

Effective fluid management is seen nationally as an area of suboptimal practice. A bundle was developed by one trust to improve patient hydration in a range of settings

Developing a bundle to improve fluid management

In this article...

- › Why patients' hydration must be improved
- › How a fluid management bundle was developed
- › Key principles for successful fluid management

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Abstract McIntyre L et al (2012) Developing a bundle to improve fluid management. *Nursing Times*; 108: 28, 18-20.

Recent reports have highlighted concerns over inadequate patient hydration. A team from NHS East of England (now part of NHS Midlands and East) developed the Intelligent Fluid Management bundle to support practitioners in ensuring patients receive adequate hydration.

Implementing safe care should be every health professional's top priority. Sadly, every year patients sustain injuries from falls and pressure ulcers and are at increased risk of developing infection or deep vein thrombosis as a result of poor hydration (Royal College of Nursing and National Patient Safety Agency, 2007). A number of reports have identified dehydration, particularly in the care of older people, as a continued failure in patient care (Health Service Ombudsman, 2011; tinyurl.com/TPA-CARE).

There is clearly a need to bridge the gap between what should be done based on evidence and what is being done in practice to ensure patients are adequately hydrated. It is essential that practitioners invest time and energy into improving the fluid management of those for whom they care. However, this cannot be done in isolation and needs to be implemented using a multidisciplinary approach and after undertaking a full risk assessment for any change in practice (RCN and NPSA, 2007).

To address concerns about hydration, we developed the Intelligent Fluid Management (IFM) bundle (NHS Midlands and East, 2011, updated 2012), which aims to help those involved in caring for patients, whether in hospital or in the community, to successfully bridge this gap.

Rationale behind the IFM bundle

A working group had been created in the region for "Getting the Basics Right", which focused on nursing observations. Fifteen of the 18 acute trusts, one community provider and a mental health trust in the region had been involved in the project, and each organisation used the same tool to examine compliance of nursing observations against National Institute for Health and Clinical Excellence (2007) guidelines.

The tool focuses on recording patients' temperature, heart rate, respiratory rate, oxygen saturations, blood pressure and consciousness levels at least twice a day. Each organisation took a different approach to the scope of their project and the practice improvements needed; however, all found that managing fluid balance was an area of considerable weakness and therefore a regional risk to patient safety.

In March 2010, we held a regional event to share best practice on areas clinicians would like to improve. More staff from all clinical areas selected fluid management than any other area of concern. Effective and consistent fluid management is recognised nationally as an area of suboptimal practice (National Confidential Enquiry into Patient Outcome and Death, 2009).

The main causes of the problem were:

- › Inadequate staff knowledge and competence in effectively managing

5 key points

1 All patients should be assessed for their fluid needs

2 A plan should be made to ensure optimum hydration

3 Fluid intake should be managed continuously

4 Hydration should be reviewed for early detection of deterioration

5 Education for all involved and effective communication throughout underpin the principles of successful fluid management



