SPSO Scottish Public Services Ombudsman

The Scottish Public Services Ombudsman Act 2002

Investigation Report

UNDER SECTION 15(1)(a)

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Scottish Parliament Region: South of Scotland

Case 201305924: Ayrshire and Arran NHS Board

Summary of Investigation

Category

Health: Hospital; clinical treatment; diagnosis

Overview

The complainant (Ms C) raised concerns that her late mother (Mrs A) developed lithium toxicity during her admission to Pavilion 2, Ayrshire Central Hospital, as a result of inadequate fluid intake. Ms C was also concerned that Mrs A had a heavy fall during her admission and suffered significant injuries.

Specific complaints and conclusions

The complaints which have been investigated are that Ayrshire and Arran NHS Board (the Board):

(a) did not reasonably ensure that fluid intake was adequate (*upheld*); and

(b) did not take reasonable steps to ensure the patient's physical safety (*upheld*).

Redress and recommendations

The Ombudsman recommends that the Board:	*Completion date*
(i) identify and address any staff training needs in relation to lithium toxicity;	20 March 2015
(ii) remind nursing staff that action is required to address low fluid intake when the intake for a lithium patient falls below 1.2 litres;	23 January 2015
(iii) issue a written apology to Ms C, acknowledging the failings identified in this report;	23 January 2015
(iv) provide his office with a copy of the six-monthly review of the measures set out in the Quality Improvement Plan for improving falls assessments, fluid intake monitoring and record-keeping. If the measures of effectiveness set out in the plan were not met, the Board should explain what further action will be taken;	23 January 2015

(v)	provide refresher training for staff involved in Mrs A's care on the requirements of the Falls Management Guideline for In-Patients; and	20 March 2015
(vi)	raise the findings of his investigation with the staff responsible for Mrs A's care, for reflection as part of their next performance appraisal.	20 March 2015

The Board have accepted the recommendations and will act on them accordingly.

Main Investigation Report

Introduction

1. On 21 March 2014, my office received a complaint from a member of the public (Ms C) against Ayrshire and Arran NHS Board (the Board). Ms C complained about the care and treatment of her late mother (Mrs A) while Mrs A was a patient at Pavilion 2, Ayrshire Central Hospital. In particular, Ms C was concerned that hospital staff had failed to ensure that Mrs A received adequate fluids, resulting in lithium toxicity, and that staff had failed to take steps to ensure Mrs A's physical safety, which led to Mrs A suffering a heavy fall. Mrs A died a few months after this admission.

2. Following Mrs A's death, Ms C raised her concerns with the Crown Office and Procurator Fiscal Service (COPF). COPF undertook an investigation into Mrs A's death, but wrote to Ms C on 27 February 2014 advising that there was nothing in the medical records or death certificate to indicate that Mrs A's fall or the administration of lithium caused or contributed to her death and the investigation was discontinued. Ms C then brought her complaint to my office.

3. The complaints from Ms C which I have investigated are that the Board:

(a) did not reasonably ensure that fluid intake was adequate; and

(b) did not take reasonable steps to ensure the patient's physical safety.

Investigation

4. My complaints reviewer reviewed the documents provided by Ms C and by the Board, and made further enquiries of the Board. My complaints reviewer also sought independent advice from one of the Ombudsman's advisers, an experienced mental health nurse (the Adviser).

5. I have not included in this report every detail investigated but I am satisfied that no matter of significance has been overlooked. Ms C and the Board were given an opportunity to comment on a draft of this report.

(a) The Board did not reasonably ensure that fluid intake was adequate

6. Mrs A had a long history of anxiety and depression and had begun treatment with lithium. A few months later, Mrs A again began to show signs of depression and was admitted to Pavilion 2, Ayrshire Central Hospital, for assessment and review of her medication. While in the hospital, Mrs A's condition deteriorated and two weeks after her admission her bloods were

checked and she was found to have a serum lithium level well above the therapeutic range. Her oral intake was found to have been extremely poor in the preceding days. Mrs A's lithium was stopped, and further blood tests a few days later showed her lithium levels were reduced.

