



***Slip/Trip/Fall relating to Shower/ing:
Events reported to the STARSWeb
National Reporting System from
1st January 2004 to
December 31st, 2009***

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1.0 Background

This report was developed in response to a written request (dated 9th October, 2009) from Mr Stephen McMahon, CEO, Irish Patients Association on behalf of its members.

The information requested was:

We are currently advocating on behalf of a family who have reported to us that their mother had a serious fall from a shower seat in a hospital. Following this all the shower seats had to have screws re-fitted as they were found to be inappropriate.

Can you please advise if there have been any similar incidents in the public hospital system?

2.0 Overview

There were over 310,069 clinical events * created on STARSWeb from January 1st, 2004 to 31st December, 2009 (Figure 1). Events include incidents, near misses, pre-claims and claims regardless of status.

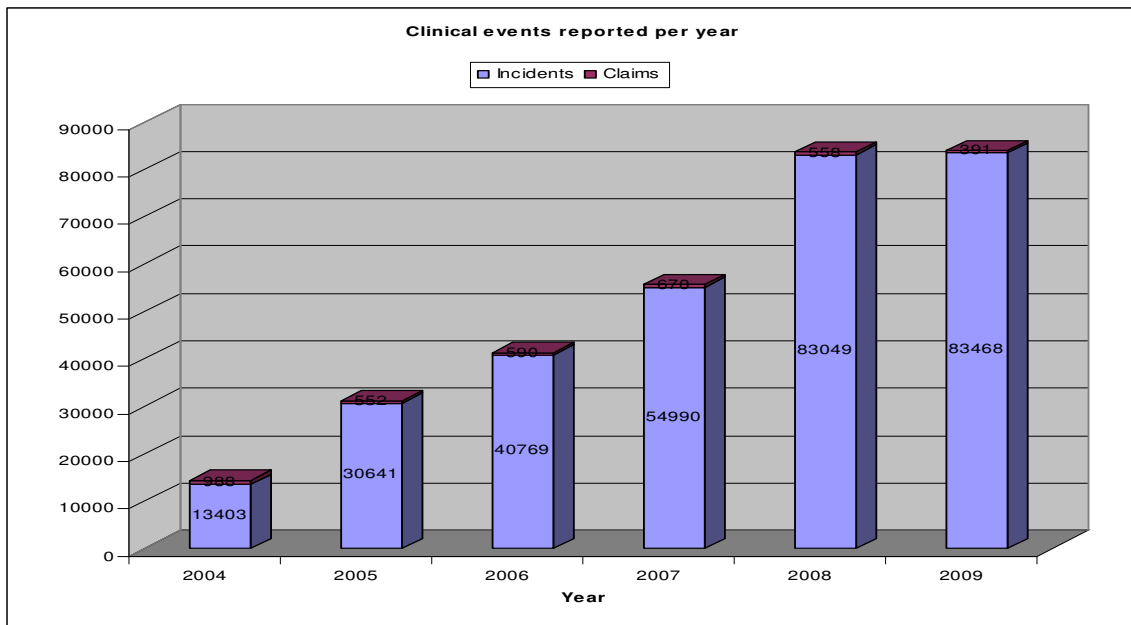


Figure 1. All Events created on STARSWeb from 1st January, 2004 –31st December, 2009 as of 2nd March, 2009.

Of these events 38 per cent (n= 117,826) relate to slip/trip/fall events (Figure2). Fall events have been consistently in the top five events reported nationally since the STARSWeb reporting system was launched from November 2003. Fall events as a proportion of the overall total seemed to have stabilised in 2007/2008, but this finding will need monitoring over time to confirm.

