

# Care Homes: A Literature Review

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# Prevalence of Disease within Care Homes compared to General Population

## Introduction

With an increase in the ageing population and the potential for higher numbers of elderly people being resident in care homes the level of disease prevalence within homes could potentially lead to difficulties in meeting health care needs. This review aimed to identify if disease prevalence within care homes is higher than the general elderly population.

## Key Findings

- Comparison with the general elderly population has not been reported in the published literature.
- 82% of residents are confused or forgetful, depressed or agitated<sup>1</sup>.
- 73% of residents have a problem with continence<sup>1</sup>.
- 75% of residents have reduced mobility<sup>1</sup>.
- 90% of care home residents have medical problems<sup>1</sup>.
- Care home residents tend to experience multiple co-existing health problems<sup>2</sup>.
- Over 60% of residents have neurodegenerative disease such as Dementia, Parkinson's Disease or Stroke<sup>2</sup>.
- There are a statistically significant high proportion of people with dementia resident in care homes compared with the general population<sup>3</sup>.

## Background

Over the past 20 years changes in health care have resulted in long term care of the elderly being moved from hospital to care homes<sup>4</sup>. There has been an increase in the number of privately managed care homes in recent years with a decline in the number run by the local authority. Estimates suggest there are now 440,000 places in registered care homes the majority are for older people over 60 years. Local data suggests there are 3957 people who reside in care homes within Derbyshire<sup>5</sup>. The Department of Health estimate that the care home population could double by 2023<sup>6</sup>.

## Aim

To determine if care home residents have a larger burden of disease compared to the general older population.

## Methodology

A thorough search strategy was developed and all main social sciences databases were searched. Sources used include NHS Evidence, TRIP, NHS Evidence specialist collection – later life, Medline, CINAHL, BNI. A search of the “Grey” literature was also included.

Terms used include – care homes, residential, nursing, disease prevalence. The search identified very limited results. 2 reports 1 census survey 3 articles and 1 local data collection paper.

## **Findings**

Evidence of disease prevalence within care homes is extremely limited. There is however evidence; from a large census survey of care home residents which indicates that the majority of residents have medical problems, with high levels of multiple co-existing problems<sup>1</sup>.

In 2006 the continuing care conference undertook a census of 40,000 care home residents<sup>1</sup>. The results show that 82% of residents are confused or forgetful, depressed or agitated. 73% have continence difficulties and 75% have reduced mobility. Up to 50% have both continence and mobility issues. Over 60% have a neurodegenerative disease diagnosis such as dementia, Parkinson's Disease or stroke. Other disease prevalence is not reported in the published literature.

Evidence suggests that about 2% of care home residents are less than 60 years whilst 26% are between 60 and 80 years with the remaining population being over 80 years. The majority (around 74%) are female<sup>1</sup>.

A report reviewing the data for reasons for hospital admissions of care home residents indicate that there is a level of respiratory, circulatory, digestive, genitourinary, nervous system disease and mental and behavioural disorders<sup>3</sup>. Local evidence suggests that care home residents have a statistically significant higher prevalence of dementia than the general population but not other diseases<sup>5</sup>. It has not been possible to compare the prevalence of disease nationally within care homes to the general older population due to the lack of reliable studies.

## **Implications**

Older people living in care homes have high levels of health care need, largely determined by chronic, progressive disease resulting in complex co morbidities<sup>7</sup>. The level of dependency of care home residents is increasing. And the potential for increasing number of care home residents due to the increase in the elderly population calls for the effective provision of care and support to manage the health care needs.

# Interventions to Reduce Admissions to Emergency Care from Care Homes

## Introduction

With an increase in the ageing population and the potential for higher numbers of elderly people being resident in care homes effective care of health and illness is required. The department of health estimate that the number of people needing care in homes will double by 2023<sup>1</sup>. Currently within Derbyshire 3957 people reside in care homes the majority of whom are older people<sup>5</sup>.

This review aimed to identify the literature of what effective and cost effective interventions could be implemented to aid the care of older people in care homes to reduce emergency hospital admissions.

