EMA Emergency Medicine Australasia

Emergency Medicine Australasia (2015) **27,** 412–418 doi: 10.1111/1742-6723.12433

ORIGINAL RESEARCH

Resident transfers from aged care facilities to emergency departments: Can they be avoided?

Julia MORPHET, Kelli INNES, Debra L GRIFFITHS, Kimberley CRAWFORD and Allison WILLIAMS

Faculty of Medicine, Nursing and Health Sciences, Monash University, Melbourne, Victoria, Australia

Abstract

***Objective*:** Residents from aged care facilities make up a considerable proportion of ED presentations. There is evidence that many residents transferred from aged care facilities to EDs could be managed by primary care services. The present study aimed to describe the characteristics of residents transferred from residential aged care facilities to EDs, and to evaluate the appropriateness and cost of these presentations.

***Methods*:** A retrospective review of ED records was undertaken for residents transferred from residential aged care facilities to two EDs in Melbourne, Victoria, in 2012. Data examined included residents' mode and time of arrival to ED, presenting complaint, triage category, procedures within ED, diagnosis, length of stay, and disposition. Data were examined against a previously established tool to identify resident transfers that might be 'potentially avoidable'.

***Results*:** There were 2880 resident transfers included in the sample, of which 408 transfers were randomly selected for scrutiny of documentation. Seventy-one residents (17.4%) were identified as being potentially avoidable transfers.

***Conclusion*:** Many resident transfers might have been avoided with better primary care services in place. Future strategies to improve resident care might include aged care staff skill mix and the availability of outreach or primary care services.

Key words: *Aged care facility, emergency department, patient transfer, primary care.*

Key findings

- One-third of the residents returned to their aged care facility could have been managed in the community.
- Avoiding unnecessary transfers may reduce ED overcrowding and save emergency transport fees.
- A hospital outreach service staffed by Nurse Practitioners may reduce the number of avoidable transfers from aged care facilities to ED.

Introduction

In 2010, there were approximately 182 825 people living in residential aged care facilities (RACF) in Australia.[1] This group represents the sickest and most vulnerable members of the community.[2] Aged care residents are usually debilitated and have comorbidities that are liable to acute deterioration or complication. With at least 30 transfers from RACF to ED per 100 RACF beds per year,[3] these residents are reported to comprise a considerable proportion of ED presentations.[4]

It has been reported that more than 40% of residents transferred from RACF to EDs are returned to the RACF and are not admitted to hospital.[3,5] Several authors[6–10] have reported that between 13%[8] and 40%[6] of all resident ED presentations could have been managed by community-based services, and so have avoided the ED environment. Such transfers, identified as potentially avoidable transfers, include: soft tissue injuries, epistaxis,[6] wound management, tube replacements, uncomplicated UTIs, mild dehydration, minor infections with no systemic illness and other non-critical diagnoses.[7]

There are many benefits in avoiding unnecessary transfers for both residents and health services. Removing older people from their place of residence and transferring them to the noisy and unfamiliar ED environment can be distressing, disorientating[11,12] and exacerbate pre-existing conditions.[11] Significantly, ED visits put older people at risk of increased morbidity, hospital readmission and death.[13,14]

In addition, potentially avoidable transfers have a negative impact on ED workload. Residents utilise limited ED treatment space for extended periods

Correspondence: Dr Julia Morphet, Faculty of Medicine, Nursing and Health Sciences, Monash University, McMahons Road, Frankston, VIC 3199, Australia. Email: julia.morphet@monash.edu

Julia Morphet, PhD, RN, Lecturer; Kelli Innes, MN, RN, Lecturer; Debra L Griffiths, PhD, RN, RM, LLM, LLB, BA, Associate Professor, Legal Practitioner, Deputy Head of School of Nursing and Midwifery; Kimberley Crawford, PhD, BSc (Hons), Research Fellow; Allison Williams, PhD, RN, Associate Professor.

