EDITORIAL

Hospital at home in chronic obstructive pulmonary disease: is it a viable option?

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Innovative approaches aimed at reducing reliance on acute hospitals are being explored by providers of health systems around the world.[1] These approaches reflect concern about the suitability of the hospital environment for people with complex healthcare problems who are often in need of some form of rehabilitation. The high cost of hospital-based care is also a major driver.

Within *The Cochrane Library* there is a small and growing number of systematic reviews evaluating the effectiveness of different ways to deliver healthcare services. Examples include discharge planning from hospital to home,[2] home versus hospital intravenous antibiotic therapy for cystic fibrosis,[3] and routine hospital admission versus out-patient or home care in children with a diagnosis of type 1 diabetes.[4]

A recently updated Cochrane Review of assisted early discharge hospital at home, for people with an acute exacerbation of chronic obstructive pulmonary disease (COPD) is published in the May 2012 issue of the *Cochrane Database of Systematic Reviews*.[5] COPD is the fifth leading cause of death in the UK and fourth worldwide and is predicted to become the third leading cause of death worldwide by 2020.[6][7] It is also the most common reason for emergency admission in the UK due to respiratory disease, and about a third of people with COPD who are admitted to hospital will be admitted again within three months.[8] All participants recruited to the eight trials included in this review presented at the emergency room and in some cases were admitted to hospital for up to 72 hours, prior to specialist assessment and randomisation into the trials. In most cases hospital at home was provided by a hospital outreach team which included specialist respiratory nurses and access to usual primary care. The systematic review reports a statistically significant reduction in the relative risk of readmission to hospital after one to six months, with hospital at home compared with inpatient care, albeit with moderate levels of uncertainty. Of importance is when during the follow-up time a readmission occurred, for example, the meaning of a readmission that occurs shortly after being discharged from hospital at home or inpatient care is different to one that occurs several months later. Furthermore, the time that a patient is at risk of a readmission may differ between those receiving hospital at home and inpatient care, as it is not unusual for those receiving hospital at home care to receive more days of care than those admitted to inpatient care.[9]

For some of the trials, recruitment was only offered during working hours, and only a small minority (14% to 35%), of people presenting with COPD exacerbations were suitable and agreed to be recruited into the trials, which may limit the potential for a hospital at home approach to be used widely in managing COPD exacerbations. However, if these types of service models continue to be seen as an alternative to inpatient care, then additional randomized evidence is required. Future randomized controlled trials should endeavor to assess the role of a specialized assessment, as this has been shown to improve patient outcomes in frail older people requiring hospital admission.[10]

How do the findings of this review compare with related evidence? Two Cochrane Reviews, one of admission avoidance hospital at home [11] and the other of early discharge hospital at home [9] included trials recruiting people with COPD as a subset of the trials included in this review. A statistically significant increase in readmission rates was reported for older people with a medical condition (including COPD) who were allocated to early discharge hospital at home compared with those allocated to inpatient care.[9] This finding was not observed in the analysis of data from trials evaluating admission avoidance hospital at home.[11] In addition, an increase in days of care was found in the trials reporting the combined days of care received in hospital (inpatients) and at home (hospital at home).[9]

Of crucial importance is the configuration of these services, access to 24 hour care 7 days a week,[12] and correctly identifying patients who are eligible for this type of care. Nearly 40% of patients randomized to inpatient care in one of the trials included in this review were discharged from the emergency room and did not require admission to hospital.[13] This highlights the difficulty in tightly defining the criteria for identifying patients who are eligible for this type of service. Moreover the hospital at home approach often requires the presence of a carer at home who is willing and able to nurse the patient who is suffering from an exacerbation of their COPD. Finally there is only low-quality evidence about the cost of hospital at home services compared with inpatient care.[5]

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Declarations of interest

The authors have completed the Unified Competing Interest form at www.icmje.org/coi_disclosure.pdf (available upon request) and declare (1) no receipt of payment or support in kind for any aspect of the article; (2) no financial relationships with any entities that have an interest related to the submitted work; (3) that the authors/spouses/children have no financial relationships with entities that have an interest in the content of the article; and (4) that there are no other relationships or activities that could be perceived as having influenced, or giving the appearance of potentially influencing, what was written in the submitted work.

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