** Events include incidents, near misses, pre-claims and claims regardless of status.*

All events reported 01 Jan. 2004- 31 December 2009 by Incident Type General

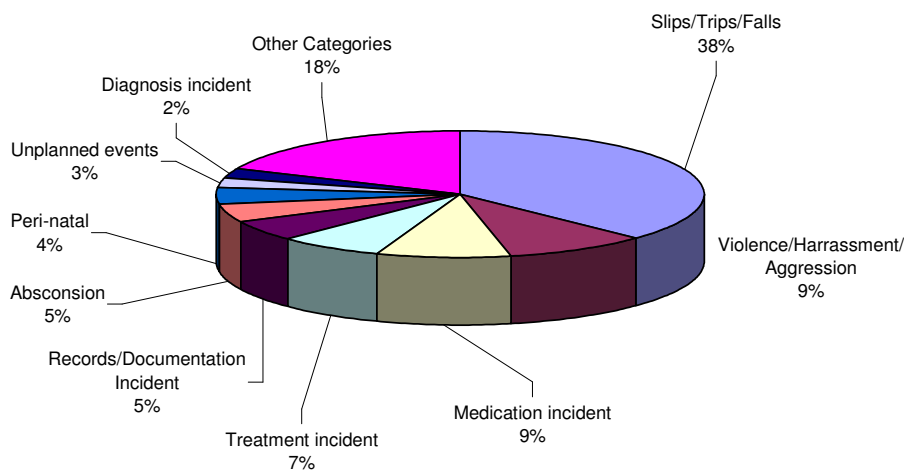


Figure 2. Incident Type General Events created on STARSWeb from 1st January, 2004 –31st December, 2009 as of 2nd March, 2009.

It is worth noting that larger hospitals within Dublin Mid-Leinster (DML) were capable of reporting to STARSWeb from May 2005. The majority of acute hospitals (80 per cent) across the country were capable of reporting into the STARSWeb system from March 2006. Some large hospitals within HSE South only had the necessary infrastructure to report from August 2005 and this was finalised for the region as a whole in July 2007. However, HSE Dublin North East (DNE) and HSE West and were among the original pilot sites for STARSWeb, beginning reporting from January 2004 and March 2004 respectively and finalising their reporting capabilities for the region as a whole in August 2004 and March 2006 respectively.

3.0 Data Quality

Pertinent data was extracted from STARSWeb in keeping within internal quality control procedures. The events were screened for duplicates (208) which were removed. The final report includes data from such category of events as 'fall from chair' and 'equipment/device incident' using the keyword 'shower' in *further details* (where available) to refine the search. It is worth noting that 21 per cent of events (n=370) do not have *further details* completed. This finding prompts the need for managers of the STARSWeb dataset at local enterprise level to ensure that the quality of the data submitted is accurate, appropriate and timely. In addition any data entered needs to be upgraded to reflect enterprises' risk management interventions to minimise risks and learn lessons to prevent reoccurrences.

4.0 Key findings from a Slip/Trip/Fall relating to Shower/ing reported Nationally

Of fall events reported over 1 per cent (n= 1,784) are concerned with *fall events relating to shower/ing*.

- The **frequency** of all *falls relating to shower/ing* events reported Nationally for the period January 2004 up to and including 31st December, 2009 is 1,784 or over 1 per cent of all falls events reported during this period.
- Of those events relating to a *fall from chair*, 24 have gone on to become **pre-claims or claims** with 12 of those currently closed incurring costs of €11,470.91.

Of these claims or potential claims **one (1) related to a fall from a shower chair**. There were no claims pertaining to faulty shower chair equipment.

- The regional picture of where *falls relating to shower/ing* are happening shows the following :

HSE Dublin-Mid Leinster (n=741 or 42%), HSE West (n=315 or 18%), HSE South (n=292 or 17%) and HSE North East (n=136 or 8%).

This pattern correlates with the National picture for *slip/trip/fall events* in general with the exception being HSE North East which equates to over 12% reported for the five year period from 2004 to 2008; however, when population adjusted using 2006 census figures the latter was the second highest reporter of slip/trip/fall events nationally.

- The top six (6) **sub-speciality** areas where *falls relating to shower/ing* events are occurring Nationally were:

Geriatric Medicine (n=287 or 16%), General Medicine (n=261 or 15%), Adult Mental Health (n=240 or 13%), Learning/Intellectual Disability (n=195 or 11%), Rehabilitation Medicine (n=74 or 4%) and Orthopaedic Surgery (n=71 or 4%).

It is worth noting that over 96% of events have included sub-specialty.

- Less than 3% (n=46) of events related to failure/malfunction of medical device/equipment, lack/unavailability of device/equipment and wrong device/equipment used.

Thereafter the top three (3) **incident types** are:

Patient fall moving w/o supervision (n=742 or 42%),
 Patient fall from chair (n=582 or 33%) and
 Patient fall moving under supervision (n=307 or 17%).

