National Learning Session - 10th June 2011

Improving Care, Delivering Quality
Reducing mortality & harm in Cardiff & Vale University Health Board
Driver Diagram

- Leadership for QI
  - Hospital Acquired Infections
    - Ventilator acquired Pneumonias
      - Clostridium Dificile
      - Blood stream infections
      - Catheter Associated UTI
      - Surgical site infections
    - Early Warning Scores & Rapid Response
  - Sepsis/RRAILS
  - Surgical Errors
  - VTEs
  - Medicines Management
    - First episode psychosis
    - Depression
    - Dementia
  - Mental Health
  - Heart Failure
  - Stroke care
  - Falls Prevention
  - Pressure Ulcers
  - Transforming Care

- Ventilator bundle
- Clostridium Dificile Bundle
- Central & Peripheral Line Insertion & Maintenance Bundles
- Urine Catheter insertion & maintenance bundles
- SSI Bundle
- WHO Checklist
- HAT assessment, prevention and treatment
- Reconciliation
- High risk medications
- Pathways and Bundles
- SKIN Bundle
Risk Adjusted Mortality Index (RAMI)

Month

RAMI

C&V
All Welsh Average
RAMI

- Weekly Deaths Review Group established
  - Led by Medical Director, supported by Assistant Medical Directors (x2); Assistant Director Patient Safety & Quality; Improvement Advisor and Clinical Coding Manager, Clinical Coder in rotation to inform learning
- Data extracts generated weekly via Clinical Governance Data Analyst from CHKS, patients whose RAMI suggests least likely to die (RAMI less than 0.25)
RAMI

• On average 18 of 45 weekly deaths case notes reviewed
• If triggers identified Medical Director generates letter for lead Consultant to undertake case review and feedback
• Key learning to date
  – Coding Quality improving
  – Raising the profile and importance of clinical coding with clinicians and making some operational changes to working arrangements to strengthen coder / clinician interface.
Trigger Conversion Rates

Number of triggers
Cardiff and Vale University Health Board - UHW

Number of triggers
Cardiff and Vale University Health Board - UHL

Monthly Conversion rate
Cardiff and Vale University Health Board - UHW

Monthly Conversion rate
Cardiff and Vale University Health Board - UHL

% Conversion rate is double at UHW

13 consecutive data points under mean = statistical significance.

% Conversion rate is double at UHW
Global Trigger Tool - UHW

Adverse event rate per 1000 patient days
Cardiff and Vale University Health Board - UHW

Events by trigger code
Cardiff and Vale University Health Board - UHW from Jul 06 to May 10

G7 Complication of procedure or treatment

L12 Wound Infection
Global Trigger Tool - UHL

Adverse event rate per 1000 patient days
Cardiff and Vale University Health Board - UHL

Events by trigger code
Cardiff and Vale University Health Board - UHL from Oct 07 to May 10

G7 Complications of procedure or treatment
Learning from GTT

- Similar event rates at both main sites
- More triggers at UHL than UHW average 40: 29
- Increase in triggers is due to increase in general care triggers detected at UHW
- Conversion rate is double at UHW that of UHL (18:9)
- L12 (wound infection) is the highest trigger at UHW
- G7 (complication of treatment) is the highest trigger at UHL
Next steps for harm and mortality

- Better analysis of the data – identify learning points –
- Gain greater understanding of RAMI
- Triangulate learning from GTT, mortality reviews, compliments, complaints and claims
- Learn from staff Culture Survey
- Prioritise actions
Leadership - WalkRounds

Patient Safety Fridays commenced in November 2009

- Two different WalkRounds take place every Friday, each attended by one Executive Director and one Independent Member, joined by a note taker to record discussions
- All sites and departments across Cardiff and the Vale are visited
- Focus on UHB organisational priorities, including hand hygiene, falls prevention, pressure sores and Transforming Care programme.
- Database used to log actions raised and share with divisional teams and executive
- Recurring themes are staffing and estates/environments of care issues
Leadership - WalkRounds