7. Ms C told my office she was concerned that nursing staff had failed to ensure Mrs A was drinking sufficient fluid for her medical needs (specifically, her lithium treatment). Ms C said that, during her admission, Mrs A had developed a hand tremor, and had difficulty holding cups of liquid, even the modified cup provided by the hospital. Ms C described how Mrs A deteriorated during her admission, seeming increasingly 'spaced out' and 'drugged up'. She said that by two weeks after her admission, Mrs A was exhausted and frail, and required the help of two staff or a wheelchair to help her move. That evening Ms C spoke to a nurse, after looking at information about lithium toxicity on the internet, as she thought Mrs A was showing signs of lithium toxicity, which could have been caused by her dehydration. Ms C later learned that her mother had been taken off lithium the day before, due to her serum lithium levels increasing beyond the therapeutic range.

8. In response to Ms C's complaint, the Board said that staff monitored Mrs A's fluid intake on a daily basis, and the records show this was variable. On a number of occasions, her fluid intake fell below what was recommended despite the offer of encouragement and support from staff. The Board explained that, due to concerns about Mrs A's fluid intake, her blood results were analysed the day after admission and again a week later, and were within normal limits on both occasions. However, between one and two weeks after admission, Mrs A's fluid intake remained variable and there were times when she refused all diet and fluids, although staff continued to offer encouragement and support. The Board said that staff observed deterioration in her overall presentation and a more pronounced tremor. Therefore, staff provided additional support and an adapted drinking cup. However, two weeks after admission her blood results indicated an increase in her lithium levels and urea. The doctor discontinued her lithium and blood samples were taken a further four times which showed that, by one week later, Mrs A's levels were back to normal. The Board did not uphold Ms C's complaint.

9. In response to my complaints reviewer's enquiries, the Board provided a copy of a Quality Improvement Plan dated 22 April 2013 which was developed after Ms C's complaint. In relation to fluid intake monitoring, the plan includes a

requirement for the fluid balance records to be analysed daily and recorded as part of the nursing records. Furthermore, if the intake for a patient receiving lithium treatment falls below 800 millilitres, this is required to be reported to medical staff.

10. The Adviser explained that there are no definitive standards relating to fluid intake for people on lithium, however, it is important to closely monitor fluid balance. The Adviser noted that older adults should have a daily fluid intake of at least 1.6 litres (this is given by the Royal College of Nursing and NHS National Patient Safety Agency's toolkit *Water for Health: Hydration Best Practice Toolkit for Hospitals and Healthcare* as a 'conservative estimate'). The Adviser explained that it is also essential to monitor for signs of lithium toxicity, which include hand tremor, blurred vision, difficulty speaking and/or slurring words, unsteady gait, confusion, apathy, fatigue and drowsiness (symptoms for lithium toxicity are set out in the *British National Formulary* published by the British Medical Association and Royal Pharmaceutical Society).

11. The Adviser said that, while staff monitored Mrs A's fluid intake, the fluid balance charts show that she only managed to consume one litre or more of fluid approximately 30 percent of the time during her admission. The records show that on a number of occasions she declined fluids and the offer of support to eat and drink. In the circumstances, the Adviser considered that fluids should have been offered to Mrs A hourly. However, the charts do not reflect this occurring consistently. On most days there are a number of hours in which no offer of fluids is recorded. The Adviser explained that, if fluids were offered and declined, or if Mrs A was asleep when fluids were due to be offered, this should have been recorded consistently, but the notes do not reflect this. The Adviser also considered that, when Mrs A declined fluids, staff should have tried a short time later to encourage her to drink, but the notes, fluid balance charts and food and drink diaries do not reflect this degree of vigilance or level of encouragement being offered.

12. The Adviser also noted that the Malnutrition Universal Screening Tool (MUST) assessments for Mrs A did not include information on her likes and dislikes in relation to food and drink (despite this being prompted by the form). The Adviser commented that ascertaining Mrs A's preferences may have helped to ensure an improved fluid intake.

13. The Adviser commented that the care plans for Mrs A for this period were undated, and did not include specific targets for fluid intake, or specify the frequency with which fluids should have been offered. The Adviser concluded that the monitoring of Mrs A's fluid intake was ineffective, as was record-keeping in this regard.