- **Outcomes for falls relating to shower/ing** events are reported in 57% (n= 1,053) of cases Nationally. Of all fall events reported between 2004-2008, 76.8 % recorded an outcome of *no apparent injury/reaction*. The top seven (7) **outcomes** occurring Nationally were:

No apparent injury/reaction (n=755 or 72%), Bruising (n=123 or 12%),
 Laceration (n=81 or 8%), Other (n=30 or 3%), Graze (n=19 or 2%),
 Fracture (n=15 or 1%) and Multiple Injuries (n=10 or 0.9%).

These outcomes correlate with the National pictures for slip/trip/fall events in general.

- **Risk rating** is used by enterprises to determine the actual or potential impact on service users (unintended or unexpected) and the likelihood of reoccurrence (Figure 3). Since July 2009 this has been aligned with the HSE Risk Rating Matrix.

		Impact Score				
		Negligible (1)	Minor (2)	Moderate (3)	Major (4)	Extreme (5)
Likelihood score	Almost Certain (5)	5	10	15	20	25
	Likely (4)	4	8	12	16	20
	Possible (3)	3	6	9	12	15
	Unlikely (2)	2	4	6	8	10
	Rare/Remote (1)	1	2	3	4	5

Low Risk 1 – 5 ■ Moderate Risk 6 - 12 ■ High Risk 15 - 25 ■

Figure 3. STARSWeb Risk Rating Matrix

- Nationally 47% (n=977) of *falls relating to shower/ing* events reported from 2004-2009 have been risk rated as compared with almost 60% of all falls events reported from 2004-2008. Of those risk rated nationally, 64% (N=483) of these events are logged as causing *no apparent injury/reaction*, 13% (n=90) report *bruising* and 6% (n=55) report *laceration*.
- When risk rating is correlated further with outcome to try and discern the impact of the fall or rather how it was perceived by the organisation one notes the following:

Twelve (12) incidents rated HIGH had outcomes of *no apparent injury/reaction* (58% or n=7), *bruising* (17% or n=2) and *laceration* (17% or n=2).

Of the seventy (70) incidents rated MODERATE the majority (49% or n=34) reported outcomes of *no apparent injury/reaction*, twenty one per cent (21% or n=15) reported *bruising*, thirteen per cent (13% or n=9) stated *fracture* and eleven per cent (11% or n=8) reported *laceration*.

Comparing the above with all slips/trips/falls event data reported from 2004-2008 the top four (4) outcomes that are risk rated HIGH/MODERATE are:

- ❑ *pain & suffering* (76.4%)
- ❑ *fracture* (68.6%)
- ❑ *laceration* (14.9%)
- ❑ *bruising* (11.5%)

Samples of information available in the *Further Details* field of those events rated HIGH helps to build understanding as to what actually happened around the fall:

While taking a shower, Service User appears to have lost her balance, fell onto shower door causing large long red mark to right side of body.

K stated that he fell in the en-suite. Pt was mobilising back from the toilet in his socks, no shoes/slippers and stated that he slipped on the silver tray in the shower and fell to his knees and complained of soreness to right knee. Pt advised hit

Poor supply of hot water. Relatives of patient Kathleen English complained of the failure to supply adequate hot water to shower patient last pm. (3/2/07)

Due to ongoing problems with the drainage system in Ash/HDU the shower areas are constantly flooded due to the poor drainage system and the gradient in the shower cubicles. THIS IS A SERIOUS HEALTH + SAFETY ISSUE for patients and staff leading to falls.

While showering sustained tonic clonic seizure and fell to floor

In addition, samples of information available in the *Further Details* field of those events rated MODERATE does likewise:

Pt lost balance while getting up from toilet, tripped over shower step and fell against wall.

Pt had a fall while transferring from shower chair to electric chair after shower. Pt fell on the floor and got a bruise on L side of forehead and on rt knee. Cold pack applied. Vital signs stable BP128/70, P=111, Sats 99%. Skull Xray prescred. Neuro Obs

fell from chair to floor while being assisted by staff following shower. Fracture hip confirmed by xray

Pt found sitting on floor of shower cubicle. Assisted to stand. Complained of pain in left knee. Returned to bed with assistance of 2. S/B Dr. Sent for X-Ray of hip - Same fractural. Pt now transferred to [X regional hospital] for hip repair.