## Key findings

- Planned end of life care has been shown both here and internationally to reduce the number of hospital admissions<sup>8, 6, 9</sup>.
- Vaccination against flu for care home staff and residents has shown a reduction in the amount of related illness for the care home residents<sup>10</sup>.
- Planned care for treatment of disease within the care home rather than transfer to hospital has been shown to benefit residents - hospital at home<sup>11, 7, 12, 13</sup>
- Increasing the knowledge and confidence of care home staff increases quality of care and reduces hospital admissions<sup>7, 12, 13, 3, 14, 15</sup>
- Contracts between primary care and individual care homes, with regular visits and liaison by GPs has shown to improve illness management within care homes<sup>3, 16</sup>
- Although the general use of hip protectors is not cost-effective, the use of hip protectors for vulnerable elderly has been shown to reduce admissions for fractures especially within the dementia patients who tend to wander<sup>17</sup>.
- Pharmacist medicines review of medication – the evidence suggests that this intervention does not reduce admissions to hospital but may reduce prescribing costs and increase compliance. There is only published evidence related to elderly in the community but could be used within care homes to aid effective prescribing<sup>18</sup>.

## Background

Reducing hospital admissions has been on the NHS agenda for sometime now with a variety of interventions implemented to offer care within community settings. The evidence suggests that specific interventions with the vulnerable elderly in care homes has been neglected to date for more generic interventions aimed at patients with long term conditions and inappropriate use of emergency services.

With the increase in the elderly population and the potential for more long term care homes being required effective care within homes is required to effectively manage care and resources.

Within care homes it is recognised that there are differences in management and access to nursing and other expertise.

## **Aim of the Review**

The aim is to review the current literature for effective and cost effective interventions into care homes to manage care and prevent hospital admissions.

## **Methodology**

For the purpose of the review evidence of interventions in care homes to reduce hospital admissions was considered initially with expansion to interventions within the elderly population in the community due to the very limited amount of evidence for interventions within care homes. A search of the “Grey” literature was also included and contact with other trusts for evaluation of initiatives implemented.

A thorough search strategy was developed and all main social sciences databases were searched. Sources used include NHS Evidence, TRIP, NHS Evidence specialist collection – later life, Medline, CINAHL, BNI. Terms used include – nursing homes, care homes, hospitalisation, and admission prevention.

The search identified 32 papers for review. Only 7 papers relating specifically to interventions in care home settings. Plus two trust evaluations that remain unpublished. The papers specific to interventions within care homes to prevent hospital admissions included 2 major reports, 2 systematic reviews, 3 randomised control trials for different interventions and 1 literature review.

The remaining papers related to the elderly within the community. This included 8 systematic reviews, 4 randomised control trials all on different interventions, an economic evaluation and several small reports.

## **Findings**

The evidence for interventions within older peoples care homes is very limited. The quality of studies is variable and the findings are to be viewed with caution due to the small study populations. There are a number of international studies (e.g. USA) where the health care system is different but information may be useful for considering trial interventions that would require evaluation and publication of findings to add to the body of evidence available. Papers relating to interventions with the elderly in the community which could be transferable to the elderly in care homes have been included in this review.

Due to the evidence on specific interventions within care homes being limited, interventions within the community that may be transferable to a care home setting were also considered. Interventions included:

### *End of life care*

The gold standards framework for care homes has been developed by the Department of Health to enhance end of life care in care homes<sup>19</sup>. National and international studies have shown statistically significant reductions in hospital admissions when care is planned in advance and advance care directives are agreed<sup>8, 6, 9</sup>. There is also an increase in the number of people dying where they would like to (home rather than hospital) when advanced care directives are in place. The evidence suggests that providing end of life care within care homes increases patient and relative satisfaction as well as reducing hospital admissions<sup>9, 20</sup>.