Accepted 27 May 2015

waiting on investigations, and this compromises the ability of ED staff to care for new emergency patients.[15] Australian EDs aim to transfer 90% of patients out of the ED within 4 h of their arrival,[16] and protracted ED stays make this target difficult to achieve. In addition to ED resources, residents transferred to ED typically require transport services, often utilising emergency services. It has been estimated that the cost of a single transfer of a resident from an aged care facility to an ED in Victoria is upwards of $1800,[17,18] highlighting the need to provide better primary care services to avoid unnecessary transfers where possible.

There is great complexity in defining avoidable transfers. This is reflected by the various definitions in the literature,[6,7,9,19,20] and a wide range in the frequency of reported avoidable transfers. ED patients present with undifferentiated symptoms, and it has been suggested that the definition of avoidable might only be apparent once a diagnosis is made.[7] It must also be recognised that various RACFs have varied levels of primary care support, staffing and resources,[19] and as such, will have different thresholds for transferring residents to ED.

Nevertheless, there is evidence that increasing primary care services within RACFs reduces avoidable transfers of residents to ED,[19,21–23] and thus avoids many of the issues described above. The present study aimed to describe the characteristics of residents transferred from RACF to ED, and to evaluate the appropriateness and cost of these presentations.

Method

The setting for the study was two EDs in a large metropolitan health service in south-east Melbourne, Victoria. The two principal referral EDs treat a wide variety of patients, and treated over 132 000 patient presentations in 2012. Ethical approval was obtained from both Monash University (approval number CF13/1917–2013001011) and the health service (approval number 12349Q) before undertaking the present study.

A retrospective review of ED records was undertaken over a 12 month period in 2012 (1 January to 31 December). All residents transferred from aged care facilities to the EDs were included in the study. A computer program was used to uniformly collect a range of data from the hospital electronic record. The computer program is routinely used in the health service to access cohorts of patient data for quality review. Data collected from the hospital record included the residents' mode and time of arrival to ED, presenting complaint, triage category, investigations and procedures within the ED, diagnosis, length of ED stay, and disposition. An advantage of the electronic record was that all data fields were compulsory, so there was no missing data. The electronic patient management system identified residents who lived in aged care facilities based on the address provided with each resident on ED arrival. The recorded addresses were reviewed against the local RACFs by one of the researchers to ensure sample accuracy.

All data extracted from the ED medical record were entered into an Excel spreadsheet, and 14% of the total sample were randomly selected for further review using Excel's random number generation. This ensured that more than 400 resident histories were reviewed. For the purpose of the present paper, this group will be called the 'subgroup'. All transfer documentation accompanying the residents in the subgroup were manually extracted from the scanned medical record, and entered into an Excel spreadsheet. These data were collected by a research assistant, and audited for accuracy by one of the research team members – an experienced emergency nurse. No errors were identified. Subgroup data were examined by four of the researchers to identify if any of the transfers to ED were potentially avoidable. From a number of tools available to identify avoidable transfer criteria,[6,7,9,19,20] the authors selected a tool developed by Codde *et al*.,[7] who developed and validated a tool that is relevant to the Australian health context. These criteria, which included residents returned to RACFs having received simple interventions, such as minor wound dressings, requiring simple investigations during office hours or with uncomplicated non-critical diagnoses such as urinary tract infections, were adapted with permission from the corresponding author, and were examined in combination with the investigations and interventions undertaken in the ED, to identify potentially avoidable transfers, that is, resident transfers who might have been managed in the primary care setting (Table 1). Investigations such as pathology and X-ray were deemed to have been appropriate for primary care if the resident arrived to the ED during normal office hours (Monday–Friday, 09.00–17.00 h). Four researchers (two experienced emergency nurses and two experienced chronic illness nurses) reviewed half of the resident histories each. Each pair of researchers had agreement on outcomes. All four researchers then met and reviewed each outcome, reaching consensus on each decision.

Each resident record was assigned a numeric identification number for data analysis, and individual residents could not be identified during data analysis. Descriptive statistics were used to summarise the study data. The Mann–Whitney *U*-test was used to explore associations between residents admitted to hospital or returned to RACF, and ED length of stay. In addition, the cost of managing the 'avoidable transfers' in the ED was calculated.