Next steps

- Develop relationships with Estates to agree and monitor actions
- Maintain focus on Q&S organisational priorities
- Outcomes reported and scrutinised at board and Quality and Safety Committee
Independent Member Ivar Grey visited the Community Dental Service in Park View Health Centre in March 2011 to discuss patient safety concerns with Rhiannon Harber, Community Dental Officer, and Phillippa Scattergood, Community Dental Nurse.
Capacity and Capability

- Leading to Deliver programme for all Directorate teams
- Establishing a ‘Faculty’
- Model for Improvement incorporated in other programmes e.g. Care to Lead for ward sisters, Transforming Care, SKIN Bundle roll out and through attendance at 1000 Lives Plus learning events.
Stroke

- The biggest single issue of non-compliance was in respect of patients being transferred to the acute stroke unit within 24 hours.
Stroke

- Plan - bring together all stroke rehabilitation services at Llandough and Cardiff Royal Infirmary West Wing under one roof to improve care for patients and support for families.
Stroke cont...

- Data suggests that the bundles are having a significant positive impact on improved mortality, reduced morbidity and improved length of stay but it is too early to be conclusive. A supportive discharge model is proposed to facilitate a more timely discharge to continue rehabilitation in primary care which is currently being discussed.
HCAIs – Clostridium-difficile

- Key interventions to achieve this included
- Clostridium Difficile strategic and operational groups to take work forward
- The launch of the infection prevention and control policy
- Clostridium Difficile Divisional action plans
- Measuring and process improvement on:
  - Hand hygiene compliance and bare below the elbow
  - Ward cleaning scores
  - Measuring Days between C-dif events on wards – undertaking Root Cause Analysis (RCA) investigations on all reported events
  - Commode cleaning, bed stripping and cleaning
  - Antibiotic policy – restriction and monitoring of cephalosporin prescribing.
Indwelling catheter bundles

• Insertion and maintenance bundles are being tested and implemented for the following:
  • CVC
  • PVC
  • Urine Catheters
The Bundle...

<table>
<thead>
<tr>
<th>INSERTION</th>
<th>Mark insertion site</th>
<th>MAINTENANCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date of insertion:</td>
<td></td>
<td>Days</td>
</tr>
<tr>
<td>Reason for insertion: IVAbx (I), Blood (B), IV Fluids (F) Other (O)</td>
<td></td>
<td>VIP Score: Remove if 2 or above</td>
</tr>
<tr>
<td>Aseptic Insertion: Hand hygiene, PPE, skin prep, dressing Yes/No</td>
<td></td>
<td>Cannula still required? Yes/No</td>
</tr>
<tr>
<td>Lot No:</td>
<td></td>
<td>Dressing clean and intact? Yes/No</td>
</tr>
<tr>
<td>Size/Colour:</td>
<td></td>
<td>PVC procedures performed aseptically Yes/No</td>
</tr>
<tr>
<td>Inserted by: Contact No.</td>
<td></td>
<td>Comments: Removed by:</td>
</tr>
</tbody>
</table>
V.I.P. Score (Visual infusion phlebitis score)

I.V. site appears healthy

- No sign of phlebitis
  - OBSERVE CANNULA

One of the following is evident:
- Slight pain near the i.v. site
- Slight redness near the i.v. site

- Possible first sign of phlebitis
  - OBSERVE CANNULA

Two of the following are evident:
- Pale near i.v. site
- Erythema
- Swelling

- Early stage of phlebitis
  - RESITE CANNULA

All of the following are evident:
- Pain along path of cannula
- Erythema
- Induration

- Medium stage of phlebitis
  - RESITE CANNULA
  - CONSIDER TREATMENT

All of the following are evident & extensive:
- Pain along path of cannula
- Erythema
- Induration
- Palpable venous cord

- Advanced stage of phlebitis or start of thrombophlebitis
  - RESITE CANNULA
  - CONSIDER TREATMENT

All of the following are evident & extensive:
- Pain along path of cannula
- Erythema
- Induration
- Palpable venous cord
- Pyrexia

- Advanced stage of thrombophlebitis
  - INITIATE TREATMENT
  - RESITE CANNULA
NPSA Alert to raise awareness of incidents

Guidance on appropriate catheter choice
Long/Short term

What happened on insertion?