Dehydration is a contributing factor for pressure ulcers

FIG 1. THE INTELLIGENT FLUID MANAGEMENT PROCESS

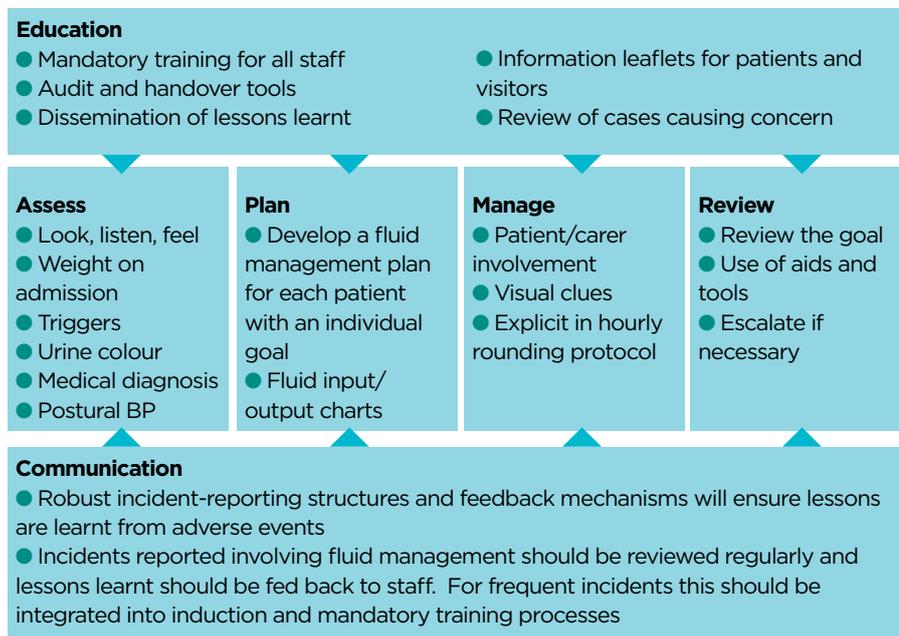
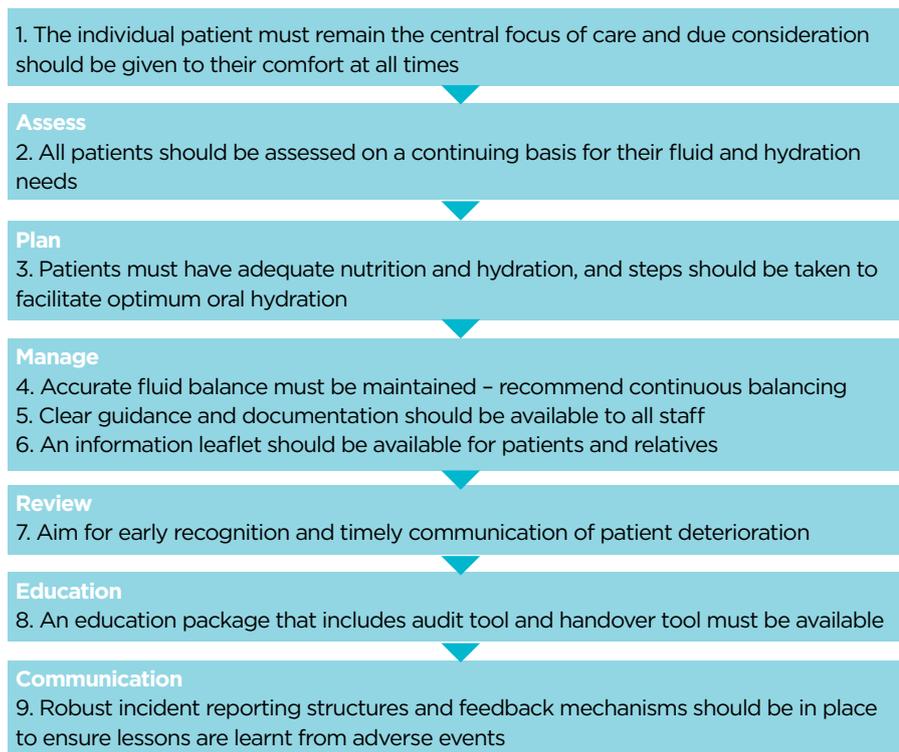


FIG 2. PRINCIPLES FOR SUCCESSFUL FLUID MANAGEMENT



volume assessment, leading to over- or underhydration in the overall context of holistic clinical assessment and patient care;

- » Weaknesses in the systems and processes that support effective fluid management;
- » Insufficient governance of, and accountability for, effective fluid management.

At this time, the region was also

working with the Care Quality Commission to develop the standards for assessment for outcome five of the CQC outcomes framework (CQC, 2011).

Developing the IFM bundle

We established a subgroup of the “Getting the Basics Right” group. Six trusts were represented and membership included a wide range of clinicians including nurses, nurse consultants, outreach nurses and

consultants. The NPSA actively supported this project, which formed a key part of its “10 for 2010” project’s deterioration strategy (NPSA, 2010a).