14. My complaints reviewer asked the Adviser whether nursing staff took reasonable and timely steps to alert medical staff to Mrs A's inadequate fluid intake. The Adviser commented that Mrs A's medical notes for the day after admission recorded the need to 'push fluids', but the notes for a subsequent day inaccurately recorded Mrs A's fluid intake as being 'reasonable', when they were not. The Adviser reviewed Mrs A's fluid intake during the first two weeks of admission, and concluded that at no time during this period was Mrs A's fluid intake sufficient or 'reasonable' as stated in the medical record. The Adviser observed that nursing records for one particular day state 'diet and fluids taken with maximum encouragement from staff', but it is not recorded that Mrs A's fluid intake was insufficient that day, or that it had been poor since her admission. Moreover, the fluid balance chart for that date, and the food and drink diary, do not reflect 'maximum encouragement' being offered, as there are periods of two and three hours at a time when there is no evidence of fluids being offered.

15. The Adviser concluded that there is no evidence in the records that nursing staff had serious concerns about Mrs A's fluid intake. There are few specific references to fluids, and no reference to Mrs A's inadequate fluid intake being a cause for significant concern, or of nursing staff alerting medical staff to the situation. It appears from the notes that the inadequate fluid intake came to the attention of medical staff when a doctor reviewed the fluid balance charts. The Adviser considered that, based on the records, nursing staff failed to treat Mrs A's inadequate fluid intake as a cause for concern. They do not appear to have appreciated the need to ensure an adequate fluid intake for an older person on lithium therapy. The Adviser considered that Mrs A's fluid intake was poor from the point of admission, and this should have been brought to the attention of medical staff as soon as the situation became apparent. The Adviser commented that more effective communication with medical staff may have led to Mrs A's high lithium levels being suspected sooner.

16. Overall, the Adviser considered that there was a lack of due attention to Mrs A's inadequate fluid intake, and a failure to appropriately encourage fluids.

The Adviser was also critical of the ineffective record-keeping and care planning in relation to fluid intake, and the failure of nursing staff to timeously alert medical staff to Mrs A's poor fluid intake.

17. In relation to the Board's Quality Improvement Plan, the Adviser agreed that the proposal to report to medical staff any patient receiving lithium whose fluid intake falls below 800 millilitres is appropriate. However, the Adviser considered that nursing staff should be alerted to concerns about fluid intake, and should take action to improve it, if the level falls below 1.2 litres for lithium patients.

(a) Conclusion

18. The basis upon which we make our decisions is 'reasonableness', that is, whether the actions taken, or not taken, were reasonable in the circumstances and in light of the information available to those involved at the time. As this matter is about clinical issues, in reviewing this complaint I have given considerable weight to the advice received from the Adviser.

19. I note the advice that the monitoring and recording of Mrs A's fluid intake was ineffective, and that nursing staff failed to treat her inadequate fluid intake as a cause for concern. I am critical of these failings. I am concerned that nursing staff do not appear to have appreciated the need to ensure an adequate fluid intake for an older person on lithium therapy. I am also critical of the failure by nursing staff to identify specific fluid intake targets in Mrs A's care plan and to take account of her food and drink preferences in her MUST assessments.

20. In view of this evidence, I am satisfied that nursing staff did not take reasonable and timely steps to ensure that Mrs A's fluid intake was adequate. Therefore, I uphold the complaint.

21. In her complaint to the Board, Ms C described how the lithium toxicity affected Mrs A, and how she became increasingly 'run down', frail and exhausted. Ms C felt that Mrs A's weakened state was a contributing factor in a subsequent fall Mrs A had, which caused her serious physical injuries. In her complaint to my office, Ms C said she wanted to know what steps had been taken to re-train staff, as well as an apology for Mrs A's treatment. I have recommended that the Board take steps to ensure staff at Pavilion 2 are appropriately trained in the treatment of people on lithium therapy. I have also recommended the Board apologise to Ms C for the failings I found and that the

findings of my investigation be raised with staff involved for reflection (see recommendations following complaint (b)).

