

**Bed-based Intermediate Care Slipper Audit  
In collaboration with RoSPA & Liverpool City Council**

**2013/2014**

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**Version Control**

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## Executive Summary

It is well established that falls have a huge estimated cost both financially and emotionally to the increasing aging population. A fall can lead to loss of confidence and independence and injury, even death. The NHS has identified falls as an area that can be improved through Quality Improvement; however other organisations are also involved in decreasing the risk of falls. RoSPA has been working with LCC Healthy Homes to try and decrease the risk of falls, part of this work was a 'slipper exchange' scheme as footwear has been identified as an environmental risk factor that is easy to improve.

Slipper exchange schemes have been run in the past but there was no mechanism to feedback whether they were of any use or not. Due to this it was decided that we would work together to provide slippers (provided by RoSPA and LCC Healthy Homes) to inpatients within bed-based services that were identified having inappropriate or no footwear. The styles of slippers were picked for their functional attributes however we wanted to assess patient's satisfaction with the look and comfort of these slippers as this would influence whether they would continue to wear them when discharged home.

The results show that overall the patients were happy with the comfort and aesthetics of the slippers which is a good indicator that they would continue to wear them. Through observation of functionality carried out by a podiatrist it is also apparent that functionality was increased and therefore falls risk decreased due to having better footwear provided.

## Background

Falls at present have an estimated cost of £15million per year to the NHS (NPSA 2007). This figure is set to rise with the projected increase of the aging population surviving with multiple long term conditions and cognitive impairment, making falls prevention a pressing challenge. It has been found that up to 90% of older patients who fracture their neck of femur fail to recover to their previous level of mobility or independence (Murray, Cameron & Cumming, 2007). Falls that result in 'minor' harm or no physical injury can still lead to psychological effects which can result in the affected person limiting their physical activity. Falls were identified as a priority for Liverpool Community Health (LCH) Quality Improvement 2012/2013, through the Harm Free Care they were also identified as a Breakthrough Aim for the Trust.

The Royal Society for the Prevention of Accidents RoSPA has a Safer Homes Programme that is aimed at raising the strategic priority of Accident Prevention within a number of selected local authorities through consultation and briefing. The programme has been developed in Liverpool by involvement with the City Councils Healthy Homes Accident and Falls Prevention Task Group which agreed to explore a pilot 'slipper exchange' with the NHS. It was

hoped that this would lead to provision of further evidence to support a wider community slipper scheme in the future.

### **Aims/Objectives**

The aim of the audit was to collect data on whether the slippers provided were acceptable to patients based on aesthetics and comfort (indicating that they were more likely to wear them), and also to see whether providing the slippers led to a decrease in the risk for patients falling.

### **Standards/Guidelines**

Footwear has been identified as an environmental risk factor for falls (Berg et al 1997), it is known that many older people wear footwear with features that are potentially hazardous or at least offer sub-optimal support (Sherrington & Menz 2003). In a study done by Finlay (1986) the most commonly observed inappropriate features were excessively flexible heel counters, in addition the sole material and tread could affect the co-efficient of friction on the walking surface which may influence the risk of slipping (Koepsell et al 2004). Sherrington et al (2003) found that people who fell wearing shoes without fixation were more likely to have tripped than have suffered another type of fall and lack of fixation tended to promote a shuffling gait. It has also been found that older people primarily base their footwear choices on comfort rather than safety (Dunne et al 1993).

### **Patient Sample**

All patients were in-patients at Bed-based Intermediate Care Wards 9 & 11 from 1<sup>st</sup> June 2013 until 10<sup>th</sup> March 2014. Potential subjects were highlighted to the Podiatrist by staff members working on the wards (Nursing and Therapy staff) if they had concerns with the patients current footwear. The Podiatrist would then assess the patient's footwear and if they were found to have unsuitable, poor fitting or no footwear at all they were offered slippers.

Exclusions – the only exclusion criteria was if the patient had a pathology that required bespoke footwear (which would be arranged through a referral to orthopaedics if needed).

In total 113 patients within bed-based Intermediate Care Wards 9-11 were selected to receive slippers due to poor/lack of footwear. Of this 6 refused the slippers offered and 7 were discharged from the unit prior to being able to review, therefore the results at time of fitting are based on 107 subjects and the review 14-21 days later based upon 100 subjects.