The group had a tight timescale to complete its work. It met for the first time at the beginning of June 2010 and had a deadline of the end of September to complete what was to become the IFM bundle, so it could be distributed to piloting trusts in December 2010. The deadline was reinforced by the need to release the bundle in time for publication of the CQC nutrition standard and to support the Quality, Innovation, Productivity and Prevention (QIPP) safe care workstream beginning in January 2011 (Department of Health, 2011). Hydration and nutrition were key components of the QIPP safe care delivery programme being planned nationally.

We created a steering group to drive the project forward and to ensure it was delivered by the agreed deadline. We also developed a project plan and held weekly teleconferences to ensure the work kept to schedule.

As tackling all areas of fluid management is an enormous task, four subgroups were formed to engage clinicians with expertise in the following four key areas: education; support assessment; patient information; and audit. The subgroups were tasked with reviewing literature and evidence from which to make recommendations for a tool, guidance, policy or framework, and to suggest examples of good practice for their particular area of responsibility:

- » Education – this section of the bundle was produced to enable clinicians and carers to identify their roles and responsibilities in recognising patients’ needs and was designed to give evidence of good practice. The section is aimed at both basic and more advanced practice;
- » Support assessment – this group reviewed a number of fluid guidelines and policies currently used in NHS trusts. The information incorporated in this section of the bundle was either taken directly from those documents or developed from the key points in documents the group considered to demonstrate good practice;
- » Patient information – this group recognised the need to encourage patients to participate and take increased ownership in managing their hydration status. This is pivotal to staying healthy, but in acute settings it is thought to achieve compliance with monitoring fluid inputs and outputs

and, as such, enhanced accuracy in fluid chart completion (Reid, 2004; Chung et al, 2002). For patients to take on this role they need adequate tools and information – as such, this section aimed to identify examples of good practice from around the country for patients with more complex fluid management needs;

- » Audit – this subgroup reviewed audit tools currently available regionally and nationally, and adapted and produced an example as part of the IFM bundle (from *Good Practice in Hydration for Hospital Inpatients*, an unpublished report produced by Stoke on Trent Community Health Services). The group recommended regular audit of fluid management charts (some organisations do this weekly and monthly as part of a continuous audit programme), to improve patient care by identifying areas for improvement and actions to provide assurance that change has taken place.

Developing fluid management flows

From the steering group's first meeting it was possible to develop a diagram showing clearly the flows between the key areas for successful fluid management. Fig 1 illustrated the process followed by IFM and showed that education and communication are key at every stage and underpin the foundations of the workstream.

Principles for fluid management

The steering group then developed the core principles for successful fluid management. They agreed these should provide a consistent approach, be user friendly and readily accessible to practitioners at all levels. Agreeing these principles involved long debate between clinicians and experts but eventually we agreed on nine principles that offered a workable and adaptable solution (Fig 2).

Reviewing the IFM bundle

Many clinicians and experts reviewed the bundle during its development phases and we constantly improved it based on their feedback. Once all relevant groups were satisfied the bundle was fit for purpose, we circulated it via the safe care leads from the 10 host organisations of the QIPP safe care workstream, including acute trusts and community services.

Six months later, we produced an online questionnaire, which was distributed to each trust in the region requesting feedback on their use of the bundle. Trusts

were encouraged to provide feedback on whether they had used the whole bundle or just parts of it, or to explain why they had decided not to pilot at this time. Eleven trusts replied, of which eight were piloting all or parts of the bundle. The feedback, which was all extremely positive, offered suggestions for simplifying the education section. After doing this, we circulated a new version of the IFM bundle, resulting in further positive feedback. We received many encouraging comments, including the following:

"[The fluid guidelines] are excellent. We have used this as a basis for our trust guidelines."