The cost of managing residents in Australian EDs was estimated based on costs per urgency related group (URG) on disposition. The URG classification system has three key variables: disposition, triage and principal ED diagnosis. This activity-based funding reflects the way that EDs are currently funded in Australia.[24] The average cost (based on nursing and medical staff time only) per non-admitted patient in the two EDs was $293.89.[18] Transport costs were calculated based on the documented mode of resident arrival from and return to the RACF, and the costs reported on the Ambulance Victoria website.[17]

Results

Demographic information

There were 2880 resident transfers to the two EDs during 2012. This

TABLE 1. *Potentially avoidable reasons for ED transfer*

Potentially avoidable ED transfers
Assessment and simple wound dressing or closure required
Assessment and simple suturing required – no significant nerve, tendon or vessel damage
Uncomplicated UTI, not systemically unwell
Soft tissue injury – nil radiology required or radiology required in hours
Replacement of indwelling urinary catheter
Non-critical diagnosis – assessment in RACF would be appropriate
Advance care directive in place or potential for one to be
Exclusion criteria
Triaged as category 1 or 2 on arrival in ED
Trauma with suspected long bone fracture
Radiology required out of hours
Signs of being systemically unwell (e.g. tachycardic, bradycardic, hypotensive, tachypnoeic)
Significant neurological changes
Increasing confusion with no signs of UTI
I.v. medication or fluid required
Electrocardiograph or pathology collection necessary out of hours
Family requesting ED presentation
Medical officer requesting transfer
Was discharged from the hospital with the same complaint in previous 72 h
Required hospital admission

Adapted from Codde *et al.*[7] RACF, residential aged care facility.

TABLE 2. *Comparison of demographic variables in sample subgroup with total resident sample*

Variable	Total sample 2472 cases		Subgroup 408 cases	
Age				
Median	86		86	
IQR	80–90		81–90	
Sex	*n*	%	*n*	%
Male	924	37.4	144	35.3
Female	1548	62.6	264	64.7
ED residents were transferred to				
A	1350	54.6	207	50.7
B	1122	45.4	201	49.3
Mode of arrival				
Ambulance Victoria	2150	87.0	355	87.0
Private ambulance	214	8.7	43	10.5
Private car	108	4.3	10	2.5
Arrival time				
During office hours	1242	50.2	200	49.0
Out of office hours	1230	49.8	208	51.0
Triage category				
1	50	2.0	8	2.0
2	367	14.8	60	14.7
3	1000	40.5	153	37.5
4	990	40.0	175	42.9
5	63	2.5	12	2.9
6 (dead on arrival)	2	0.1	0	0

Office hours: Monday–Friday, 09.00–17.00 h. IQR, interquartile range.

represents 2.2% of all ED presentations in that period ($n = 132\,037$). Of the 2880 cases, a subgroup ($n = 408$, 14%) was randomly selected for further review. Because of the random selection of the 408 histories reviewed, no comparative analysis was undertaken to measure representation of the overall cohort; however, as presented in Table 2, the demographic data for the 408 cases do reflect the demographic data for the entire cohort.

The median age of the residents was 86 (interquartile range [IQR] 81–90) and most residents were female ($n = 1812$, 63.5%). The residents arrived from 112 local RACFs, and a similar number of residents presented to each ED. The majority of residents arrived via ambulance transport ($n = 2762$, 96%). Half of the cohort ($n = 1442$, 50.1%) arrived during normal office hours. The majority of residents were allocated an Australasian Triage Scale (ATS) triage category 3 or 4 ($n = 2318$, 80.5%) (Table 2).

Having described the characteristics of the sample, all subsequent results will include data from the subgroup only. The common presenting complaints documented by the triage nurse were: falls ($n = 74$, 18.1%), shortness of breath ($n = 56$, 13.7%), cardiac complaints (including chest pain and arrhythmias) ($n = 38$, 9.3%), altered conscious state ($n = 33$, 8.1%), being generally unwell ($n = 33$, 8.1%), abdominal pain ($n = 24$, 5.9%), renal problem ($n = 19$, 4.6%) and pain ($n = 11$, 2.7%).