### Audit Methodology

- This was a local audit carried out to provide some evidence to RoSPA and Liverpool City Council re: their 'slipper exchange' schemes. It was carried out in Bed-base as this could provide a controlled environment to review.
- Data was collected via a Questionnaire (see Appendix 1)
- The data was collected from patients who had been identified as having unsuitable footwear – increasing their risk of falls,
- The podiatrist assessed their need for footwear and completed the 'before slippers issued' section. The slippers were then offered and fitted where accepted,
- The patient satisfaction on fitting was recorded and any improvement in gait recorded. Before the patients were discharged a review was carried out to see how well the slippers were wearing and whether any improvement in functionality was still apparent.
- There was a choice of two slipper styles for men and two slipper styles for women. They were allocated by the podiatrist based upon the foot type/shape and best fit.

### Audit Results

Style	Number provided	Sizes x number	Totals
Geraldine	37	4 x 6 5 x 3 6 x 8 7 x 3 8 x 1 9 x 1	Female 19 pairs Age range 42-96
Ida	25	4 x 8 5 x 5 6 x 4	
zedzz	25	7 x 5 8 x 9 9 x 6 10 x 3 11 x 2	Male 11 Pairs Age range 58-98
Brett	20	7 x 11 8 x 4 9 x 5	
Refused	6	3 x Geraldine 1 x zeddz 2 x brett	3 female 3 male

**Total used = 107 pairs**

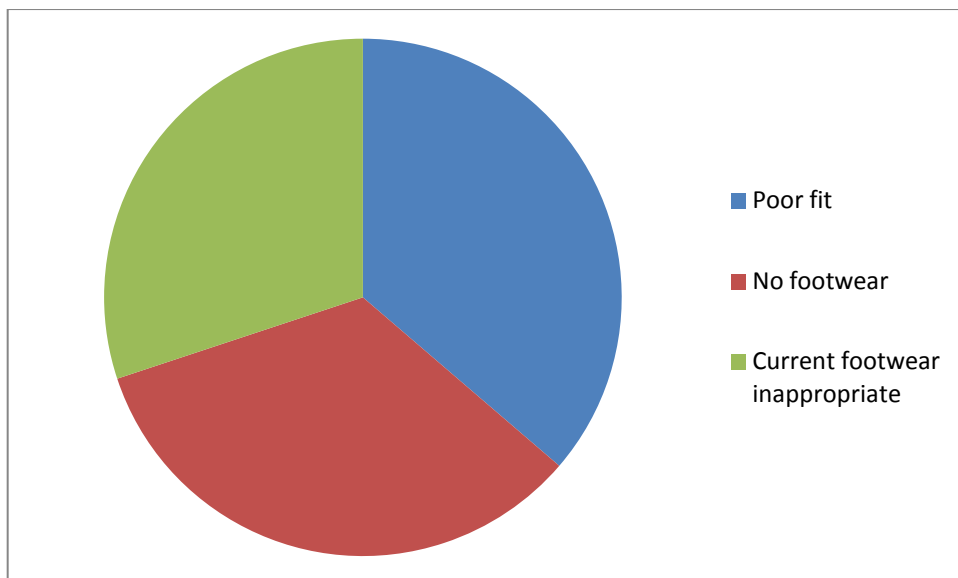
Remaining: slippers:

Style	Number remaining	Sizes x number
Geraldine	0	0
Ida	5	3 x 1 4 x 1 2 x 7 1 x 8
zedzz	8	8 x 6 9 x 2
Brett	2	1 x 7 1 x 8