Patient found kneeling on floor by bed, had returned from bathroom after shower, floor wet. Seen by NCHD-large bruise over right hip, x-ray showed right hip fracture.

Patient examined in A&E following fall in shower. X-ray showed no fractures and vitals normal. Patient got off trolley to get dressed fell to floor? on floor for 2-mins. Patient placed on trolley. Neuro obs, ECG and bloods recorded. Doctor-admitted for observ

Pt found wandering in corridor, unsteady on his feet, pt looking for toilet assisted to same, sat on toilet with assistance, call bell to ring for assistance when checking on pt few minutes later found sitting in shower cubicle

Patient fell from shower trolley [as left side gave way]. Hoisted back to chair, vital obs done, seen by Dr P, nursing admin informed. Trolley taken out of service and company informed.

While transferring from wheelchair to shower chair SU slipped on side of shower chair and got caught between shower chair and wheelchair

Pt sitting on shower seat, stood up from shower seat and noted seat screw had come off wall

Thomas was having an assisted shower, was sitting on shower seat, when left side of same became detached from wall, he did not fall off the seat, remained on the seat at an angle. Patient held onto shower rail, staff assisted patient onto chair, assessed

Pt felt dizzy and fell while having a shower. Stated that he banged his right small toe and his head. Seen and examined by dr. CT brain showed no abnormality but incidental finding of sinusitis. Xray showed fracture to terminal tuft of distal phalanx.

- There were no events logged with an outcome inputted of fatality. There are 24 claims relating to falls from chairs. However, there are no closed claims concerning *falls relating to shower/ing* events. Closed claims are those files that have been closed by the clinical claims managers using specific criteria. For example, a file can be closed due to it being statute barred, settled, no claim resulting, discontinued or damages and costs were awarded to the plaintiff. Of the ten (10) closed claims events six involved inquests, one was statute barred, one was not progressed and two others died such that the latin phrase “*actio personalis moritur cum persona*” applies.

The **Further Details** field of the reporting form allows enterprises to capture additional sentinel information in free text format with respect to falls events. Nationally this field has been completed in 79% (n=1,414) of *falls relating to shower/ing* events reported during the period of this study. Using various key words this field will be examined to build understanding as to the risk factors for falls and fractures. The AGS/BGS guidelines compiled a list of common risk factors for falls (Table 1).

Risk Factor	Significant Total	Mean RR / OR	Range
Muscle weakness	10 / 11	4.4	1.5-10.3
History of Falls	12 / 13	3.0	1.7-7
Gait deficit	8 / 11	2.9	1.3-5.6
Balance deficit	8 / 8	2.9	1.6-5.4
Use of assistive device	6 / 12	2.6	1.2-4.6
Visual defect	3 / 7	2.5	1.6-3.5
Arthritis	8 / 9	2.4	1.9-2.9
Impaired ADL	8 / 9	2.3	1.5-3.1
Depression	3 / 6	2.2	1.7-2.5
Cognitive Impairment	4 / 11	1.8	1.0-2.3
Age > 80	5 / 8	1.7	1.1-2.5

Table 1. Results of univariate analysis of most common risk factors for falls identified in 16 studies examining risk factors (1), 665.

In addition, the National Institute for Clinical Excellence (NICE) when they published their guidelines in 2005 (2), 22, added four additional risk factors found to be strongly predictive of falling, namely: mobility impairment, fear of falling, urinary incontinence and home hazards.

These risk factors will be categorised using the contributory factors headings *Patient factors, Task and /or Technology factors, Individual factors and Work Environmental factors* as used in systems analysis review/root cause analysis methods (3). Free text (anonymised), but for the most part unedited other than for sense making, will be used to illustrate the findings. Eight per cent (n=147) of events contained non-anonymised data such as service users', family and/or staff names.

Service users, their relatives and staff names need to be anonymised to ensure compliance with data protection legislative requirements.

Patient factors

(The patient's condition will have the most direct influence on practice and outcome. Other patient factors such as personality, language and psychological problems may also be important as they can influence communication with staff.)