Evidence based components of care

Insert catheter sticky here!

Traceability elements
Response – Maintenance Bundle

Prompts staff to find out patients catheter history
- date of insertion,
- date due for change/removal

Indicates what to do every 7 days, e.g. new paperwork, change bag/valve OR change the catheter

The six evidence based components of care

Additional removal prompt

Compliance is audited by number of √’s (Yes), demonstrating staff have given the required standard of care.
Urine Catheter Bundles
Pilot ward C7

% compliance with insertion bundle by week

% compliance with maintenance bundle by week
Next steps

• Ensure reliability is established on pilot sites
• Spread to other areas on the back of Transforming Care/SKIN Bundle
Safer Surgery

Compliance with WHO / NPSA Surgical Checklist
Cardiff & Vale University Health Board

Compliance with peri-operative normothermia
Cardiff & Vale University Health Board
Depression

• The depression work stream aims to identify and treat patients in general hospital care with depression. We are now in the process of testing this as a pilot in the pain clinic. HADS will be used alongside the recommended PHQ9 as a screening tool.

• Main issue is going to be the uploading information on the database.
Dementia & Medicines Management

• In the UHB work has begun to develop a new pathway to include appropriate levels of assessment, planning and discharge in a general hospital setting for patients who are cognitively impaired.

• The Medicines management work stream is dovetailed with mental health and focusing on prescribing anti-psychotic drugs for dementia.
First Episode Psychosis

Key interventions will include:

• Access to NICE recommended psychosocial interventions for people with FEP and their families
• Timely & appropriate management of FEP
• Increase functioning / social recovery
• Increased user/carer engagement & satisfaction
First Episode Psychosis

• A baseline of time of untreated psychosis is being established by reviewing all new referrals to the community mental health teams from April – September 2010 (number = 2612) to identify people with possible psychosis. Care coordinators were contacted and teams interviewed for people who had psychosis. Information was triangulated to calculate the length of untreated psychosis.

• Next steps include reviewing baseline data, attending the second national learning event in June and agreeing priorities for action.
Falls Prevention

• Cardiff East Locality Team (CELT) are a multi agency locality team who work from a central office in the heart of the community. Their patient group is adults 18 and up.
Cardiff East Locality Team aim to have:

- 80% compliance with screening tool
- 80% compliance with multi-factorial risk assessment
- 80% compliance with plan by 6/52
- Improvement in standardised documentation for falls patients

Changes:

- Consent forms show that all patients have agreed to participate in the programme
- Unified Baseline Assessment completed on 100% of patients
- CELT is trial-blazing the University Health Board’s approach to falls
RESULTS

• Significant achievement for CELT: no re-referrals for falls
• Consistent follow-up of patients
• On-going review and development of documentation in progress
• 73% of patients referred to CELT for Falls Prevention received a full assessment. (27% declined or were admitted to hospital etc)

% patients who complete the initial screening using an agreed tool
Falls
from Aug 2010 to Feb 2011

% patients who have their fall logged on central falls register
Falls
from Aug 2010 to Feb 2011
RESULTS continued

% patients who receive the full Assessment Bundle
Falls
from Aug 2010 to Feb 2011

% patients who complete a basic falls risk assessment using an agreed risk assessment tool
Falls
from Aug 2010 to Feb 2011

% patients who have falls history taken
Falls
from Aug 2010 to Feb 2011

% patients who are provided written and oral information about falls prevention.
Falls
from Aug 2010 to Feb 2011
Lessons learned

- As depicted in the graphs we are now complying at 100% due to:
  - Implementing and evolving the paperwork used to collect data via feedback from the team.
  - Through the use of PDSA cycles we developed documentation for the assessment bundle that is the most efficient for our team.
  - Identified need for staff training during the implementation of paperwork which subsequently led to increased compliance with assessment completion.
  - Continual auditing of assessment completion to ensure all falls patients receive an equitable service.
  - The collection and inputting of information on to the database needs to be shared within the team due to the possibility of work pressures, sickness and leave.
Next Steps

