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Concise Care Bundles In Acute Medicine

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Abstract

The Queen Elizabeth Hospital in King's Lynn, Norfolk is a 488 bed hospital providing services to approximately 331,000 people across 750 square miles. In 2012 a need was recognised for documentation (pathways) in a practical format to increase usage of national guidelines and facilitate adherence to best practice (gold standards of care) that could be easily version controlled, auditable and provide support in clinical decision-making by junior doctors.

BMJ Action Sets[1] fulfilled the brief with expert knowledge, version control and support, though they were deemed too lengthy and unworkable in fast paced settings like the medical assessment unit; they formed the base creation of concise care bundles (CCB). CCB were introduced for 21 clinical presentations and one procedure. Outcomes were fully audited and showed significant improvement in a range of measures, including an increase in completions of CHADVASC score in atrial fibrillation, antibiotics prescribed per protocol in chronic obstructive pulmonary disease (COPD), and Blatchford score recorded for patients presenting with upper gastrointestinal bleed.

Problem

A standardised approach was required for common clinical presentations, along with an increase to the quality of documentation delivered within the Trust.

i-Flow, a project team set up by the Trust to concentrate on areas for improvement within the emergency division, initiated a project designed to address adherence to standards, improve the quality of care plans produced, and standardise practices across the Trust by doctors. BMJ Action Sets fulfilled all the criteria for the project, enabling specialities to localise pathways in accordance with services provided within the Trust and community settings.

The Queen Elizabeth Hospital provides secondary care to three different counties, comprising four different councils, so there are various commissioned community services.

Background

"People are not adequately protected from the risk of receiving unsafe or inappropriate care and treatment because records are sometimes incomplete, inaccurate or misleading."[2]

The Care Quality Commission required that patients receive safe care guided by up to date standards with accurate record keeping. Concise care bundles as developed in this project were designed to achieve this outcome.

The BMJ Action Sets were launched in August 2012 at the Queen Elizabeth Hospital and were surrounded by promotion at every level, but not one was used. Feedback given suggested that the content was too lengthy, time consuming to print, hole-punch, and insert into the patient's case notes, particularly within such high pressured areas as accident and emergency or in the medical assessment unit. The principle of viewing online was acceptable but not adopted as standard practice, though this was not monitored.

Baseline measurement

Clinical audits to establish the baseline were carried out retrospectively by junior doctors. This was done in conjunction with the Queen Elizabeth Hospital clinical audit department of implemented concise care bundles (CCB) for eight conditions and one procedure. Data collection tools were created by the authors with guidance available from the clinical lead consultant.

A list of patient hospital numbers was generated by information services using the appropriate ICD codes (provided by the clinical coding department) of patients admitted between 2011 to 2012 (pre CCB implementation). Twenty-five numbers were randomly selected from the list provided and the corresponding case-notes were pulled from the medical records department for the authors to view.

Standards were drawn up in each audit to benchmark against both national and/or local guidelines. The case-notes were reviewed against the data collection tool by the designated author who documented the information required in preparation for analysis.

Pre CCB implementation:

Atrial fibrillation:

CHADVASC Score - 21%

Acute coronary syndrome:

GRACE risk score - 36%

Initial management – fondaparux – 84%

Cellulitis:

Correct antibiotics used – 80%

Referred to OPAT service – 0%

COPD:

Theophylline level – 9%

Antibiotics as per protocol – 96%

Prednisolone – 86%

Referral to COPD specialist nurse on discharge – 13%

Upper GI bleed:

Blatchford score – 15%

Rockall score – 10%

Average LOS – eight days

Lumbar puncture:

Risks explained to the patient – 31%

Pain site – 3%

Needle size used – 9%

Skin prep used – 21%

Design

Criteria for a Queen Elizabeth Hospital care bundle:

- One side of A4

- Easily accessible

- Reduce requirement for writing

- Visible in the case-notes

- Current medical practices

- Differentiate between ambulatory and admission criteria

- Adapted for this Trust

- Version controlled

- Auditable.

A sticker format was suggested, that could be placed in the notes, so a template was devised for the management of COPD. The sticker consists of 2 A5 labels. The generic top section includes:

- Title of care bundle, including ‘This does not replace your clinical judgement’

- Patient addressograph box

- Date

- Time

- Clinical area

- Referred from

- Doctors name

- Grade

- Bleep number

- Signature.

Condition specific:

- Clinical assessment

- Criteria for admission to ambulatory care

- Criteria for hospital admission

The generic bottom section includes:

- Patient name

- Patient hospital identification number

- Tick/time

- Initials

Condition specific:

- Investigations

- Initial management

- Further management

- Consider ITU

- Community/specialist referral details

The format was submitted to the health records management committee for approval. Following ratification it was launched on the 7th August 2013 along with a care bundle for community acquired pneumonia, shortly followed by one for lumbar puncture. The bottom section of the newly named concise care bundle has a place

allocated in the clerking sheets, whilst the top section is kept for audit purposes.

In January 2014 the first audit results had shown positive results. The project management office was responsible for the initial implementation and monitoring before handing over as business as usual to the emergency division in April 2014. A concise care bundles manager is now responsible for monitoring, updating, devising and delivering of a promotional and educational strategy. Clinical support and advice is provided by the ambulatory care clinical lead consultant, who also champions the CCB among junior and other senior medical staff. junior doctors are enlisted to work alongside specialist consultant leads, pharmacy, and any other health care professional required to create new CCBs as well as audit/re-audit existing CCBs.