**Total slippers = 123**

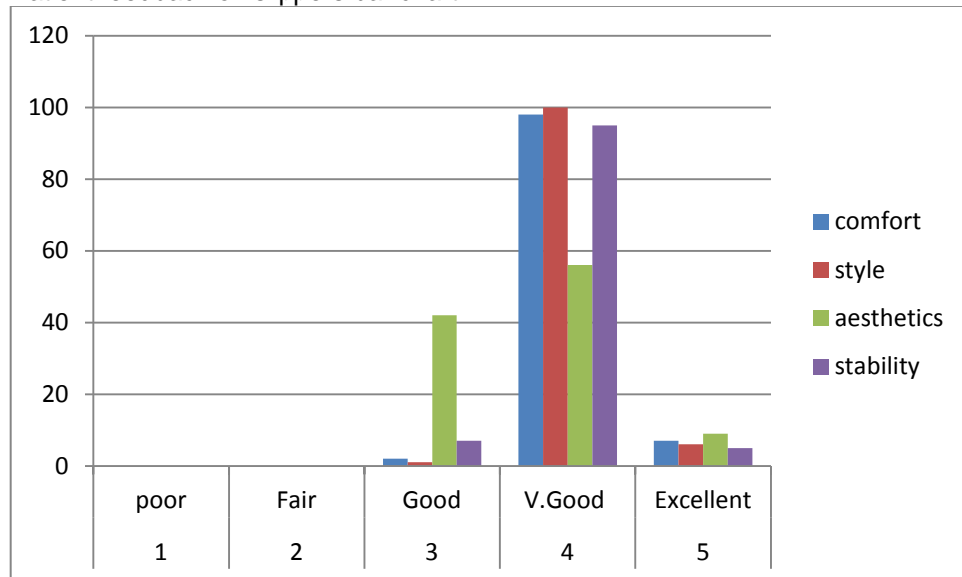
Reason for slipper provision	
Poor fit	41
No footwear	38
Current footwear inappropriate	34

**Reason for slipper provision pie chart**



Patient feedback on slippers	1 poor	2 Fair	3 Good	4 V.Good	5 Excellent
comfort	0	0	2	98	7
style	0	0	1	100	6
aesthetics	0	0	42	56	9
stability	0	0	7	95	5

Patient feedback on slippers bar chart

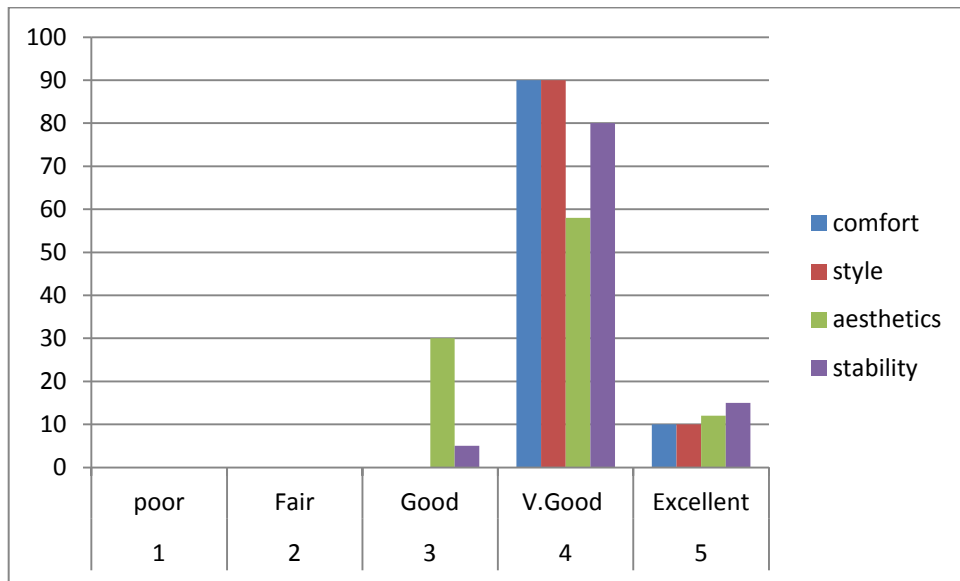


Pre discharge review of slippers	1 poor	2 Fair	3 Good	4 V.Good	5 Excellent
comfort	0	0	0	90	10
style	0	0	0	90	10
aesthetics	0	0	30	58	12
stability	0	0	5	80	15

- 7 pairs not evaluated due to patient being discharged without review being completed.

