in 55 (70%): zoledronic acid (n=28, 35%) and pamidronate (n=24, 30%) were most common. Two (3%) received denosumab and one (1%) calcitonin. Thirty-four (43%) had a previous episode of HCM, 20 (25%) had an episode in previous 4 weeks of which 12 (60%) achieved normocalcaemia following bisphosphonates.

Plans for monitoring serum calcium were not documented in 33 (43%) cases. Many healthcare professionals considered treatment inappropriate in dying patients (n=51/66, 77%) and 8 (12%) had used denosumab previously for HCM.

Conclusion This analysis provides quantitative data about management of HCM across a variety of settings and has informed development of standards and guidelines. Further study is needed to determine the role of denosumab in management of HCM.

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THE DEVELOPMENT OF A FRAMEWORK TO PERSONALISE HYDRATION MANAGEMENT IN CANCER CARE: THE USE OF NON-INVASIVE TECHNOLOGY TO EVALUATE FLUID STATUS AND DEHYDRATION-RELATED SYMPTOMS

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Background The role of hydration in causing or alleviating suffering in patients with advanced cancer is poorly understood. The evidence for the efficacy of clinically assisted hydration in advanced cancer is limited, conflicting and inconclusive. Bioelectrical impedance vector analysis (BIVA) is an accurate validated method of assessing body composition. Previously we have used BIVA to demonstrate statistically significant relationships with hydration status and symptoms (dry mouth, thirst, taste and fatigue), physical signs (mouth moisture, sunken eyes and axilla dryness), oedema and survival in advanced cancer. Further work is needed to investigate how hydration status affects symptoms and quality-of-life in the dying phase.

Aim The aim of this feasibility study is to develop the necessary methodology and advanced consent procedure to conduct hydration research assessments in dying cancer patients.

Methodology This study will involve an observational longitudinal analysis using BIVA assessments to evaluate hydration and its relationship with clinical symptoms and quality-of-life. Family-caregivers experiences will be evaluated via questionnaire. Thirty patients with advanced cancer will be recruited initially from a hospital-based specialist palliative care inpatient unit. Following this recruitment from additional hospice sites will be facilitated.

Results This study is supported by the Academy of Medical Sciences, the UKH Foundation, North West Cancer Research and the Liverpool Clinical Commissioning Group (CCG) Research Capability Funding (RCF) grant. Recruitment is planned to commence in early 2017.

Proposed findings The outcomes of this study will determine the feasibility of the methodology and will inform the development of further work. The identification of variables that are associated with hydration in the dying will facilitate the development of a clinical hydration assessment tool. This will ultimately help to develop a framework to clinically assess and manage hydration states patients with cancer.

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## IMPLEMENTATION OF A NALOXONE ALGORITHM INTO A HOSPICE IN-PATIENT SETTING

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Background Naloxone is an opioid antagonist, indicated for the reversal of central nervous depression and respiratory depression, in the treatment of opioid overdose/intoxication. A National Safety Alert in 2014 (1) highlighted that doses commonly used to treat opioid overdose in the Emergency Department are not appropriate to manage opioid induced respiratory depression and sedation in the palliative care setting. There is very little published literature about the use of naloxone in the palliative care setting.

Method A collective case study approach was used to guide a service development project. The clinical notes of three hospice in-patients, treated with naloxone for critical opioid induced respiratory depression and sedation, in the absence of being in the dying phase of their illness, were reviewed to identify themes and evaluate whether the management of these cases could be improved.

Results An "Emergency use of naloxone for iatrogenic opioid overdose", algorithm was developed for use on the in-patient unit. It is divided into: assess, monitor, act and aims to guide the clinician through using naloxone in a palliative care setting once the diagnosis of opioid overdose has been established.

The algorithm has been introduced to the hospice through teaching sessions and has been re-evaluated, following its introduction, on three further patients in whom the algorithm guided management.

Conclusion Using naloxone for iatrogenic overdose is uncommon in the hospice setting, however introduction of the algorithm has standardised assessment and ensured appropriate doses of naloxone are being used.

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## 2016 NATIONAL COMPARATIVE AUDIT OF RED BLOOD CELL TRANSFUSION IN HOSPICES

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Background The aim of this audit, the first of its kind, is to examine the practise of red cell transfusion in hospices and identify opportunities for improving patient care through the increased use of Patient Blood Management. 200 hospices throughout the UK are invited to participate, which collects data on the reason for red cell transfusion, whether investigations have been conducted to manage reversible iron deficiency anaemia, and on patient safety aspects of transfusion administration to identify ways to reduce the risk of patients receiving blood intended for someone else. Many transfusions are potentially avoidable, giving the opportunity to reduce the burden on the patient and reduce costs for hospices.

Methods Participating hospices collect data in a 3 month period from the case notes of inpatients or day patients who