Thirty four incidents (or 2%) involved service users suffering from dizziness, light-headedness and/or fainting. Intrinsic risk factors such as dizziness, which may or may not be associated with orthostatic or post prandial hypotension, is a predictor of falls in older people.

Notified by SU [service user] that she had been called by above named patient. She stated that she had got dizzy in shower room & hit her head following fall. When I arrived at room 31 patient already sitting in an armchair at bedside - laceration to le

Pt walked to shower post SVD 1hr 35mins. She said she did not feel weak or dizzy. She went into the shower and felt weak and missed the stool to sit on and fell to the ground. Nurse responded immediately to call bell and four.

Patient walked to bathroom with aid of 2 x sticks. After using toilet stood up and felt dizzy. Patient fell down beside shower. Assisted back to bed.

Call bell pressed by another patient, patient fell while mobilising to shower. Felt dizzy and faint, became unsteady and fell backward. Patient hit head. Assisted back to bed, neurological observation recorded.

Patient had shower and felt dizzy afterwards and fell on hip and shoulder.

In order to ensure that fall prevention programmes are both effective and efficient it is necessary to identify those risk factors most predictive of future falls.

Suffered a Tonic-Clonic seizure while in shower. Was sliding along shower door but staff managed to break his fall. Attempted to stand or push staff away but did not succeed. Ended up sitting on floor without falling.

Patient found lying on her back on the ground with the shower door on top of her. No evidence of seizure. Pt brought back to bed and Dr

As pt walked past entrance of shower room, started to have seizure, fell without warning at entrance of next door down

Pt walked into shower room ccu. Some mins later a loud noise heard. I & another nurse opened door & found pt lying on floor with what appeared to be epileptic seizure. Lasted approx 1min and pt helped back to bed.

Pt found collapsed on shower floor in sitting position. Fell says due to tiredness, denies seizure. Pt transferred back to bed.

Staff reports "SU was being assisted to shower. He was sitting on shower chair when he has grand mal seizure and slipped onto the floor. Staff member unable to stop fall as SU wet and had soap all over his body."

Whilst giving SU a shower, she went into seizure and slid off shower chair onto shower floor.

SU finished showering & was walking back to dayroom Helmet in situ. She experienced a Clonic seizure falling backwards against a clients chair her t-shirt ripping. She was placed in recovery position, helmet removed & observed, Rescue meds at 10.25.

Client had drop seizure on his way to shower room, fell and cut his nose

In three hundred and sixteen incidents (or 18%) it is noted that the service user either stated/informed/notified/reported that they had fallen. The majority (68% or 14) were categorised as *Patient fall without supervision*.

In addition, it was noted that sixteen per cent (or n=280) of *falls events relating to shower/ing* involved the service user being "found" in the shower area having fallen. Individualised, multi-factorial, multidisciplinary risk assessments, especially for at risk service users, that are clearly documented, communicated to all concerned and reviewed regularly will be critical in minimising risks to service users and carers.

Task and/or technology factors

(The design of the task, the availability and utility of protocols and test results may influence the care process and affect the quality of care).

Given the nature of this report persons were engaged in showering related activities when the *fall* event occurred. The majority of falls (42% or n=742) occurred when the *patient is moving without supervision* with 33% occurring when the patient *fall(s) from a chair*. The National Strategy cites multiple studies that list urinary incontinence and mobility factors amongst the most common risk factors for falls (4), Section 5(a), 47-52. History of falls, fear of falling and cognitive impairment also feature amongst intrinsic risk factors.

Resident was found lying on her bedroom floor. Claimed she lost balance as she was getting ready for a shower. Assisted to her feet and into bed.

Pt reported wet floor in shower room due to no shower screen. Pt nearly slipped. Pt is mobilising on crutches.

Patient showering independently in bathroom. She tried to reach for towel and fell on the floor. Call bell not within reach from shower. Staff assisting other patient in room next door at the time. Heard patient cry out. Staff assisted pt back to bed. Vi

pt sitting on shower chair after shower requested to use urinal same given pt unable to urinate while staff present. brakes on chair gave him call bell string and stepped outside of bathroom. pt shouted found lying on floor

Mary had just received a shower and was sitting on shower chair when she slid to the floor and landed on her right side. Red marks to right side of back, inner aspect of left arm and outer aspect of left wrist. Nothing broken spirilon applied. NAD.