Strategy

PDSA cycle 1: Improve documentation in patient case-notes, improve the quality of care plans, and standardise working practices through purchase, localisation and implementation of BMJ Action Sets. No BMJ Action Sets were printed out, used, and filed in the patient case-notes. In principle the idea was widely accepted but the format did not meet the needs of the end user.

PDSA cycle 2: Create a document format that would meet the needs of the aim of PDSA cycle 1, Improve documentation in patient case-notes, improve the quality of care plans and standardise working practices. An A4 two part label adhering to national and local guidelines with stated investigations and initial and further management of a condition with tick boxes was implemented. The project has exceeded expectation with 400 CCBs completed within the first three months.

PDSA cycle 3: Create a CCB for the management of headache. This was planned with three neurologists and the ambulatory care consultant. There were no foreseeable issues. After several meetings the CCB format was deemed not appropriate as the condition was too broad, with one side of A4 being too small to accommodate all the required information.

PDSA cycle 4: Although the CCB is concise for some conditions supportive information is required. CCB for the management of alcohol withdrawal required new guidelines to be produced in association with the Norfolk Recovery Partnership, which included chlordiazepoxide dosing regimes and scoring sheets.

PDSA cycle 5: Speciality "buy in". Following creation and implementation we required our speciality consultants to champion and take ownership of their particular CCB. All but one consultant was willing to participate. The majority have been supportive, endocrinology and gastroenterology have requested a CCB for management of hyperosmolar hyperglycaemic state (HHS) and one for the management of ulcerated diabetic foot. Cardiology has requested the CCB for acute coronary syndrome is added to their clinical audit plan for 2015/16.

Results

Post CCB implementation

Atrial fibrillation:

CHADVASC Score - pre 21% post 65%

Acute coronary syndrome:

GRACE risk score – pre 36% post 76%

Initial management – fondaparux – pre 84% post 92%

Cellulitis:

Correct antibiotics used – pre 80% post 92%

Referred to OPAT service – pre 0% post 33%

COPD:

Theophylline level – pre 9% post 57%

Antibiotics as per protocol – pre 96% post 100%

Prednisolone – pre 86% post 100%

Referral to COPD specialist nurse on discharge – pre 13% / post 44%

Upper GI bleed:

Blatchford score – pre 15% post 95%

Rockall score – pre 10% post 85%Average LOS – pre eight days / post five days

Lumbar puncture:

Risks explained to the patient – pre 31% / post 85%

Pain site – pre 3%/ post 48%

Needle size used – pre 9% / post 64%

Skin prep used – pre 21% / post 76%

Following an inspection on the 1st-3rd July 2014 by the Care Quality Commission, the CCBs were rated outstanding, providing

further evidence that the project was successful. We saw several areas of outstanding practice, including:

"The use and implementation of guideline-specific simplified care bundles through the acute medical unit (AMU) into the hospital, which have improved patient care and patient outcomes."[3]

Lessons and limitations

- Don’t assume that a good product will sell itself

- Staff engagement is essential to have an impact across the service

- Listening to what would be acceptable to the end user is vital to start a project of this nature

- All supportive information should be prepared before the CCB document is made live

- Don’t assume one size will fit all, not all conditions are appropriate to have a CCB

Conclusion

The end result was not predicted, the in-house creation of CCBs to address the problems of adherence to best practice and provide support in clinical decision-making. The project evolved with time and efforts supplied in the first instance by a project management team. The value to the patient and the Trust is now quantifiable by improved clinical outcomes with reduced lengths of stay and appropriate tests requested and recommended drugs prescribed first time. Currently CCBs has a designated manager along with administrative support and the services of a clinical lead consultant. All CCBs have been produced within the medical division; future plans include electronic versions and creation of CCBs for all relevant conditions and procedures across the Trust.

References

1. BMJ Action Sets, BMJ Evidence Centre, © BMJ Publishing Group Limited.
2. Care Quality Commission (CQC) Review of compliance. The Queen Elizabeth Hospital King's Lynn NHS Foundation Trust The Queen Elizabeth Hospital March 2012 (Copyright © 2010).
3. Care Quality Commission (CQC)The Queen Elizabeth Hospital King's Lynn NHS Foundation Trust Quality Report 19 September 2014.

Declaration of interests

Nothing to declare.

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Dr H Watson – ACS care bundle audit was presented 16/04/14

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Dr W Wang-Koh - cellulitis concise care bundle audit - was presented 25/03/15

Dr R Gunda - COPD Care Bundle Audit - was presented 19/09/14

Dr J Whitgift and G Deas, Can a Concise Care Bundle improve quality of care and patient outcomes following acute upper gastrointestinal bleed? – was presented 25/03/15

Dr A Sawant, Dr A Hutton and Dr B Watson, Improvement in documentation and consent for lumbar puncture following implementation of a care bundle and training programme in a district general hospital - was presented 16/10/14

The above were presented at The Queen Elizabeth Hospital NHS Foundation Trust Educational Meetings and taken from Clinical Audits that they are conducted

Ethical approval

In accordance with The Queen Elizabeth Hospital NHS Foundation Trust policies we sought only to evaluate the improvements made retrospectively through documentation with Concise Care Bundles as a result of auditing compliance. This project was exempt from ethical approval as the research involved anonymised records. It is not possible to identify individuals from the information provided.