Assuring Quality of Care in Nursing Homes – Hydration Monitoring Solution

Dehydration is associated with poor health outcomes such as low blood pressure, increased infection levels, increased hospitalisation and mortality. Dehydration in the elderly has been identified as one of the top 10 common reasons for hospital admission and has a significant financial impact on the healthcare system. Yet dehydration in older people can be easily prevented or treated with an appropriate hydration programme.

Admissions from Nursing Homes account for the majority of elderly admissions to Northumbria Healthcare Trust Hospitals. 36% of these elderly admissions are caused by dehydration and gastroenteritis.

Outcomes

Hydration status needs to be monitored regularly in order to prevent dehydration in the elderly. Current monitoring systems however are time consuming, labour intensive and vary in different nursing homes.

A new mobile app (Hydr8) has been designed to make it simple and easy for care home staff to monitor hydration status in their patients. A further benefit is that the data collected by the Hydr8 app is then available centrally so that it can be viewed and analysed by authorised staff and clinicians.

This project has developed and introduced the new app to a number of North Tyneside nursing homes.

Impact

- Correct care and hydration programmes for all the nursing home residents.
- Fewer hydration-related health complications.
- Improved staff wellbeing and more time for hands-on patient care
- An immediate reduction in hospital admissions with dehydration.
- A 50% overall reduction in hospital admissions after 1 year.
- Based on this reduction, the North Tyneside Health economy should save £583,590 per year.

In 2011 the NHS Institute identified that proper hydration nationally could save nearly 1 billion pounds and lead to a reduction of 83,000 bed days.

Background summary

In a recent nursing home review, North Tyneside CCG and North Tyneside Local Authority identified that improving the management of hydration was a main priority. Older people are vulnerable to dehydration due to physiological changes as part of the ageing process. Common complications associated with dehydration include low blood pressure, dizziness, skin conditions and pressure sores, constipation and increased levels of infection.

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Even mild dehydration adversely affects memory, concentration and reaction time. It is generally recognised that dehydration in older people can be easily prevented or treated (with prevention being the most cost effective approach).

Common risk factors for dehydration include: Residing in long-term care, needing assistance with food and fluids, cognitive impairment and multiple medications. All of these are of course prevalent in a nursing home environment.

Most care homes have nutrition policies, but the hydration policies vary significantly. This project aims to use a mobile “App” designed to help nursing home staff monitor and report on the hydration status of each patient.

The goals of the project are:

- To raise awareness of the importance of ensuring that nursing home residents are adequately hydrated.
- To accurately complete, communicate and monitor fluid balance.
- To free time for nursing home staff to care and
- To significantly reduce the number of hospital admissions with dehydration from nursing homes.

The mobile application gathers data in the care home and relays it back to a central software programme so that the data is accessible to the care home provider, the CCG and to authorised clinicians.

If a patient becomes over hydrated or dehydrated, the app helps to alert nursing home staff and instructions are given to ensure that the patient is cared for in the most appropriate way.

Once the system is functional in each home, hospital admissions with dehydration should start reducing immediately with a 50% overall reduction after 1 year.

The Hydra App (Hydr8) has been designed and developed by “Nine”, a local Software company and a partner organisation with NT CCG.

The Hydra app has been initially deployed into 6 care homes (with the most compatible WiFi) for pilot testing.

This project has the potential to transform patient care and reporting in care homes. To raise care quality and safety and improve staff wellbeing.

Support provided by AHSN

- The Academic Health Science Network NENC awarded £60,000 to the project to develop and deploy a Hydration app into care homes within North Tyneside.
- The project commenced in April 2014.

Benefits

- To patients: Better care with fewer health risks, less unnecessary time in hospital, more quality care time with care staff.
- To staff: Less time-consuming manual monitoring, more time with patients, improved coordination and communication with other relevant healthcare professionals.
- To Trusts and CCGs: Ability to provide more appropriate and coordinated care, savings from reduced hospital admissions, improved patient and staff wellbeing.

Next steps and plans for the future

All 6 homes involved in the pilot have undertaken hydration policy training in conjunction with the development of the app.

A collaboration has been formed with Northumbria University Researchers who have started the evaluation process.

The application can be expanded to cover domiciliary care providers.

Successfully demonstrated, the concept can also be expanded to monitor other clinical metrics such as vital signs, pressure ulcers and fall risks.

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