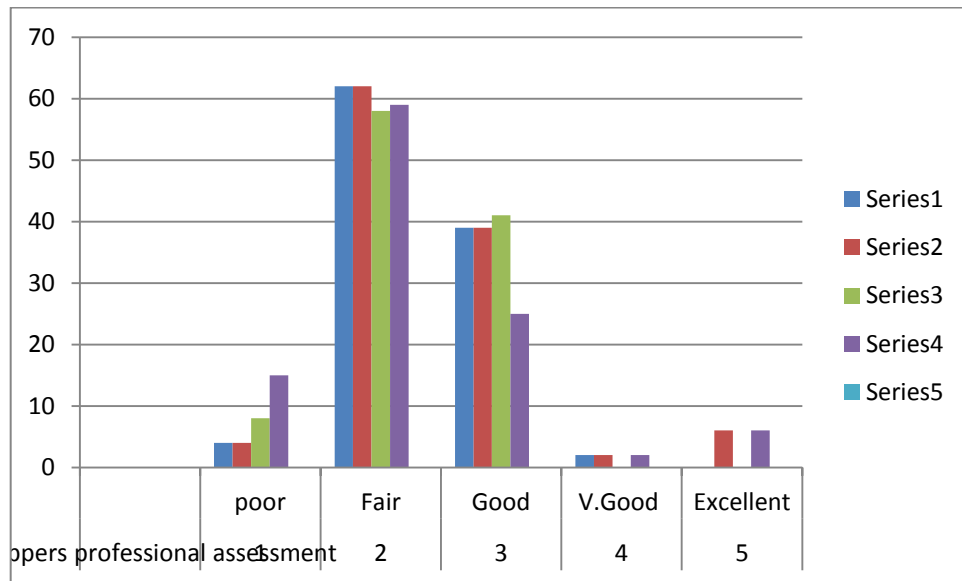


Pre discharge review of slippers bar chart



Pre slippers professional assessment	1 poor	2 Fair	3 Good	4 V.Good	5 Excellent
gait	4	62	39	2	0
function	4	62	39	2	6
Foot clearance	8	58	41	0	0
stability	15	59	25	2	6

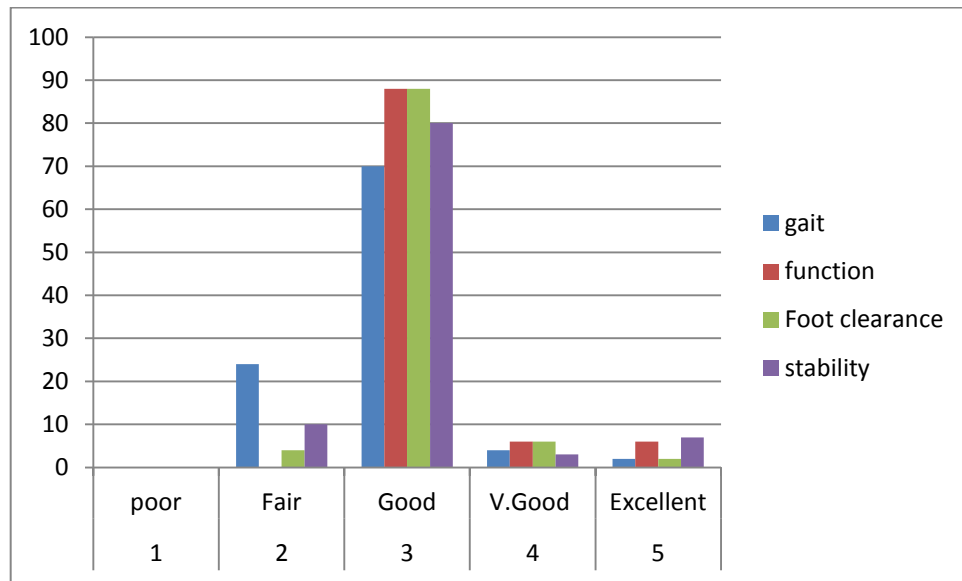
Pre slipper professional assessment bar chart



Post slippers professional assessment	1 poor	2 Fair	3 Good	4 V.Good	5 Excellent
gait	0	24	70	4	2
function	0	0	88	6	6
Foot clearance	0	4	88	6	2
stability	0	10	80	3	7

- 7 pairs not evaluated due to patient being discharged without review being completed

Post slippers professional assessment bar chart



- The reason for provision of slippers was evenly spread across poor fitting, no footwear and inappropriately fitting footwear.
- Of the 107 people who accepted the slippers the slippers comfort/style/aesthetic and stability were rated as 12% Good, 82 % Very Good and 6% Excellent on fitting of the slippers
- When reviewed 14-21 days later the slippers comfort/style/aesthetic stability were rated as 8% Good 75% Very Good and 11% Excellent
- When the podiatrist assessed gait of the sample the following was found:

Gait	Poor	Fair	Good	Very Good	Excellent
Pre slippers	4%	58%	36%	2%	0%
At review	0%	24%	70%	4%	2%

- When the podiatrist assessed function the following was found:

