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Effect of the British Red Cross 'Support at Home' service on hospital utilisation

Research summary

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Meeting the care needs of older people with complex health and social problems is recognised as one of the most significant challenges for health services around the world. It is an issue that has been the focus of a number of national polices (NHS England, 2013), many of which emphasise the importance of preventive care and thus reductions in hospital admissions.

The British Red Cross Support at Home programme offers support to individuals at home in an effort to help build their confidence and allow them to regain their independence. This report summarises a more comprehensive evaluation of aspects of the programme, focusing on the impact of hospital discharge Support at Home services on overall hospital utilisation and the associated costs.

Key Points

- In the six months after referral to Support at Home, the Red Cross group had a 19% higher rate of emergency admissions than the matched control group. Accident and emergency visits were also similarly higher. Non-emergency admissions, however, were 15% lower in the Red Cross group than in the matched control group. There was no significant difference between the two groups in terms of outpatient attendances.
- The total cost of emergency admissions was significantly higher among Red Cross patients than the matched controls during the six months after referral (by £940 per person). Non-emergency costs were significantly lower for the Red Cross group (by £345 per person). Overall estimated hospital costs in the six months following referral were higher for the Red Cross patients than for the controls, but the difference was not statistically significant.
- We assessed the length of time between a referral to the Red Cross and any subsequent emergency re-admission. This is known as 'event-free survival'. There was no significant difference between the Red Cross and control groups on this measure. This was also the case for all other types of hospital care.
- There were some quite large differences between the seven Red Cross service sites – but small cohort sizes meant that these differences were not statistically significant. However, in one of the seven study sites, there appeared to be a significantly higher risk of a future emergency admission than the matched controls. In the other six Red Cross service locations we found no significant difference in the risk of a future emergency admission.
- Hospital use in the month after referral showed a distinctive pattern. The Red Cross group had almost half of the risk of a non-emergency admission than the control group, and costs of non-emergency admissions were lower by £127 per person. We found no difference between the two groups in other types of hospital care. Overall hospital costs, however, appeared to be significantly lower in the Red Cross group, by £261 per person.

Download the full research report from:
www.nuffieldtrust.org.uk/publications/british-red-cross-hospital-utilisation

Introduction

Meeting the care needs of older people with complex health and social problems is recognised as one of the most significant challenges for health services around the world. It is an issue that has been the focus of a number of national polices (NHS England, 2013), many of which emphasise the importance of preventive care that reduces the risk of a person succumbing to health crises which can often lead to emergency hospital admissions.

The Support at Home programme[1] provided by the British Red Cross (referred to as the Red Cross in this report) offers short-term practical and emotional support to individuals at home in an effort to help build their confidence and allow them to regain their independence. The support that the Red Cross offers, delivered using volunteers as well as Red Cross staff, is diverse, and aims to help individuals with daily tasks of living. Examples of typical tasks carried out as part of this service are given in Box 1.

The Red Cross commissioned the Nuffield Trust to evaluate aspects of its Support at Home service. The resulting evaluation focused on the impact of hospital discharge Support at Home services on overall hospital utilisation and associated costs. The study was not intended to be a comprehensive evaluation, but focused on whether those people receiving the Red Cross support on discharge from hospital experienced fewer hospital admissions over the next few months.

The study focused on a cohort of 1,573 patients aged over 45 who had received the Red Cross Support at Home Service following emergency admission at one of seven centres in London.

Box 1. Examples of recorded Support at Home interventions

Accompaniment to appointments and on walks
Arranging GP appointments and access to health services
Assistance with completing forms/bills
Carrying out essential shopping
Carrying out light household tasks
Liaising with carers/housing agencies
Liaising with therapy and health services
Meeting service user in hospital clinic
Pet care, e.g. emptying litter tray
Phoning Department for Work and Pensions to see if service user is on benefits
Picking up and delivering hearing aid batteries
Posting letters
Prescription and pension collection
Reading letters (to partially-sighted service user)
Reminding service user to take medication/fluids
Signposting to other local statutory, community and voluntary organisations
Switching on storage heaters in service user's home – day before discharge
Telephone assistance, 'check and chat'

[1] The British Red Cross 'Support at Home' service was renamed in December 2013. Prior to this date (and during the evaluation by the Nuffield Trust), it was known as the 'Care in the Home' service.

Methods

We compared patterns of hospital use after referral to the Red Cross against those of a control group made up of 1,573 people who were matched on a wide range of characteristics. The matching process selected the most similar individual – in terms of demographics, disease history and prior hospital use – to each Red Cross service user from the wider group of people discharged from the same hospital.

