Impact of a dedicated syncope and falls facility for older adults on emergency beds

ROSE A. KENNY, DERMOT O’SHEA, HEATHER F. WALKER

Cardiovascular Investigation Unit, Royal Victoria Infirmary and School of Clinical Medical Sciences, University of Newcastle upon Tyne, Newcastle upon Tyne, UK

1CHKS Limited, Alcester, Warwickshire, UK

Address correspondence to: R. A. Kenny, Cardiovascular Investigation Unit, Victoria Wing, Royal Victoria Infirmary, Newcastle upon Tyne NE1 4LP, UK. Fax: (+44) 191 222 5638 Email: R.A.Kenny@ncl.ac.uk

Abstract

Background: Syncope and falls are common symptoms in older adults. Dedicated facilities for these symptoms are emerging in the UK. To date, justification for resource allocation for these day case facilities is lacking. A dedicated syncope and falls day case facility for older adults was set up in Newcastle in 1991 (at the Royal Victoria Infirmary). The facility provided rapid access for assessment of appropriate patients from the community, the accident and emergency department, or emergency admissions. Activity and performance in 1999 were compared with peer inner-city teaching hospitals and with previous performance in 1990 at the Royal Victoria Infirmary to determine whether the facility had influenced emergency activity.

Objective: to describe the impact of the facility on emergency bed activity and performance for the diagnostic categories of syncope, falls, collapses, gait abnormalities and dizziness.

Design: descriptive study.

Setting: syncope and falls day case facility.

Methods: performance and activity for Healthcare Resource Groups and ICD codes relevant to falls and syncope were compared for adults over 65 years attending the Royal Victoria Infirmary and thirteen peer hospitals. Activity and performance before the facility was set up (1990) at the Royal Victoria Infirmary were also compared with 1999 data.

Results: Syncope and collapse is the 6th commonest reason for acute hospital attendance of over 65-year olds in the UK. In 1999, the Royal Victoria Infirmary was at variance by—6616 bed days compared with other the other Trusts for these diagnoses. This equates to 18 beds occupied in that year. The degree of emergency activity for the relevant diagnoses (Healthcare Resource Groups data) was much less than at peer trusts—35% versus 97%. The average length of stay for admitted patients was also shorter for Royal Victoria Infirmary than peers—2.4 versus 8.6 days. Acute length of stay at the Royal Victoria Infirmary was reduced from 10.9 days in 1990 to 2.7 days in 1999 (ICD 10 data). In 1991 all activity was emergency.

Conclusion: the striking variance in bed days in 1999 is due to lower emergency activity and shorter length of stay at the Royal Victoria Infirmary. This is attributed to the dedicated rapid access day-case facility. This has relevant resource implications for planning of future facilities and implementation of National Service Framework standards for falls and intermediate care.

Keywords: syncope, falls, emergency admissions, older adults

Introduction

Syncopal events and falls are a major health care and cost burden for the NHS. Each year between 35% of community living adults over 65 and 45% of adults over 80 years have an event. At least 10% of events result in fractures [1, 2]. Syncope and falls are the commonest reason for older adults to attend the accident and emergency department—between 20% and 45% of adult attendances [3].

In 1991 a syncope and falls facility for older adults was set up in Newcastle at the Royal Victoria Infirmary.
(RVI) to focus care pathways in a dedicated day case facility. Consultant episodes have increased from 90 in 1991 to 2400 in 1999.

The facility operated as a rapid access system. Acute hospital admissions were referred to the facility as inpatients and reviewed within that week, discharged and seen as urgent outpatients/day cases within one to three weeks or reviewed as non-urgent outpatients/day cases within six weeks. This was in addition to routine and urgent outpatient referrals from general practitioners, the accident and emergency staff and other specialists; these patients were seen within the same rapid access time frames. We present here data, which was collected by CHKS (a national organization which collates activity and performance data for most trusts in the UK) on behalf of the RVI Trust. The information should be helpful to our colleagues who are planning to set up similar facilities. Our objective is to describe the impact of the facility on emergency bed occupancy for the diagnostic categories focussed on by the facility.