### *Hospital at home*

Active treatment provided in the patient's home for a condition that would otherwise require hospital admission<sup>7</sup>. There is evidence to suggest that it is as cost effective if not more cost effective to provide care at home and that outcomes are not statistically significantly different from hospital treatment<sup>13</sup>. The provision of this service also enables early discharge for those who have been admitted to hospital, with no statistically significant adverse effects<sup>13</sup>. The majority of the evidence is community based however an international study has found the benefits can also be realised within the care home setting<sup>11</sup>. There is evidence that for care home residents the patient benefits are better than being hospitalised<sup>12</sup>. One literature review conducted in 2006 reporting that mortality and morbidity is improved for patients treated within their care home<sup>11</sup>.

### *Medication reviews*

The evidence for medication reviews undertaken by pharmacists is variable on outcomes. However, there is no statistically significant evidence to show that the intervention has an effect on reducing emergency admissions in the studies reviewed<sup>18</sup>. However there may be some benefit of improving prescribing efficiency and increasing medication compliance<sup>18</sup>. In nursing care homes compliance may not be such an issue as staff administer medicines.

### *Falls prevention/ hip protectors*

There were a number of studies on falls prevention in the elderly within the community<sup>17, 21, 22</sup>. A systematic review undertaken in 2009 concluded that the majority of interventions did not have a statistically significant effect on falls prevention with the elderly community population<sup>22</sup>.

The use of hip protectors to reduce hip fracture following a fall has also been the subject of studies. The evidence suggests that if used correctly and consistently, and managed by the care home staff, hip protectors can reduce fractures in vulnerable elderly dementia patients whom have a tendency to wander<sup>17</sup>. In other elderly groups the evidence was less convincing although compliance was often reported to be an issue. Education of the care home staff was found to improve usage.

### *GP practice allocation to homes with regular visits and liaison*

Recent evidence from an evaluation of a pilot study in Sheffield has shown promising results for GP allocation to homes with regular weekly visits and liaison<sup>16</sup>. The first year showed a reduction of emergency hospital admissions by about 9% for the study population. A control group was identified which had shown a 3% reduction in emergency hospital admissions. The study has been running for 18 months. This is a small local study which shows promising results but should be view with caution due to the small sample size. There were 500 care home beds involved in the trial.

This PBC group in Sheffield developed a LES, with Service Agreements to outline the responsibilities of the care home and the GP practice. This service has shown promising results with a 10% reduction in emergency admissions. Agreements included one care home would be allocated a GP practice and a GP would visit no less than once per week. On admission to the care home, discussion took place with residents and family members to discuss whether they would be willing to transfer GP practice. These visits reviewed all new patients regarding medications and any immediate problems, any residents about whom the staff had concerns, any resident discharged from hospital in the last week, any resident about whom the home made any contact with A&E or emergency services, and any resident about whom a family member or other person actively involved in their care has directly contacted the practice. Additional work includes annual medical review, including nursing assessment. For patients on four or more medications, a 6 month review is conducted, including blood screening and physical examination, if appropriate. Referrals would also be made to local older people's services e.g. intermediate care services, specialist medical/psychiatric services.

Payment was agreed on £250 per bed per year, with an allowance for an assumed 10% turnover of patients.

As well as monitoring the effects of admissions and costs associated to the intervention, qualitative evaluation was also undertaken to gain feedback from residents, carers and family members.

### *Increasing the knowledge and confidence of care home staff*

There is emerging evidence from new initiatives that increasing the knowledge and confidence of care home staff and supporting staff with managing long term conditions, palliative care and acute illness improves quality of care and reduces hospital admissions<sup>3, 7, 12, 13, 14, 15</sup>. One PCT area employs a multidisciplinary support team to aid the training and development of the care home staff<sup>14</sup>. Another introduced a specialist nurse support service to work directly with care home staff in care planning and learning new skills<sup>15</sup>, both reduced hospital. Other national researched based initiatives exist such as "My Home Life"<sup>3</sup> and the gold standards framework for care homes<sup>6</sup>.

## *Flu Vaccination*

1 randomised control trial looking at the effectiveness of vaccinating care home staff as well as patients has shown evidence of reducing mortality and the amount of flu related illness within care home residents. Care home staff were actively encouraged to be vaccinated and this increased the uptake of the vaccination programme<sup>10</sup>. 1 systematic review and cost-effectiveness analysis was conducted on the policy to vaccinate health care workers found that even on the most pessimistic scenario; vaccination was cost saving at £405 per life year gained<sup>23</sup>.