Table 1 summarises the key characteristics of the Red Cross and control cohorts, showing close matches in age, sex, ethnicity and in the average number of chronic conditions (the standardised differences are all well below 10% which is an accepted threshold of difference between two groups). Figure 1 also shows the two groups' clinical histories – they are well matched on diagnoses recorded in prior hospital visits.

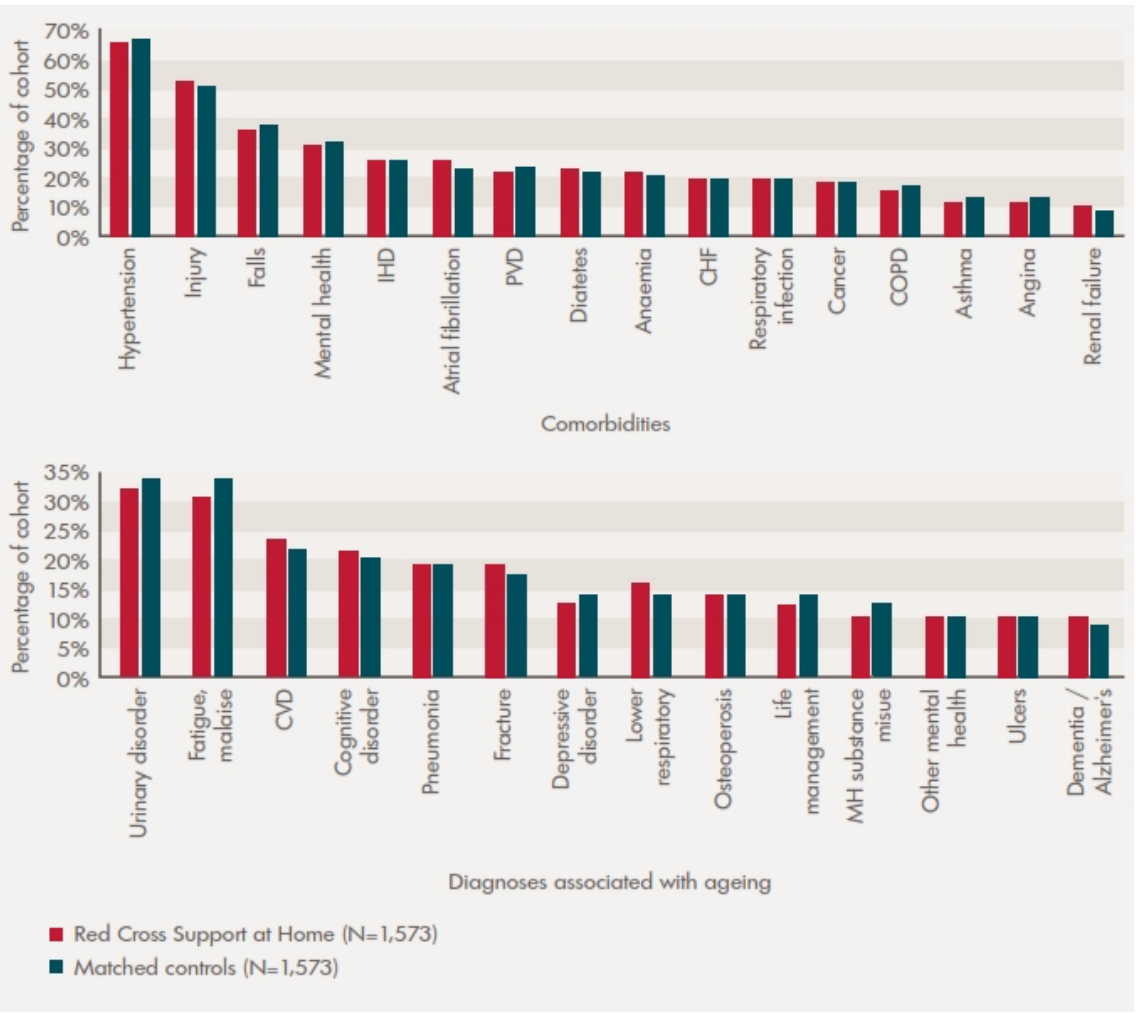
Table 1. Characteristics of Red Cross cohort and matched controls

Measure	Mean (standard deviation)		Standardised difference
	Red Cross Support at Home	Matched controls	
Age (years)	79.5 (10.7)	79.5 (10.3)	0.1%
Aged 85+	37.4%	36.6%	1.8%
Female	62.7%	62.8%	0.3%
Resident in the most deprived quintile of IMD	19.3%	19.1%	0.6%
Ethnic group white	76.9%	77.1%	0.6%
Number of chronic conditions	2.2 (1.6)	2.2 (1.6)	0.7%

N=1,573 in each group
IMD: Index of Multiple Deviation

The analysis compared the type and cost of hospital use in the six months after referral, and also looked at how long patients went without subsequent re-admission or dying – termed as 'event-free survival'. This was expressed in terms of the risk of future admission.