Residents' journey through the emergency department

Most residents ($n = 366$, 89.5%) had pathology tests undertaken within the ED. Almost half of these tests were conducted during normal office hours ($n = 179$, 48.9%). More than two-thirds of residents had X-rays taken ($n = 289$, 70.7%) and the majority of these were performed during normal office hours ($n = 280$, 96.9%).

Interventions that were commonly performed included i.v. medications ($n = 130$, 31.8%), oral medications ($n = 103$, 25.2%) and i.v. fluids ($n = 85$, 20.8%). Few participants required

TABLE 3. *Investigations and interventions undertaken in the ED*

	Total number		Investigation performed outside of normal business hours	
	n	%	*n*	%
Pathology	366	89.5	187	51.1
X-ray	289	70.7	9	3.1
ECG	132	32.3	74	56.1
I.v. medication	130	31.8	†	†
Oral medications	103	25.2	†	†
I.v. fluids	85	20.8	†	†
Head CT	70	17.1	†	†
Wound management	15	3.7	†	†
CT (excluding head)	7	1.7	†	†

†Investigations and interventions not examined by time, as the ED was considered to be the best location for the patient, regardless of the time of day.

TABLE 4. *Common diagnoses of residents transferred from aged care facilities to ED*

Primary diagnosis	408 cases	
	n	%
Urinary problem	33	8.1
Congestive heart failure/Acute pulmonary oedema	20	4.9
No disease found	16	3.9
Sprain/Strain	16	3.9
Ortho/Fracture (excludes fractured neck of femur)	15	3.7
Abdominal pain	15	3.7
Collapse	12	2.9
Stroke/TIA	11	2.7
Fractured neck of femur	11	2.7
Arrhythmia	11	2.7
Seizure	8	2.0
Haematemesis/Gastrointestinal bleed	8	2.0
COPD	7	1.7
Blocked indwelling catheter	7	1.7
Renal failure	6	1.5
Respiratory distress	5	1.2
Angina/Heart disease	5	1.2
Diabetes	4	1.0
Dehydration	4	1.0
AMI	4	1.0
Diarrhoea/Vomiting	3	0.7
Generalised weakness	3	0.7

wound management, including suturing or application of plaster of Paris ($n = 15$, 3.7%) (Table 3).

The most common resident diagnoses were: urinary tract infection ($n = 33$, 8.1%), congestive heart failure ($n = 20$, 4.9%), 'no disease found' ($n = 16$, 3.9%) and sprain/strain ($n = 16$, 3.9%) (Table 4).

More than half of the residents were returned to their RACF without hospital admission ($n = 224$, 54.9%) (Table 5). A further 42.7% ($n = 174$) were admitted to hospital. The median length of stay in ED was 9 h and 12 min. Residents who were admitted to hospital spent more than 4 h longer in ED than residents who were returned to RACF (Table 5). This difference was statistically significant ($U = 13\,122.5$, $z = 6.385$, $P \leq 0.001$, $r = 0.32$). Only 6.8% of residents who were returned to the RACF ($n = 28$) left the ED within 4 h.

Potentially avoidable transfers to emergency department

One-third of the residents returned to RACF had a presenting complaint that met the avoidability criteria ($n = 144$, 35.3%). The most common diagnoses that were potentially avoidable transfers were: skin lacerations ($n = 30$, 42.3%), UTIs ($n = 18$, 25.4%), sprains and strains ($n = 14$, 19.7%), and generalised pain ($n = 10$, 14.1%) (Table 6).

As shown in Figure 1, of those 144 residents who met the avoidability criteria, 71 had investigations or interventions that were suitable for management by primary care providers within RACF,[7] for example ECG recorded, pathology collected during normal office hours or oral medications dispensed.

The ED cost of managing the 71 avoidable transfers was $20 866.19. This value excludes any investigations and interventions that were conducted, as presumably they would need to be performed elsewhere, in a primary care setting. The cost of transporting those 71 residents to and from the ED was $79 136.51 (Table 7).