## *Oral hygiene*

There was unfortunately only one research study related to this area. This study was undertaken to determine if advanced oral hygiene could prevent respiratory infection in care home and hospital patients showed no statistical significance in people who received the enhanced oral hygiene and the control in the care home population<sup>24</sup>. Given the lack of research available surrounding this subject, it is essential that if any future interventions are delivered, this must contain robust evaluation in order to add to the research base.

## **Implications**

Evidence is limited as to the effectiveness and cost effectiveness of interventions into residential and nursing care homes for reducing hospital admissions.

However there is some limited evidence that:-

- Planned End of Life care within care homes can reduce hospital admissions
- Hospital at home treatments within the nursing home rather than in hospital can reduce further complications and often deterioration of the patient associated with hospital admission.
- Increasing the knowledge and confidence of care home staff can improve care and reduce hospital admissions
- Immunisation against flu for staff as well as residents can reduce related illness for residents
- Recent evidence from Sheffield pilot shows allocation of GP practice to home with regular visits and liaison produces improved illness management and has reversed the trend of rising emergency hospital admissions.
- Hip protectors for elderly dementia patients at risk of falling can prevent fractures and hospital admissions

## **Further Evidence**

With evidence very limited, any interventions implemented should include robust evaluation and publication of the findings to add to the current body of evidence.



## References

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- <sup>1</sup> Continuing Care Conference (2006). *Census of BUPA care home residents*. BUPA care homes. London
- <sup>2</sup> Bowman C, Whistler J, and Ellerby M (2004). *A national census of care home residents*. Age and Ageing, vol.33 No. 6
- <sup>3</sup> Heath H (2006) *Quality of life in care homes: Health and health care services*. National care homes research and development forum. London
- <sup>4</sup> Department of Health (2007). *Putting People First*. Stationary Office. London.
- <sup>5</sup> Richmond N, Olk M, Devine S (2010) *Care homes health needs analysis-pilot project for Ripley LCG and Belper LCG* Unpublished
- <sup>6</sup> Badger C (2006). *Using the gold standards framework in care homes - an evaluation*. University of Birmingham
- <sup>7</sup> Bowman C, Elford J, Dovey J, Campbell S, Barrowclough H (2000). *Acute Hospital admissions from nursing homes: some may be avoidable*. [http://pmj.bmj.com/content/77/903/40.full?ath\\_user+nhstrlfrith001&ath\\_tok+%3CSO](http://pmj.bmj.com/content/77/903/40.full?ath_user+nhstrlfrith001&ath_tok+%3CSO)
- <sup>8</sup> Carplan G, Meller A, Squires B, Chan S, Willett W (2006) *Advanced Care planning and Hospital in the nursing home*. Age and Ageing Vol. 35
- <sup>9</sup> Molloy D, Guyatt G, Russo R (2000) Systematic implementation of an advanced directive programme in nursing homes: a randomised controlled trial. *Journal of the American Medical Association* 283/1437
- <sup>10</sup> Hayward A, Harling R, Wetten S (2006). Effectiveness of an influenza vaccine programme for care home staff to prevent death, morbidity and health service use among residents: cluster randomised control trial. *BMJ*. <http://ebm.bmj.com/content/12/3/81.full?sid+8eb5dfcl1-c969-41d2-9715-81e8d09ffbcc>
- <sup>11</sup> Dosa D (2006) *Should I hospitalise my resident with nursing home acquired pneumonia?* *Journal of American medical Directors Association*. Vol. 3 s74/80
- <sup>12</sup> Owen T, Meyer J, Bently J, Heath H, Goodman C, (2008) *Better partnership between care homes and the NHS: Findings from the My Home Life Programme*. *Journal of Care Services Management* Vol. 3 No. 1 Henry Stewart Publications
- <sup>13</sup> Shepperd S, [Doll H](#), [Angus RM](#), [Clarke MJ](#), [Iliffe S](#), [Kalra L](#), [Ricauda NA](#), [Tibaldi V](#), [Wilson AD](#) (2009). *Avoiding hospital admission through provision of hospital care at home: a systematic review and meta-analysis of individual patient data*. <http://ebm.bmj.com/content/14/3/79.full?sid=ac34d43b-ed86-4799-b421-d6ed308b2295>
- <sup>14</sup> Gloucestershire PCT (2009). *An evaluation of Gloucestershire Partnerships for Older People Project: final report*. Unpublished <http://www.nhsglos.nhs.uk>
- <sup>15</sup> Joseph Rowntree Foundation. (2008). *Improving care in residential care homes: a literature review*. Teams from the University of Warwick, University of the West of England, and University of York. <http://www.jrf.org.uk/sites/files/jrf/2326.pdf>
- <sup>16</sup> Sheffield PCT (2009) *Impact of LES Care Homes in Parsons Cross Consortium: Progress to date (July 2009)* Unpublished.
- <sup>17</sup> Meyer G, Warnke A, and Bender R (2003) Effect on hip fractures of increased use of hip protectors in nursing home: cluster randomised control trial. *British Medical Journal* 326/76
- <sup>18</sup> Holland R, Desborough J, Goodyer L, Hall S, Wright D, Loke YK (2008) *Does pharmacist-led medication review help to reduce hospital admissions and deaths in older people? A systematic review and meta-analysis*. *British Journal of Clinical Pharmacology*, vol. 65/3 (303-16)
- <sup>19</sup> Department of Health. *The Gold Standards Framework for Care Homes*. Available on: <http://www.goldstandardsframework.nhs.uk/GSFCareHomes>
- <sup>20</sup> Department of Health. *Evaluation of The Gold Standards Framework for Care Homes*. Available on: [http://www.goldstandardsframework.nhs.uk/GSFCareHomes/Evaluation\\_GSFCH\\_Programme](http://www.goldstandardsframework.nhs.uk/GSFCareHomes/Evaluation_GSFCH_Programme)
- <sup>21</sup> Clemson L, Mackenzie L, Ballinger C, Close J, Cumming R (2008) Environmental Interventions to prevent falls in community dwelling older people: a Meta-analysis of randomised trials. *Journal of Aging and Health* Vol. 20 No. 8
- <sup>22</sup> Harlein J, Dassen T, Halfens R, Heinze C (2009) *Falls risk factors in older people with dementia or cognitive impairment: a systematic review*. *Journal of Advanced Nursing* Vol. 65/5