- CELT involved with and informing the EU – Primary Care Pathway – assessment and intervention of fallers and means to communicate from EU – Primary Care
- Monitoring bundle – to demonstrate compliance and if any repeat falls
Transforming Care

- Three of the wards within the Trauma and Orthopaedic Directorate have taken part in the Transforming Care programme: B6 UHW and West 3 & West 5 UHL

AIMS
- Increase the amount of time in direct care to 70%
- To reduce adverse events by 50%
- Increase patient satisfaction to at least 95%
- Increase staff satisfaction to at least 95%
Impact

• Following the themes of the programme all wards have made significant savings in both finances and time
• £800 saved after medicines cupboards were re organised and unwanted and unused stock returned

Value Added Care

• All Wards taking part in the Trauma and Orthopaedic Directorate have increased direct care time to over 70% from the baseline of 40%
• Time spent communicating with patients has also increased significantly
Safety and Reliability

- Safety culture created on all wards, over 95% compliance with daily safety briefings on all wards
- Hand Hygiene - good levels maintained
- Falls - reduced number of Falls by intentional rounding and real-time documentation
- Pressure Ulcers - all three wards have gone over 200 days without a ward acquired pressure ulcer!

Patient Centred Care

- Ticket Home, reducing length of stay
- Patient satisfaction surveys, results displayed monthly
- Real time documentation
Reducing Pressure Damage

- 18 clinical teams completed the mini collaborative – all are using safety cross to measure days between events.
- Most teams are seeing an increase in ‘days between’ pressure damage (all grades)
- Grade 3 & 4
- The bed selection decision tree has been simplified leading to more appropriate selection and use of cheaper beds.
- Standardising the use of a barrier cream and providing training to ensure the appropriate quantity is used each time resulting in less waste.
% Compliance with use of the SKIN bundle on A4

Date

% Compliance with SKIN bundle

Target 95%
Days Between Pressure Damage – B2 Vascular Surgery

Chart Title

Values
Mean (15.0)
Lower (0.0)
Upper (53.0)
SKIN Bundle Compliance

Many PDSAs on different elements of the bundle continued to achieve process reliability. Implementation and spread throughout unit.

Data collection, feedback and testing.
Days between pressure damage events

TC04 Days between pressure ulcers - LLCCU

85 days since last event (today 3/18/2011)

goal = 50.00
Medicines Reconciliation

- Ongoing monthly data collection for all new admissions of % patients with no medicines reconciliation within 24 hours
- Sequential days provide “virtual weeks” to highlight impact of week-end service
Joint primary/secondary care initiative
• Medicine Use Review’s targeted to follow up patients with identified reconciliation issues post discharge

All-Wales prescribing intervention exercise
• To include extent and seriousness of reconciliation errors

High risk drugs - anticoagulants
• Ongoing run charts of reported INRs >5 and >8
• MSc data analysis of anticoagulant associated major bleeds and impact of SPI2/1000 Lives (+)

*Methodology may be transferable to other Health Boards*
High risk drugs - anticoagulants

- Root cause analysis of INRs >5 and treatment given
  - Majority of high INR’s on established therapy,
  - only half of “counselling” patients could recall important aspects,
  - multi factoral or new/worsening disease state most common reason,
  - 12% around time of initiation,
  - 18% following new medication,
  - advice on treatment of raised INR only followed 50% of time

- Survey of communication to primary care on discharge
  - Root cause analysis of INRs >5 and treatment given
  - Newer style form preferred
  - Information received by more than one route 51%
  - Fax route preferable 65%
  - Information always arrives in good time 19%
  - Information sometimes arrives in good time 78%
  - Forms always filled in correctly 38%
  - Forms sometimes filled in correctly 54%
  - Obvious contact for queries 81%
  - Discharge at weekends and before patient apparently stable raised as concerns
High risk drugs - Insulins

- Insulin prescription administration chart with patient safety issues from MSc FMEA