Discussion

In the present study, one-third of the residents returned to RACF were considered suitable for management in the primary care setting, and therefore potentially avoidable. This rate is lower than most others reported,[6,7,9,10] and in particular is lower than that reported by Codde *et al.*[7] who reported that 69% of discharged residents and 31% of total transfers were potentially avoidable. One probable reason for this difference is that this current study excluded residents who required hospital admission from the avoidable transfer criteria, whereas Codde *et al.*[7] did not. In the present study, it was accepted that if a resident required hospital admission, the level of care he/

TABLE 5. *Resident disposition and length of stay in the ED*

Disposition		408 cases	
		n	%
Returned to RACF		224	54.9
Admitted to this hospital		148	36.3
Admitted to another hospital		17	4.2
CCU/ICU/OT		9	2.2
Left before treatment completed		2	0.5
Deceased		8	2.0
Length of stay (min)	Median	IQR	*P*
Total subgroup (*n* = 408)	552	373–888	
Admitted (*n* = 174)	723	472–1119	<0.001
Returned to RACF (*n* = 224)	467	316–694	

IQR, interquartile range; OT, operating theatre; RACF, residential aged care facility.

TABLE 6. *Example diagnoses for potentially avoidable RACF to ED transfers (*n = *71)*

Potentially avoidable transfers, by diagnosis	*n*	%
Skin laceration	30	42.3
UTI	18	25.4
Sprain/Strain	14	19.7
Generalised pain (excluding abdominal or trauma related)	10	14.1
Fracture (not long bone)	9	12.7
Behavioural disturbance	8	11.3
No disease found	6	8.5
Blocked indwelling catheter	1	1.4

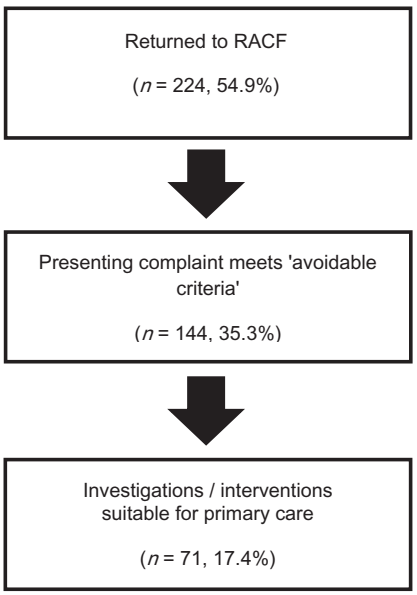

Figure 1. *Residents who could have been managed by community-based services. RACF, residential aged care facility.*

she required was more than the RACF could provide.

The residents who were identified as being potentially avoidable presented with minor complaints, including UTI, skin lacerations, sprains, strains and generalised pain. They were allocated an ATS category 3 or 4, so were assessed by the triage nurse to require medical assessment within 30 min and 60 min, respectively.[25] Many residents had pathology and/or an X-ray while in ED, and the majority of these investigations were performed during normal office hours.

There are many benefits in avoiding unnecessary transfers to ED, for both the resident and healthcare services. As previously discussed, ED visits are associated with increased morbidity and mortality in older people.[12,26–28] In addition, residents' utilise limited ED treatment space for extended periods waiting on investigations.[15] Only a minority of residents in the present study left the ED within 4 h.

In addition, reducing avoidable RACF to ED transfers is expected to save costs associated with emergency transport. 'Emergency attendance' fees are considerably more expensive than non-emergency stretcher fees.[17] Although it is reasonable to argue that residents might require ambulance transport to and from a general practitioner (GP) or other primary care venue, these transports would usually be undertaken using non-emergency transport, which is considerably cheaper than the emergency services. This would also 'free-up' emergency transport services, enabling them to attend to more urgent cases.[29]

Current issues that influence RACF staff in their decision to transfer residents to ED include delays to review by a GP,[21] limited operating hours of primary care services,[21] and limitations in RACF services, including skill mix of staff, and inadequate equipment.[19,30] As such, RACFs will have different thresholds for transferring residents to ED. Despite limitations in some RACFs, it is clear that increasing community liaison services would reduce RACF to ED transfers.[22] The results of the present study suggest that a proportion of transfers from RACF could have potentially been avoided if community-based assessment teams were available to assess residents and arrange outpatient investigations and management, such as pathology/ECG, and acute wound care. One Australian health service has reported a reduction in avoidable transfers from RACF to ED through the introduction of a Nurse Practitioner outreach service, which provides most of these services. The programme is estimated to have saved $1.5 million in 1 year.[23,31]