Figure 1. Clinical characteristics of Support at Home cohort and matched controls



CHF: Congestive heart failure; COPD: Chronic obstructive pulmonary disease; CVD: Cardiovascular disease; IHD: Ischaemic heart disease; MH: Mental health; PVD: Peripheral vascular disease

Findings

Our key findings were:

- In the six months after referral to Support at Home, the Red Cross group had a 19% higher rate of emergency admissions than the control group. Accident and emergency visits were also similarly higher. Non-emergency admissions, however, were 15% lower in the Red Cross group than in the matched control group. There was no significant difference between the two groups in terms of outpatient attendances.
- The total cost of emergency admissions was significantly higher among Red Cross patients than the matched controls during the six months after referral (by £940 per person). Non-emergency costs were significantly lower for the Red Cross group (by £345 per person). Overall estimated hospital costs in the six months following referral were higher for the Red Cross patients than for the controls, but the difference was not statistically significant.
- We assessed the length of time between a referral to Red Cross and any subsequent emergency re-admission. This is known as 'event-free survival'. There was no significant difference between the Red Cross and control groups on this measure. This was also the case for all other types of hospital care.
- There were some quite large differences between the seven Red Cross service sites – but small cohort sizes meant that these differences were not statistically significant. However, in one of the seven study sites, there appeared to be a significantly higher risk of a future emergency admission than the matched controls. In the other six Red Cross service locations we found no significant difference in the risk of a future emergency admission.
- Our primary analysis studied hospital use in the six or more months after referral to the Red Cross service, but there were some indications that the service may have had a shorter-term impact. In the month after referral, the Red Cross group had almost half of the risk of a non-emergency admission than the control group, and costs of non-emergency admissions were lower by £127 per person. We found no difference between the two groups in other types of hospital care. Total hospital costs in the month after referral appeared to be significantly lower in the Red Cross group, by £261 per person.

Conclusion

The British Red Cross Support at Home service provides practical help to people following a stay in hospital, and aims to help individuals to remain independent and, where possible, avoid future unnecessary hospital visits. Although our sample size for this study was large enough to do so, we were not able to detect lower use of hospitals for the Red Cross group compared with a matched control group over the longer term. In fact, the evidence suggested that emergency admissions may have been slightly higher in the Red Cross group – although there were indications that non-elective admissions were lower. This is a pattern we've observed previously in a number of other studies evaluating interventions aimed at reducing hospital emergency admissions (Bardsley and others, 2013).

There was some evidence pointing to potential differences in shorter-term re-admissions (within 30 days) in the Red Cross groups – but this was observed during secondary analysis of the data. We also observed differences between the sites.

It is to the credit of the Red Cross that they supported this type of study and enabled an approach that exploited anonymised linked datasets to undertake more powerful analysis than is usually applied to these types of interventions. Our study was constrained by problems with the data collected by the Red Cross, however. This meant that several thousand additional recipients of Support at Home could not be identified for analysis, and for those we were able to study, we often did not know the extent of the support provided by the Red Cross.

The methods used in this study therefore have some limitations. However, the results are disappointing with respect to demonstrating that Red Cross support delivered a lasting impact on hospital admissions. It is important to recognise though, that the scheme may have had other benefits not captured in our measures of hospital activity.

The results reinforce the challenges around reducing rates of emergency hospital admission. This is a common concern across health services, and one that has proved difficult to convincingly address. In the absence of well-accepted, evidence-based solutions to reducing emergency admissions, there is a need to subject promising new interventions and models of service provision of this type to thorough evaluation.

References

Bardsley M, Steventon A, Smith J and Dixon J (2013) *Evaluating Integrated and Community-based Care: How do we know what works?* Nuffield Trust.

NHS England (2013). Quality, Innovation, Productivity and Prevention (QIPP). www.improvement.nhs.uk/qipp

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