Methods
We compared the activity and performance data for syncope and falls in older adults (over 65 years) for the RVI with thirteen peer hospitals (data was provided by the CHKS National Comparative Database). Completed data was analysed for 1999. The peer hospitals were the following inner city teaching hospitals: United Bristol Hospitals, Leeds General Infirmary, St James and Seacroft, Addenbrookes, Oxford Radcliffe, Northern General Sheffield, Birmingham University, Central Manchester, Southampton, Belfast City, Royal Group Belfast, Edinburgh Royal, and University Hospital of Wales. The data collated by the CHSK are coded both as Healthcare Resource Groups (HRGs) and as ICD codes. A HRG is defined as a grouping of episodes covering in-patients and day cases that are expected to consume similar amounts of healthcare resource and are clinically meaningful. In the first instance HRGs that reflected the relevant diagnostic categories were compared. The relevant HRGs were: disorders of balance (A12 and A13) and syncope or collapse (E31 and E32). Several diagnoses are grouped in one HRG; thus the data may be skewed by an over-representation of one diagnosis. Consequently, ICD 10 diagnostic codes were also analysed. E31 and E32 include orthostatic hypotension (I951) and syncope and collapse (R55). A12 and A13 include ataxic gait (R260), paralytic gait (R261), other and unspecified abnormalities of gait and mobility (R268), ataxia unspecified (R270), other and unspecified lack of co-ordination (R278), dizziness and giddiness (R42). Of these, orthostatic hypotension (1951), syncope and collapse (R55), unspecified abnormality of gait and mobility (R268) and dizziness and giddiness (R42) were analyzed. There are no categories for ‘falls’ as the primary diagnosis.

The length of stay data is presented as either untrimmed data which represents all activity and includes day cases, zero length of stay and stays over 49 days and trimmed data which excludes the above.

Results

HRG data
Forty-four per cent of adult emergency hospital admissions (excluding obstetrics) were aged 65 years and over (range 36–50%, RVI 43%). Syncope and collapse was the 6th most frequent HRG in emergency admissions over 65 years. Disorders of balance were the 13th. When day case performance was analysed, few trusts, with the exception of the RVI treated these HRGs as day cases; in peer trusts 97% were treated as emergencies, compared with 35% at the RVI. For HRGs of disorders of balance (A12 and A13) and syncope and collapse (E31 and E32), the RVI was at variance by—6616 bed days compared with peer average length of stay. This equates to 18 beds occupied in that year. The average length of stay at the RVI site (untrimmed) for HRG’s of disorders of balance, syncope and collapse was 2.4 days compared with an average of 8.6 days at peer sites.

ICD data
The ICD data is presented in Table 1. The activity for the relevant ICD 10 codes confirms the high day case activity and short length of stay at the RVI site represented in the HRG data: 97% of activity was day case compared with activity at three other high volume sites.

Table 1. 1999 activities for patients 65 years and over with ICD 10 codes for syncope and collapse (R55), orthostatic hypotension (1951), abnormalities of gait and mobility (R268) or dizziness and giddiness (R42). Sites are ranked by highest activity. The four highest volume trusts are cited. Emergency and elective episodes are a percentage of total activity; day cases are a percentage of elective activity.
where day case activity was 0, 37 and 8% (Table 1). The average length of stay at these sites was also longer, 5.2, 17.0 and 7.9 days (untrimmed) compared with 2.7 days at the RVI site. Before the facility was set up (1990), the day case activity at the RVI, for the relevant ICD codes (ICD 9) was 0% and the average length of stay (untrimmed) was 10.9 days.

Discussion

Possible explanations for the high day case activity, low emergency activity and shorter length of stay at the RVI are either that in-patient admissions stayed a shorter period of time, that in-patient admissions were reduced locally because general practitioners and the accident and emergency department have an alternative option of an urgent referral for specialist investigation and/or that the number of in-patient episodes is reduced because of successful investigation and treatment strategies resulting in fewer subsequent events. It is not possible from the data to determine which factors have most influenced these results but all are now amenable to further prospective studies and are important for NHS research and development and for resource allocation.