Limitations

The retrospective nature of the present study raised a limitation in data collection. The level of RACF was not always available within the medical

TABLE 7. *Resident transport costs*

	n	%	Cost per trip	Total cost of transport
Mode of transport to ED				
Ambulance Victoria	56	78.9	$990.41	$55 462.91
Non-emergency transport	11	15.5	$345.20	$3997.20
Private car	4	5.6		
Mode of transport to RACF				
Non-emergency transport	57	80.3	$345.20	$19 676.40
Not documented	14	19.7		
Total cost				$79 136.51

Cost per transfer recorded from Ambulance Victoria website.[17]

history, and as previously acknowledged, RACF resources might affect decision-making when deciding on whether to transfer a resident to an ED. Future studies might benefit from a prospective design that includes making contact with the RACF to determine what resources they have available.

A further limitation in determining the cost of avoidable transfers was the costing model used in the present study. The cost per non-admitted patient in the two EDs was provided by the ED business manager, and at the time of the study, more detailed costing per resident was not available. With the development of improved costing models, these data are expected to be simpler to quantify in future studies.

Finally, as acknowledged in this discussion, there are challenges in defining 'avoidable transfers'. The present study relied on a tool that was previously established for the Australian context. The use of a different tool might result in different outcomes.

Conclusion

A large number of avoidable transfers were identified in the present study. Although there has been recent interest in lowering potentially avoidable RACF to ED transfers, there has been little research examining the associated financial costs. The present study has identified primary care services that could reduce unnecessary resident transfers to ED, and has estimated the costs associated with avoidable transfers in south-east Melbourne. In light of the negative consequences for both residents and ED staff of unnecessary transfers to ED, further development of primary care services must be explored.

Acknowledgement

The authors acknowledge the generous support of the Nurses Board of Victoria Legacy Grant.

Competing interests

None declared.

References

1. Australian Institute of Health and Welfare. Residential aged care in Australia 2009–2010: a statistical overview. Canberra: Australian Institute of Health And Welfare, 2011.
2. Flicker L. Healthcare for older people in residential care – Who cares? *Med. J. Aust.* 2000; **173**: 77–9.
3. Arendts G, Howard K. The interface between residential aged care and the emergency department: a systematic review. *Age. Ageing* 2010; **39**: 306–12.
4. Hoy S. Aged Care Emergency: Emergency Care Institute, NSW. 2014. [Cited 18 May 2015.] Available from URL: http://www.ecinsw.com.au/ace
5. Morphet J, Griffiths DL, Innes K, Crawford K, Crow S, Williams A. Shortfalls in residents' transfer documentation: challenges for emergency department staff. *Australas. Emerg. Nurs. J.* 2014; **17**: 98–105.
6. Carter L, Skinner J, Robinson S. Patients from care homes who attend the emergency department: could they be managed differently. *Emerg. Med. J.* 2009; **26**: 259–62.
7. Codde J, Frankel J, Arendts G, Babich P. Quantification of the proportion of transfers from residential aged care facilities to the emergency department that could be avoided through improved primary care services. *Australas. J. Ageing* 2010; **29**: 167–71.
8. Finn JC, Flicker L, Mackenzie E *et al.* Interface between residential aged care facilities and a teaching hospital emergency department in Western Australia. *Med. J. Aust.* 2006; **184**: 432–5.
9. Saliba D, Kington R, Buchanan J *et al.* Appropriateness of the decision to transfer nursing facility residents to the hospital. *J. Am. Geriatr. Soc.* 2000; **48**: 154–63.
10. Jones JS, Dwyer PR, White LJ, Firman R. Patient transfer from nursing home to emergency department: outcomes and policy implications. *Acad. Emerg. Med.* 1997; **4**: 908–15.
11. Victorian Department of Health. Improving the patient experience for older people in the emergency department. Melbourne: Department of Health; 2010.
12. Hwang U, Morrison S. The geriatric emergency department. *J. Am. Geriatr. Soc.* 2007; **55**: 1873–6.
13. Graf CE, Zekry D, Giannelli S, Michel JP, Chevalley T. Efficiency and applicability of comprehensive geriatric assessment in the emergency department: a systematic review. *Aging Clin. Exp. Res.* 2011; **23**: 244–54.
14. Schnitker L, Martin-Khan M, Beattie E, Gray L. Negative health outcomes and adverse events in older people attending emergency departments: a systematic review. *Australas. Emerg. Nurs. J.* 2011; **14**: 141–62.
15. Richardson D, Kelly AM, Kerr D. Prevalence of access block in Australia 2004–2008. *Emerg. Med. Australas.* 2009; **21**: 472–8.
16. Australian Government Department of Health and Ageing. National Emergency Access Target Canberra. 2012. [Cited 23 May 2012.] Available from URL: http://www.health.gov.au/internet/yourhealth/publishing.nsf/Content/npa-improvingpublichospitals-agreement-toc~schedule-c