Eight (or 10%) incidents reported suggest that an inadequate mobility risk assessment may have been undertaken. An individualised, multi-factorial, multi-disciplinary risk assessment to identify those individuals at risk of falling coupled with tailored interventions to meet their needs as outlined in the National Strategy is critical in helping reduce morbidity and mortality associated with falls and increase quality of life (4) Section 7, 72-100 .

Individual factors

(Individual factors include the knowledge, skills and experience of each member of staff, which will obviously affect their clinical practice).

In addition some falls relating to shower/ing events are suggestive of operator error such as faulty technique and/or incorrectly sized/incompatible equipment.

reported mal function of syringe driver patient got into the shower and didnt realise the driver needed to be kept dry

During pts shower, the shower head from shower holder fell after it was replaced and stuck to pt on the left shoulder, The pt was sitting on the shower seat, the head was retrieved and replaced safely.

Patient's body weight is 193 kgs. Maximum bed load is 180 kgs. All chairs are unsuitable and shower facilities not suitable for patients access. Bed and chair suitable for patient ordered.

Pt went to stand up off her chair to have her trousers pulled up (following a shower) lost her balance/footing and slipped to floor (fall broken by Staff) leg stump came in contact with floor. Small bruise & superficial skin tear to left side of stump

SU A stepped into the shower tray and lost her footing and began to slip. Her fall was broken by student nurses X and Y who were assisting with showering SU A.

All staff need to ensure that they are operating within their scope of practice and familiar with equipment and/or tasks being actioned, and if in doubt report to their line manager. The number of staff required for any particular activity will depend on the individualised service user risk assessment, and the level and experience of the staff involved. It is the responsibility of the employing organisation to ensure that the facilities and equipment are fit for purpose. However, all equipment being used by healthcare practitioners must be checked before use to ensure where practically possible that it is intact, in good working condition and suitable to the needs of the service user involved. Healthcare practitioners must ensure that any equipment being used will accommodate the weight of the service user and the safe working load, usually written on equipment, must never be exceeded.

Work Environmental factors

(All members of the team are influenced by the working environment, both the physical environment, (light, space, noise) and factors which affect staff morale and ability to work effectively).

Goal 4 of the HSE Falls Strategy states that a safer, friendlier physical environment is a priority (4), 105. It requires that risk be examined between the care processes and the architectural design/environmental design to identify and modify hazards and put in place adequate fall prevention measures. Environmental risk factors must be included in any falls reduction programme as between 25-75 per cent of falls in older people involve an environmental component.(5) This concurs with a study by Hignett et al (6) on the need to ergonomically assess risk factors from a service user centered perspective, and also with the recommendations from the Accidental Injury Task Force's Working Group on Older People, who reported that falls of people aged 65-74 years are more likely to be due to extrinsic factors, while intrinsic factors are more important for those aged 80 + years.(7)

Patient was sitting on shower chair. Staff nurse pulled shower curtain across and shower guard fell onto patient's right shin, causing some bruising and graze.

new shower in wing very raised from the ground, 28 centimetres high, staff have complained that pts may trip getting in and out of the shower

While having an assisted/supervised shower Pt slipped on wet lino when walking out of the shower. Floor could not be covered with a towel because of way shower opens out. Fall broken by s/m. Pt landed on her knees. No injury sustained.

Patient reported that on sitting down on shower chair she heard a "cracking" noise, on examination of the chair afterwards it was broken in two across the plastic top

Patient had a shower in room beds 4-5 because the shower in her room is broken and on her way out of the shower room she slipped. no injury sustained.

While drying/dressing patient after shower, side came off shower trolley and patient fell from trolley. Patient's fall was broken by Care Attendant. Patient hoisted from floor and put on top of bed. Obs taken. Nursing Admin informed. Seen by Dr X

Call bells not working properly, husband contacted staff to assist pt. On arrival nurse found pt X incontinent. Declined shower. Pain relief given & maintenance contacted.

Ongoing issue. Extremely hot water in all areas of ward - unable to regulate temperature. Risk of burns/ scalds; unable to implement fully infection control procs. as pts cannot shower.