22. I acknowledge that the Board has identified measures to improve fluid intake monitoring and record-keeping for patients receiving lithium treatment in the Quality Improvement Plan provided to my office. I have recommended that the Board provide my office with a copy of the outcomes from the six monthly review of these measures, and any further steps to be taken (see recommendations following complaint (b)). In view of the Adviser's comments, I have also recommended that the Board remind nursing staff of the need for action to be taken to address low fluid intake when the intake for a lithium patient falls below 1.2 litres.

(a) Recommendations

23. I recommend that the Board:	*Completion date*
(i) identify and address any staff training needs in relation to lithium toxicity; and	20 March 2015
(ii) remind nursing staff that action is required to address low fluid intake when the intake for a lithium patient falls below 1.2 litres.	23 January 2015

(b) The Board did not take reasonable steps to ensure the patient's physical safety

24. Prior to her admission, Mrs A was able to walk independently with the aid of a rollator. A falls assessment completed on Mrs A's admission showed her to be at medium risk. However, during her admission she appeared increasingly tired and frail. About ten days after her admission, Mrs A fell to the floor as she was trying to sit down in a chair. Ms C said she found bruising on Mrs A's back and forehead several days later, but the Board had no record of this. About a week later, an ulcer was discovered on Mrs A's foot, and her foot was bandaged and nurses asked to alleviate pressure on it. Staff completed a second falls assessment on this day, again showing Mrs A to be at medium risk. A few days later, nursing staff requested a physiotherapy assessment, as they were concerned Mrs A was walking unsafely with her rollator, and a zimmer frame was provided instead. A week after this, Mrs A went to bed at 22:15, but at 23:00 she was discovered in the bathroom, where she had suffered a serious fall and injured her head.

25. Mrs A was transferred to another hospital (Hospital 2) the next day for further assessment of her injuries. She was found to have sustained a fracture to an upper vertebra, and had severe trauma to her upper forehead and bruising around both eyes. Mrs A remained at Hospital 2 for about seven weeks, before returning to Pavilion 2 where she passed away one week later.

26. While Mrs A was at Hospital 2, Ms C complained to the Board about Mrs A's care in Pavilion 2. She said that, during Mrs A's admission the family noticed bruises on Mrs A's back, as well as a bruised lump on her forehead. Ms C said the nurse commented that Mrs A had been sitting down awkwardly and suggested she might have bumped herself on the wooden arm of a chair. Ms C said that the day before her fall, Mrs A was restless and wanted to walk about, but still required assistance to get out of and into her chair, and to sit on the toilet seat. Ms C was concerned that staff overlooked Mrs A's physical and medical care while she was on lithium, with the result that she became extremely debilitated, with limited capacity to function independently. Ms C felt that this contributed to her fall and injuries.

27. In their response to Ms C's complaint, the Board said that nursing and physiotherapy staff had completed and regularly reviewed a falls risk assessment for Mrs A throughout her stay. In relation to the incident with the chair, the Board inaccurately summarised Ms C's letter as saying that the nurse had told her that Mrs A had misjudged the position of a chair when sitting down and fallen to the ground. The Board confirmed that this had been reported though the Incident Reporting System, but apologised that Ms C did not receive a more in-depth explanation in relation to this incident. The Board said that Mrs A's records showed she was beginning to mobilise independently three days before her fall, with minimal staff supervision. The Board explained that nursing records from the day before the fall showed that Mrs A retired to bed independently and with minimal assistance to remove her clothes. The Board apologised for any distress caused to Ms C and Mrs A, but did not uphold Ms C's complaint.

28. As part of the COPF investigation, Ms C asked the Board why she had been given two different accounts of the incident with the chair. The Board said that the nurse reporting the incident at the time had made a professional judgment not to inform Ms C about Mrs A's fall. Ms C also asked about the bruised lump on Mrs A's forehead, but the Board said that there was no written evidence of this and no recollections from relevant staff.

29. My complaints reviewer asked the Board for a copy of the incident form for the incident involving the chair. The form reflected the version of events given in the Board's written response to Ms C (that Mrs A had misjudged the position of the chair and fallen to the ground). My complaints reviewer also asked the Board for copies of the interviews with staff, which did not include any recollection of the bruised lump on Mrs A's forehead. The Board also provided an extract of minutes from a discussion with relevant nursing staff, at which this issue was raised, but staff had no recollection of this injury.