17. Ambulance Victoria. Fees Melbourne: Ambulance Victoria. 2013. [Cited 26 Dec 2013.] Available from URL: http://www.ambulance.vic.gov.au/About-Us/Fees.html
18. Monash Health. Emergency Costs. 2013.
19. Ouslander JG, Lamb G, Perloe M *et al*. Potentially avoidable hospitalizations of nursing home residents: frequency, causes, and costs. *J. Am. Geriatr. Soc.* 2010; **58**: 627–35.
20. Bergman H, Clarfield AM. Appropriateness of patient transfer from a nursing home to an acute-care hospital: a study of emergency room visits and hospital admissions. *J. Am. Geriatr. Soc.* 1991; **39**: 1164–8.
21. Arendts G, Reibel T, Codde J, Frankel J. Can transfers from residential aged care facilities to the emergency department be avoided through improved primary care services? Data from qualitative interviews. *Australas. J. Ageing* 2010; **29**: 61–5.
22. Codde J, Arendts G, Frankel J *et al*. Transfers from residential aged care facilities to the emergency department are reduced through improved primary care services: an intervention study. *Australas. J. Ageing* 2010; **29**: 150–4.
23. Conway J, Higgins I. The implementation of a nurse led model of care for older people in the emergency department at John Hunter hospital. Sydney: NSW Emergency Care Institute, 2012.
24. Australian Institute of Health and Welfare. Emergency Department Stay – urgency related group Canberra: AIHW. 2013. [Cited 26 Dec 2013.] Available from URL: http://meteor.aihw.gov.au/content/index.phtml/itemId/498030
25. Australasian College for Emergency Medicine. Guidelines on the implementation of the Australasian Triage Scale in Emergency Departments. Melbourne: Australasian College for Emergency Medicine, 2005.
26. Dantas S, Moretti-Branchini L. Impact of antibiotic-resistant pathogens colonizing in the respiratory secretions of patients in an extended-care area of the emergency department. *Infect. Control Hosp. Epidemiol.* 2003; **24**: 351–5.
27. Kilcoyne M, Dowling M. Working in an overcrowded accident and emergency department: nurses' narratives. *Aust. J. Adv. Nurs.* 2008; **25**: 21–7.
28. Liew D, Liew D, Kennedy MP. Emergency department length of stay independently predicts excess inpatient length of stay. *Med. J. Aust.* 2003; **179**: 524–6.
29. Lowthian JA, Jolley DJ, Curtis AJ *et al*. The challenges of population ageing: accelerating demand for emergency ambulance services by older patients, 1995–2015. *Med. J. Aust.* 2011; **194**: 574–8.
30. Jablonski RA, Utz SW, Steeves R, Gray DP. Decisions about transfer from nursing home to emergency department. *J. Nurs. Scholarsh.* 2007; **39**: 266–72.
31. NSW Nurses & Midwives' Association. Bright future for aged care: NSW Nurses & Midwives' Assocation; 2009. [Cited 12 Apr 2015.] Available from URL: http://www.nswnma.asn.au/bright-future-for-aged-care/