Water in shower and toilets is scalding - pt's hygiene needs compromised and staff unable to wash hands.

Shower not working - no hot water.

patient reported to staff that while having a shower the water became extremely hot and scalded right hand,

Patient using shower facilities when the water became extremely hot, she was unable to turn off the shower and became distressed. Porter came and turned off the shower with much difficulty.

Patient was seated on commode in shower. Wheel came off commode. Patient did not fall. Patient reassured and transferred to chair. Commode examined by maintenance staff, not for repair.

Patient was being showered using the shower chair Freeway T40 which had a weight bearing of 200kgs. The seat of the chair broke and collapsed beneath the resident towards the end of the procedure. This resulted in the patient falling through the frame of

While showering pt shower chair came away from the wall while pt was sitting & pt fell to the floor. S/b Dr. no apparent injury observed.

Staff were wheeling shower chair to dry area when it broke. The board seat where Pt was sitting fell to floor & left Pt hanging. Staff assisted Pt to another chair. Physical examination performed & no obvious injury noted.

Preventative maintenance programmes for facilities and/or equipment that are aligned with procurement and environmental risk management approaches will be important in minimising risks associated with facilities and/or equipment .

5.0 Conclusions

While incident reporting is a useful risk identification tool it depends on good quality data being collated and inputted at local level to ensure quality outputs and analysis for shared learnings locally, regionally and nationally. In addition any data entered needs to be upgraded to reflect enterprises' risk management interventions to minimise risks and learn lessons to prevent reoccurrences. Interventions that have resulted in sustained reductions in falls rates have employed approaches which focus on identifying individualised falls risk factors, using each new fall as an indicator to prompt reassessment, putting in care plans to address modifiable risk factors, learning from incident reporting as part of governance, educating and training staff in effective falls prevention methods and making the physical environment safer for all.(8)

A critical data set for falls must include outcomes, risk rating, further details and the completion of the risk management fields as outlined in STARSWeb . Attaching systems analysis review reports so as to build understanding of the contributory factors for falls could complement this by relating to enterprises' governance structures, safety cultures, systems and processes. Fields such as *Outcome* and *Action taken/Planned* will need to be updated to capture any X-ray reports or other investigations and/or risk management interventions undertaken over time to ensure lessons are being learned and implemented to prevent reoccurrences. Encourage those completing the *Further details* field to include such key information as

- Type of shower chair/equipment being used i.e. ceiling/mobile, manual or hydraulic etc
- Numbers of personnel involved and staff categories i.e. CA X, Std. Nurse Y, CNM Z, Porter W, Dr P
- Activity type i.e. transferring from bed to chair, transferring to commode,
- Other key factors that may have contributed to the fall i.e. patient confused/anxious/aggressive etc.,

It is expected that the strategic approach taken by the HSE when it eventually implements the National Strategy to Prevent Falls & Fractures in Ireland's Ageing Population coupled with the Dublin Hospital Group Risk Management Forum (DHGRMF) member organisations' actioning of their document, DHGRMF Guidelines for the Prevention and Management of Falls (when finally approved and disseminated), will positively impact any initiatives needed to address issues contributing to *falls relating to shower/ing* events

6.0 References

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- (2) National Institute for Clinical Excellence (NICE). Clinical Practice Guideline for the Assessment and Prevention of Falls in Older People CG021 Falls: Full Guideline. 2004:1-284.
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- (7) Accidental Injury Task Force. Accidental Injury Task Force's Working Group on Older People. Priorities for Prevention. 2001; Available at: <http://www.dh.gov.uk/assetRoot/04/07/22/17/04072217.pdf>. (Accessed March, 30th, 2010).
- (8) Oliver D. Falls risk-prediction tools for hospital inpatients. Time to put them to bed? Age Ageing 2008 05/01; 37(3):248-50.

Additional Resources

State Claims Agency (2009) Epidemiological Study of Falls in Ireland based on Incident and Claims Data Created On STARSWeb from 2004-2008.
<http://www.lenus.ie/hse/handle/10147/81015>

National Patient Safety Agency (2007) Slips Trips and Falls In Hospital, 3rd Report from the Patient Safety Observatory, UK.
<http://www.nrls.npsa.nhs.uk/resources/?entryid45=59821>