<b>Function</b>	Poor	Fair	Good	Very Good	Excellent
Pre slippers	4%	58%	36%	2%	0%
At review	0%	0%	88%	6%	6%

- When the podiatrist assessed foot clearance the following was found:

<b>Foot Clearance</b>	Poor	Fair	Good	Very Good	Excellent
Pre slippers	7%	54%	38%	0%	0%
At review	0%	4%	88%	6%	2%

- When the podiatrist assessed stability the following was found:

<b>Stability</b>	Poor	Fair	Good	Very Good	Excellent
Pre slippers	14%	55%	23%	2%	6%
At review	0%	10%	80%	3%	7%

- Footwear provision based on individual foot type and patient's pathologies, selection of slippers accommodated the majority of foot types. 94% of patients accepted to participate in the audit.
- Positive feedback received from patients and staff during trial, feeling patients function had improved.
- Feedback positivity increased in all aspects from patient perspective relating to slipper feedback.
- Patient function had improved with supply of appropriate footwear.
- Lack of footwear previously had delayed patient's intervention until families had provided footwear.
- Evidenced foot clearance improved in patients as the main cause of reduced clearance was poorly fitting footwear.
- Patients function and overall mobility has improved due to footwear provision.
- Footwear declined/refused to be provided: due to poor fit and style/colour not preferred. 6% of sample declined footwear offered

## Conclusions

This work done in collaboration with RoSPA and Liverpool Healthy Homes was to try and provide some evidence for the continuation of 'slipper exchange' and similar initiatives with the aim of reducing the risk of falls. There was previously little to support whether this was effective or not in reducing falls risk as there was no feedback mechanism. Within bed-base we were able to supply slippers to a similar cohort of patients to those in the community but were also able review the effect of the slippers on function which in turn would reduce the risk of falls through slips/ trips and poor gait patterns. During this process it was also important to capture the information re; how satisfied the patients were with the slippers provided and how comfortable they were as research suggests that this would highly influence whether the slippers would be worn or not when in a home environment.

It has been found from carrying out this work that the overall functionality of patients has improved with provision of slippers that meet certain requirements such as, fixation, sole, grip and depth. The results also show that the majority of patients were happy with the comfort, style and aesthetics of the slippers provided indicating that they were more likely to continue to wear them or repurchase a similar style.

## Recommendations

The recommendation following this work is that slipper provision would appear to be an effective way of reducing risk of falls, however the fit and style of the slipper should be considered on an individual basis as foot shape and existing functionality would affect the type of slipper provided. Therefore slipper exchanges would be beneficial but with the added element of someone ensuring the style offered is suitable to the individual.

There are currently no lessons learnt from this audit to be shared across the organisation, but the audit will feed back to the Falls Steering Group which has representation from across LCH.

## References

Berg, W.P. et al (1997) Circumstances and consequences of falls in independent community-dwelling older adults. *Age Aging* (1997) 26(4):261-268

Dunne, R.G. et al (1993) Elderly person's attitudes towards footwear - a factor in preventing falls. *Pub Hlth Rep* 108: 245-248

Finlay, A.E. (1986) Footwear management in the elderly care programme *Physiotherapy* 72: 172-178

Koepsell, T.D. et al (2004) Footwear Style and Risk of Falls in Older Adults. *Journal of American Geriatric Society* 52:1495-1501

Sherrington, C. Menz, H.B. (2003) An evaluation of footwear worn at the time of fall –related hip fracture. *Age Aging* 32(3):310-314

### Appendix 1 Data Collection Tool

Male Female

Age

Patients falls history:

Reason for provision:

1. Poor fitting
2. No footwear available
3. Current footwear increases falls risk

Before Slippers Issued Observed Functionality:

	Poor	Fair	Good	Very Good	Excellent
Gait					
Function					
Foot clearance					
Stability					

Style of Slipper:

Zeddzz

Geraldine

Brett

Ida

Patient Satisfaction when slippers issued

	Poor	Fair	Good	Very Good	Excellent
Comfort					
Style					
Aesthetics					
Fitting					

Review of Observed Functionality 14-21 days after provision:

	Poor	Fair	Good	Very Good	Excellent
Gait					
Function					
Foot clearance					
Stability					

Review of Patient Satisfaction 14-21 days after provision:

	Poor	Fair	Good	Very Good	Excellent
Gait					
Function					
Foot clearance					
Stability					