30. The Board also provided my complaints reviewer with a copy of a Quality Improvement Plan dated 22 April 2013. The plan states that all assessments will be reviewed regularly and updated following any change in the patient's condition.

31. My complaints reviewer asked the Adviser whether the two falls assessments carried out for Mrs A were reasonable. The Adviser explained that the first assessment recorded a risk of medium severity, based upon an overall score of 11 (which is at the upper end of the 'medium' risk rating). However, some falls risk factors do not appear to have been taken into account, including sleep disturbance, symptoms of cognitive dysfunction (forgetfulness, concentration problems and difficulties expressing herself), and requiring assistance to walk. Each of these factors was noted in the Integrated Care Pathway assessment which was completed on the same day, but were not included on the falls risk assessment. Had these factors been taken into account, this would have elevated the degree of Mrs A's falls risk to 'high'.

32. In relation to the second falls assessment the Adviser explained that Mrs A was again assessed as medium, based on a score of 12 (which is the upper limit of the 'medium' category). As with the previous assessment, no regard seems to have been paid to her visual problems, history of sleep disturbance or signs of cognitive impairment. Additional factors which should have been considered (but were not) were: Mrs A's increasing frailty; her previous fall (when she tried to sit down but misjudged the chair); the findings of her recent computerised tomography (CT) scan which showed diffuse cerebral atrophy (which can affect a person's ability to formulate thoughts and make decisions, and can also cause poor muscle tone and impaired coordination of movements); the assistance she required with walking (nursing notes record that Mrs A needed assistance of two staff at times, and needed a wheelchair

the previous day); and agitation (although this was noted at times in the nursing records). Again, had these factors been taken into account, Mrs A's falls risk would have been assessed as 'high'.

33. The Adviser concluded that Mrs A's falls risk was ineffectively assessed on both occasions, as known fall risk indicators were missed or disregarded. According to the Board's Falls Management Guideline for In-Patients (the Guideline), a 'high' risk assessment would have meant that Mrs A would have been nursed in an area of the ward which afforded greater nursing staff supervision. She would have been checked every 15 minutes, and consideration would have been given to the use of a low-level bed and potential one-to-one supervision.

34. The Adviser also commented that Mrs A was not reassessed in line with the Guideline, and triggers which should have indicated the need to reassess Mrs A went unnoticed or were disregarded. The Guideline indicates that reassessment should occur weekly, whereas Mrs A was reassessed 20 days after her first assessment. The Guideline also states that patients should be reassessed following a fall, and when their condition changes. Therefore, Mrs A should have been reassessed following the fall she suffered when she misjudged the position of the chair. About two weeks after her admission, Mrs A was also noted to be getting frailer and it was recorded that her mobility was deteriorating, but neither of these indications triggered a reassessment of her falls risk, as they should have.

35. My complaints reviewer asked the Adviser whether nursing staff responded reasonably to Mrs A's fall in the incident with the chair. The Adviser said that the incident was appropriately recorded. However, the Guideline states that, following a fall, an 'ABCDE' assessment (a type of assessment of key signs, including breathing and circulation) should be carried out, and the patient referred for a full assessment to either the advanced nurse practitioner or medical staff. Although the records note that Mrs A was examined by the Deputy Charge Nurse and there was no apparent injury, the nature of the examination is not specified so it is unclear whether this was an 'ABCDE' assessment, as required. Moreover, Mrs A was not referred to an advanced nurse practitioner or a member of medical staff. The Adviser also noted that Mrs A's falls risk should have been reassessed following this fall, and was not.

36. Finally, my complaints reviewer asked the Adviser whether there was anything in the nursing records in relation to the bruise which Ms C said she found on Mrs A's forehead. The Adviser said that there was no mention of this in the nursing records.

37. Overall, the Adviser concluded that nursing staff failed to effectively assess Mrs A's falls risk, and failed to follow the Guideline in relation to the assessment process, the reassessment of risk, and the post-fall examination and upward reporting.