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<sup>23</sup> Burls A, Jordan R, Barton P, et al (2006). *A cost effectiveness analysis of the policy to vaccinate healthcare workers against influenza*. *Vaccine*; 24:4212–21.

<http://immunizewa.org/files/2006%20Vaccine%20-%20Burls%20-%20Review%20of%20vaccinating%20healthcare%20workers%20against%20influenza.pdf>

<sup>24</sup> Sjögren P, Nilsson E, Forsell M, (2007). *A systematic review of the preventive effect of oral hygiene on pneumonia and respiratory tract infection in elderly people in hospitals and nursing homes: effect estimates and methodological quality Enhanced oral hygiene care v placebo or usual care (control) to prevent respiratory infection in elderly people in hospitals and nursing homes*

<http://ebm.bmj.com/content/14/3/80.full?sid=882c1b66-99a9-468b-b9de-bcda823950d6>

## **Bibliography**

College of Occupational Therapists (2007). *Activity provision: Benchmarking practice in care homes* [www.cot.co.uk/mainwebsite/resources/document/activityprovisionenglish.pdf](http://www.cot.co.uk/mainwebsite/resources/document/activityprovisionenglish.pdf)

McCusker J, Verdon J (2006). *Do geriatric interventions reduce emergency department visits: a systematic review?* *Journal of gerontology series A biological sciences and medical sciences* Vol. 61 No. 1

Schnelle J, Kapur K, Alessi C (2003). *Does an exercise and incontinence intervention save healthcare costs in a nursing home population?* *Journal of American Geriatric Society* Vol. 51/161