf)
- 24,40** *Shine Final Report* (2012). A clinic-ethical framework for multidisciplinary review of medication in nursing homes. <http://www.health.org.uk/programmes/shine-2012/projects/multidisciplinary-review-medication-nursing-homes-clinico-ethical>
- 26** Duerden, M., Avery, A., Payne, R. (2013) Polypharmacy and Medicines Optimisation: Making it Safe and Sound. Kings Fund <http://www.kingsfund.org.uk/publications/polypharmacy-and-medicines-optimisation>.
- 27,37** Care home medication review by clinical pharmacists across Brighton and Hove CCG (2014)
- 29,35,38,54** NICE guidance (2014) *Managing medicines in care homes*. <https://www.nice.org.uk/guidance/scl>
- 30** NICE Quality Standard for medicines management in care homes (2015). <https://www.nice.org.uk/guidance/qs85>
- 32** Saeed, M. And Stretch, G. (2010) Introduction of a nursing home based intensive pharmaceutical interventions programme: audit of initial outcomes. *International Journal of Pharmacy Practice* 18(52) 54-55
- 33** CHAMMOIS project (Care homes and Medicines Optimisation Implementation Service) Leeds West CCG.
- 34** Personal Communication at RPS summit December 2015
- 39** NHS. Five Year Forward View, 2014. <http://www.england.nhs.uk/wp-content/uploads/2014/10/5yfv-web.pdf>
- 42** Szczepura, A., Wild, D., Nelson, S. (2011) 'Medication errors for older people in long term residential care', *BMC Geriatrics*, 11:82
- 49** Child A et al A pharmacy led programme to review anti-psychotic prescribing for people with dementia. *BMC Psychiatry* 2012, 12: 155.
- 51** Health and Social Care Information Centre Learning Disabilities Census Report – Further analysis England, 30 September 2013 Published 29 April 2014
- 52** Kinley J, Froggatt K, Bennett M. The effect of policy on end-of-life care practice within nursing care homes: a systematic review. *Palliat Med* 2013; 27: 209–20.

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