

# The evidence, or lack of, for community transformation

What is the evidence for alternatives to acute hospital care for people over 65 years of age at risk of a potentially avoidable admission?

Sarah Purdy

bristol.ac.uk







## Sources of information

 Systematic review(s) of interventions aimed at reducing admissions in older patients with acute medical problems for whom the admission may be avoidable

also

• Current guidance around emergency admittance decisions for people ≥65 years old





What are admission alternatives for older patients and do they improve patient outcomes?

- Hospital at home (9 studies & 6 previous reviews)
- Hospital in the nursing/care home (2 studies)
- Community hospitals (2 studies)
- Integration of care
- End of life care





# Hospital at home (HaH)

 'Hospital at home' provides acute or subacute treatment in a patient's residence for a condition that would normally require admission to hospital. It is also known as 'hospital in the home' and 'home hospitalisation'. (Shepperd, 1996)



#### Evidence for HaH (updated including Shepperd 2016)

#### **Conditions studied**

Heart failure, COPD, pulmonary embolism, pneumonia, cellulitis, **stroke**, uncomplicated diverticulitis and a mixed population

#### **Effectiveness & Safety**

- Patient health outcomes = in-hospital care
- May increase the chances of living at home at six months' follow-up.
- Reduces time to next admission with similar mortality rates between groups

#### Patient satisfaction data are limited





- "When the costs of informal care were excluded, admission avoidance hospital at home may be less expensive than admission to an acute hospital ward (287 participants, lowcertainty evidence);" *Shepperd Cochrane 2016*
- "The impact on health service costs of intermediate care's role in ...avoiding future hospital admissions, particularly in frail elderly people is not known."

#### Pearson SDO 2013

• Evaluation of **virtual wards-** no evidence of a reduction in emergency hospital admissions

Nuffield Trust, 2013





# Hospital in the nursing/care home (Crilly, 2010, Lau, 2013)

- Model is similar to HaH but in nursing or care home (HNCH)
- Australian studies, not RCTs
- Significantly reduced length of stay in HNCH vs time spent in hospital
- No cost data available





# **Community hospital study 1**

(Garasen, 2007; Garasen, 2008ab; Norway

- RCT n=142 people >60 years randomised within 24h of admission for acute illness/exacerbation
- At 6 months FU v general hospital admission
  - Fewer readmissions 19% v 36%
  - More people with no community care 25% v 10%
  - Fewer deaths 18% vs 31%
  - All p<0.05
- No cost data





#### **Community hospital study 2** Vicente 2014; Sweden

- RCT n=806 older adults (mean 81 years) who called emergency number and triaged by trained staff to ED at acute hospital or community hospital with geriatric ward and community emergency care centre vs all going to ED.
- In intervention group 20% people sent to community hospital

bristol.ac.uk

- Around 7% of these subsequently transferred within 24h
- No cost data



## Other studies about community hospitals

 One study showed that care in CH was associated with greater independence for older people than care in wards in a district hospital

Green BMJ, 2005

Older studies reported no benefits but probably no longer relevant

e.g. Hine J of RS Medicine 1996; Baker Epi Comm Health, 1986; Cook Age and Ageing, 1998



# Costs of community hospitals (CH)

*'Post-acute care for older people in a locality based community hospital is of similar cost effectiveness (within an RCT) to that of an elderly care department in a district general hospital'* 

O'Reilly BMJ, 2006

'CHs had only a small effect (decrease) on the use of DGH medical beds. Distance from a hospital and the level of CH bed provision were the principal determinants in the variation in bed use.'

Cook, Age and Ageing, 1998



 Areas that have well-developed, integrated services for older people have lower rates of bed use. And areas with low bed use also deliver a good patient experience and have lower readmission rates.

#### King's Fund 2012

• Recent evaluation of 16 integrated care pilots in UK (mainly horizontal integration of health and social care) found:

"...no evidence of the anticipated reduction in emergency admissions"

bristol.ac.uk

#### Rand 2012



#### Marie Curie Delivering Choice Programme

Users were:

- 67% less likely to die in hospital
- 51% less likely to have an emergency hospital admission in last month and 78% less likely in last 7 days
- 59% less likely to have A&E attendance in last month and 78% less likely in the last week
- Care coordination centre appeared to be most effective component

Purdy BMJ Supportive and Palliative Care 2013





# What are the defining characteristics of those older patients for whom the decision to admit to hospital may be unclear?





### Mean age ≥75 years

### **Chronic conditions**

- Heart failure
- COPD
- Diabetes

#### **Acute conditions**

- Dehydration
- Pulmonary embolism
- Stroke
- Syncope
- Deep venous thrombosis
- Gastroenteritis
- Uncomplicated diverticulitis
- Pneumonia
- Cellulitis
- Urinary tract infection
- Terminal care support
- Falls





## What are other issues to consider?

- Home situation
- Family or social support
- Individual ability to cope
- Dementia patients
- Nursing/care/sheltered residents





The key drivers of unplanned ACSC admission vary by condition:

- Deprivation particularly crucial for those where lifestyle factors are important (e.g. alcohol related diseases, COPD)
- Continuity of care most important for chronic diseases where GP has
  important role to play in avoiding admissions
- Bed availability and proximity to A&E most important for conditions where the need to attend and be admitted to hospital is less obvious (e.g. alcohol related diseases, ENT infection, dehydration and gastro)

Busby 2016



bristol.ac.uk





Figure 1 Application of a risk prediction model to a hypothetical general practice population of 10 000 patients to identify the top 1.6% most at risk of at least one emergency admission over the next year.



Emma Wallace et al. BMJ 2016;352:bmj.h6817





# Summary (1)

- Alternatives to admission appear safe with potential to reduce secondary care use, reduce length of time care is needed and reduce extra community resource use
- Profile of older patient for which decision to admit is uncertain: ≥75yrs, co/multi-morbidities, home situation, social support, individual coping abilities, dementia
- There is a lack of patient-related outcomes and cost data





# Summary (2)

- Most evidence is from studies of HaH focusing on heart failure and COPD.
- The highest quality research (RCTs) of HaH show that overall this alternative approach is similar to acute hospital admission in terms of patient safety and recovery.
- Costs are rarely reported in HaH studies; however limited information showed some savings on initial care, but no differences in the longer term.



# Summary (3)

- Research on community hospitals suggests that they are similar to acute hospital admission in terms of patient safety and recovery, but this evidence is very limited in number and quality of studies – more will be available in next couple of years
- So, there is little evidence in some areas but substantial evidence in others
- One key question is how to avoid service overload and supply induced demand



## Online resource

Evidence report: alternatives to acute hospital care for people over 65 years of age being considered for potentially avoidable admission <u>http://www.bristol.ac.uk/media-</u> <u>library/sites/primaryhealthcare/documents/managing-uncertainity-PDG-</u> <u>evidence-report.pdf</u>





# Acknowledgements

This research is funded by the National Institute for Health Research School for Primary Care Research (NIHR SPCR), NIHR Research for Patient Benefit and Programme Development Grants, the Medical Research Council (MRC) and Marie Curie Cancer Care.

The views expressed are those of the author and not necessarily those of the NHS, the NIHR, the Department of Health, the MRC or Marie Curie Cancer Care.

> NHS National Institute for Health Research

School for Primary Care Research