We have estimated approximate staffing levels, equipment and consumable costings for a falls and syncope service based on the activity levels in this report. Our catchment area is 250,000. To evaluate 1200 new patients and 1000 return out-patients/day cases requires 10 new patient (assuming one doctor per session, 3–4 new patients per session) and 3 return out patient/day case sessions per week. This is a difficult service commitment for a single individual and is best shared by more than one senior member of staff and by SpRs— which will reduce the overall number of sessions. Additional staffing includes two full-time nursing posts, one 8 to 10 session physiotherapist, one part-time occupational therapist, one full-time secretary and data base manager. This approximates to between £175,000 and £200,000 staff costs. The number of assessment ‘units’ will depend on the frequency of day cases and outpatient clinics. Each assessment unit requires an ECG, head-up tilt bed, and phasic blood pressure monitoring equipment (Finometer/Portapres). The cost per unit is £18,000 to £22,000. Additional monitoring equipment includes two external loop recorders (‘Recollect’, Beaver Medical Products, Northampton, UK), two ambulatory blood pressure monitors and possibly soft ware for automating autonomic function testing. The total cost of these averages at £4000–£6000. Ready access to these additional monitors expedites investigations and allows a one-stop assessment in many cases, which maximises the efficiency of the facility. Consumables include elastic stockings, abdominal binders, ECG paper and materials for blood screens etc—estimated at £2000–£4000 annually. Assessment protocols have been published elsewhere [4, 5].

Each year additional funding is provided to acute hospitals to assist with winter bed pressures. Dedicated rapid access facilities for syncope and falls throughout the UK could significantly impact on acute bed usage and costs and help to address some of the recurrent pressures within the system. For example, site 8 could make savings of 15,804 bed days or 43 beds. At £200 per bed day this is a saving of £3,160,800. If the 1991 length of stay continued today at the RVI the annual estimated cost would be £2,405,000. The RVI would have used 12,025 bed days and would require a further 33 beds.

The aim of the recent National Service Framework for older adults [6] is to “reduce the number of falls which result in serious injuries and ensure effective treatment and rehabilitation for those who have fallen”. The guidelines recommend new integrated falls services to improve care and treatment. They state that all those who have fallen should be assessed and action taken to prevent further and more serious falls. By April 2005, it is recommended that all local health and social care systems should have established this integrated falls service. This report provides strong evidence for benefits to the overall provision of acute services provided that the facility is adequately staffed and resourced and that the staff appropriately trained. It is our view that rapid access to the service for accident and emergency staff, admitting teams, general practitioners and consultant colleagues was critical for the beneficial impact on emergency activity and performance.

There is good evidence for an overlap of the symptoms of falls and syncope in older people—as much as 30% in some cardiovascular categories [3]. The combined assessment of falls and syncope for older people ensures capture of these important and common symptoms by health professionals who are trained in the comprehensive assessment of both falls and syncope. The present data will help such colleagues to estimate resourcing of facilities and projected benefits. However, this is opportunistic observational data, and there is clearly a requirement for prospective studies that will evaluate the cost implications and economic benefits of newly evolving facilities.

Published and emerging evidence from randomized controlled trials confirms benefit from comprehensive multidisciplinary assessment and intervention of people with falls or syncope. A falls and syncope facility additionally enables concentration of training and resources and maximises the opportunities for implementing the recent practice guidelines for falls [7] and syncope [8]. We urgently need further research studies of the health economic benefits of such facilities. The development of new facilities affords an ideal opportunity to further evaluate the health service implications raised in this paper.
Key points

- Falls and syncope are the 6th commonest reason for emergency admission in the UK.
- A rapid access falls and syncope facility markedly reduces such emergency activity.
- The benefits are equivalent to an annual saving of 18 beds and 6616 bed days or 2400 consultant episodes.
- The cost of activity for falls and syncope is 15-fold more without the facility.

References


Addendum

CHKS regularly collates activity and performance data for a majority of UK trusts. Individual trust data can be acquired by contacting Heather Walker, Client Services Director, CHKS Ltd. Email: hwalker@chks.co.uk

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