"I have been trying to tackle fluid management within my trust since I set up my team in 2009. The bundle has been a very good tool to enable me to introduce better ways of working."

Implementing the bundle

Successful sustained fluid management improvements can only happen by ensuring a whole-team approach. The group recommended trusts intending to implement the IFM bundle refer to the NPSA's (2010b) toolkit, which aims to help organisations improve the implementation of patient safety guidance and uses a risk assessment and multidisciplinary approach to ensure safety improvements are sustained.

Implementing the IFM bundle will support delivery of the nutrition and hydration action in the High Impact Actions for Nursing and Midwifery (NHS Institute for Innovation and Improvement, undated), which in turn will support the national QIPP safe care ("Safety Express") programme (DH, 2011). Intelligent fluid management is the foundation for reducing harm from pressure ulcers, catheter-acquired urinary tract infections, falls and venous thromboembolism.

Next steps for the IFM bundle

The bundle has undergone extensive development and evaluation. It highlights the importance of ensuring patients receive safe and effective care, and the role of nurses in delivering this.

The bundle has been developed into a national e-learning package as part of the "harm-free care" resource library supporting QIPP safe care. It is available at tinyurl.com/ifbundle (registration is required).

A team at Luton and Dunstable Hospital Foundation Trust is working with us to develop a bundle that meets the

specialist requirements of paediatric fluid management as the second stage of the project.

The bundle was launched as the second phase of the QIPP Safe Care initiative and forms a key component of our strategic health authority cluster-wide drive to eliminate avoidable grade 2, 3 and 4 pressure ulcers by December 2012.

Conclusion

The CQC's (2011) report reinforced the need for continued emphasis on and commitment to meeting patients' hydration and nutritional needs.

Working collaboratively with stakeholders, including clinicians from a number of different trusts, enabled us to develop this comprehensive bundle to improve fluid management. Setting a deadline at the beginning and using a project manager to help guide the process ensured all the subgroups kept on track. Involving nurses who will be responsible for implementing the changes ensured the bundle was practical, relevant to the practice area and owned by them. **NT**

References

- Care Quality Commission (2011) *Dignity and Nutrition Inspection Programme: National Overview*. London: CQC. tinyurl.com/CQC-nutrition-dignity
- Chung LH et al (2002) The efficiency of fluid balance charting: an evidence-based management project. *Journal of Nursing Management*; 10: 2, 103-113.
- Department of Health (2011) *Safe Care*. London: DH. tinyurl.com/QIPP-safe-care
- Health Service Ombudsman (2011) *Care and Compassion? Report of the Health Service Ombudsman on Ten Investigations into NHS Care of Older People*. London: HSO. tinyurl.com/HSO-compassion
- National Confidential Enquiry into Patient Outcome and Death (2009) *Adding Insult to Injury*. tinyurl.com/NCEPOD-adding
- National Patient Safety Agency (2010a) *10 for 2010: Reducing Harm to Patients*. London: NPSA. tinyurl.com/NPSA-10-for
- National Patient Safety Agency (2010b) *Implementation Toolkit, Turning Knowledge into Action*. London: NPSA.
- National Institute for Health and Clinical Excellence (2007) *Acutely Ill Patients in Hospital: Recognition of and Response to Acute Illness in Adults in Hospital*. London: NICE. www.nice.org.uk/CG50
- NHS Institute for Innovation and Improvement (undated) *High Impact Actions for Nursing and Midwifery: The Essential Collection*. tinyurl.com/NHS-III-essential
- NHS Midlands and East (2011) *Intelligent Fluid Management Bundle*. tinyurl.com/East-bundle
- Reid J (2004) Improving the monitoring and assessment of fluid balance. *Nursing Times*; 100: 20, 36. tinyurl.com/NT-monitor-balance
- Royal College of Nursing, National Patient Safety Agency (2007) *Water for Health. Hydration Best Practice Toolkit for Hospitals and Healthcare*. London: RCN/NPSA. tinyurl.com/RCN-water-health