(b) Conclusion

38. I have explained above that we base our decisions on reasonableness. In this case, I had to consider whether nursing staff took reasonable and timely steps, in line with relevant guidance, to ensure Mrs A's physical safety.

39. In relation to the bruise on Mrs A's forehead, I was not able to reconcile the different accounts of this given by Ms C and the Board. This does not mean that I do not believe Ms C's account, merely that there is no contemporaneous or third party evidence on which I can base a decision. In these circumstances, while I appreciate the disagreement on this matter, I am satisfied that there is no evidence of failings by the Board in relation to this issue.

40. However, in relation to Mrs A's falls, I note the advice from the Adviser that staff failed to effectively assess Mrs A's fall risk, to reassess at appropriate intervals, and to take appropriate action, in line with the Guideline, in response to Mrs A's first fall. I am critical of the failings in the falls risk assessments, which disregarded key factors that should have been taken into account. I am also strongly critical of the failure to reassess Mrs A weekly, and in response to indicators such as her first fall and her declining condition, as required by the Guideline. Finally, I am critical that staff did not properly assess and refer Mrs A in line with the Guideline, following her first fall.

41. Based on the evidence available, I have concluded that nursing staff failed to take reasonable steps to ensure Mrs A's physical safety. Therefore, I uphold this complaint.

42. I consider that the failure of nursing staff to follow the Guideline resulted in Mrs A being ineffectively monitored and supported in relation to her falls risk. Mrs A's increasing frailty, and her first fall should reasonably have alerted staff

to her increasing falls risk. Had staff taken appropriate action, this may have averted Mrs A's second fall, in which she suffered significant injuries. When Ms C complained to my office, she said she would like the Board to admit they made a serious mistake and to apologise. She also wished to know what steps have been taken to re-train staff.

43. I acknowledge that the Board developed a Quality Improvement Plan in response to Ms C's complaint, including plans to improve the regularity of falls risk assessments. However, I do not consider that this action fully addresses the failings identified in my investigation, and I have made further recommendations accordingly.

(b) Recommendations

44. I recommend that the Board:	*Completion date*
(i) issue a written apology to Ms C, acknowledging the failings identified in this report;	23 January 2015
(ii) provide my office with a copy of the six-monthly review of the measures set out in the Quality Improvement Plan for improving falls assessments, fluid intake monitoring and record-keeping. If the measures of effectiveness set out in the Plan were not met, the Board should explain what further action will be taken;	23 January 2015
(iii) provide refresher training for staff involved in Mrs A's care on the requirements of the Falls Management Guideline for In-Patients; and	20 March 2015
(iv) raise the findings of my investigation with the staff responsible for Mrs A's care, for reflection as part of their next performance appraisal.	20 March 2015

45. The Board have accepted the recommendations and will act on them accordingly. The Ombudsman asks that the Board notify him when the recommendations have been implemented.

Annex 1

Explanation of abbreviations used

Ms C	the complainant
the Board	Ayrshire and Arran NHS Board
Mrs A	Ms C's mother
the Adviser	an experienced mental health nurse who provided advice on the complaint
COPF	Crown Office and Procurator Fiscal Service
MUST	Malnutrition Universal Screening Tool
Hospital 2	the hospital where Mrs A was transferred for treatment of her injuries after her second fall
the Guideline	Falls Management Guideline for In-Patients

Annex 2

Glossary of terms

ABCDE assessment	a type of assessment of a patient which checks key functions, including breathing and circulation
computerised tomography (CT) scan	a scan that uses a computer to produce an image of the body
lithium toxicity	a condition caused by having too much lithium in one's system. Common symptoms include slurred speech, tremors, and drowsiness
rollator	a wheeled walking device to assist mobility
zimmer frame	a walking frame (without wheels) to assist mobility

Annex 3

List of legislation and policies considered

Ayrshire and Arran NHS Board, Falls Management Guideline for In-Patients (Clinical Guideline No. 160)

British Medical Association and Royal Pharmaceutical Society, *The British National Formulary* (Sept 2013 - Mar 2014)

Royal College of Nursing and NHS National Patient Safety Agency, *Water for Health: Hydration Best Practice Toolkit for Hospitals and Healthcare* (August 2007)