- “Hypo pack” introduced on wards following national guidance – supported by training of nursing staff
UHB safe medication practice group

Feedback from, and input to, divisional quality and safety groups

1. **Manages NPSA rapid response reports**
   - Omitted and delayed medicines
   - Promoting safer use of Injectable medicines
   - Safer insulin management
   - Promoting safer use of lithium
   - Preventing fatalities from medication loading doses
   - Safer ambulatory syringe drivers
   - Oxygen Prescribing
   - Infusion of IV fluids and medicines in neonates

2. **Local issues**
   - Supporting medicines related patient safety in out of hospital care e.g. acute response team
   - Purchasing for safety
   - DVT risk assessments
HAT Risk Assessment

Successes so far

• Risk assessments are in place in most clinical areas: only some specialised areas now outstanding e.g. spinal
• Audit tool developed to measure compliance with risk assessment completion – tool tested using PDSA, 4 audits have been completed to date
• Education surrounding HAT incorporated into induction for junior Doctors
• A Clinical Champion established within the UHB, Dr Rachel Rayment
Successes so far

• Business case presented to Board re thrombosis service: well received and awaiting outcome.
• Improved communication with GPs re thromboprophylaxis using GP newsletter
• Engagement of orthopaedics and resolution of the bleeding risk v clot risk debate, and implementation of orthopaedic risk assessments
• Development of a care pathway for extended thromboprophylaxis and patient self administration of enoxaparin and commencement of pilot of extended TP in orthopaedics
• Patient education throughout National Thrombosis Week in May 2011
Ongoing work: Successes so far

• Updating Patient Information leaflets.
• Ongoing work to update the plasma screens across UHW
• Engaging with data analysis team to calculate Hospital Acquired Thrombosis Rate
• Developing a sticker to be used on patient drug chart

Main Challenges

• Ensuring compliance with both the risk assessment and the audit tool
• Medical engagement with risk assessment process
Process Measures
The audit tool asks 4 main questions:
1. Was the initial Risk Assessment Completed?
2. Was the second Risk Assessment completed?
3. Was TPx recorded on the Patient’s drug chart
4. Was the Patient deemed to be at risk of VTE?

Outcome Measures
Work continues re data collection
Process Measures: First audit results

- The results from our first Audit show that further work needs to be undertaken regarding compliance with both the audit and the risk.
- 7% return rate of Audit form
- 15% Patients received the initial Risk Assessment.
- 1% Patients received the second Risk Assessment
- Several Patients received a partial Risk Assessment.
- 64% Patients received LMWH (Thromboprophylaxis)

Process Measures: Second audit results

- An increasing amount of Patients are receiving an ‘eyeball’ Risk Assessment.
- Clinicians will be encouraged to use the Formal Risk Assessment tool.
- Not all areas completed the requested audit tool.
- Monitor the completion of Risk Assessments to create a link to the Risk Assessment Tool
- Necessary steps to improve our next set of results
Process Measures: Third audit results:
• 40% return rate of audit (increase from previous audits)
• 27% full risk assessment completed
• 12% partial risk assessment
• 56% no risk assessment
• 66% patients prescribed LMWH
• 10% patients deemed at risk on audit form

Process Measures: Fourth audit results:
• 43% return rate of audit (increase from previous audits)
• 16% full risk assessment completed
• 13% partial risk assessment
• 71% no risk assessment
• 57% patients prescribed LMWH (decrease)
• 22% patients deemed at risk on audit form
Process Measures:
Continual Good Practice in Gynaecology

Third Audit Highlights:
• 90% full risk assessment
• 0% partial risk assessment
• Of this 90%, 90% LMWH, 90% weight recorded

Fourth Audit Highlights:
• 100% full risk assessment
• % partial risk assessment
• Of this 100%, 90% LMWH, 100% weight recorded
Extended thromboprophylaxis

Situation
- 3 month pilot undertaken of Patient self administration of enoxaparin for prevention of Venous Thromboembolism
- Commenced in January 2011
- 48 patients undergoing hip/knee replacement included in pilot group
- Self administration will greatly reduce District Nursing time

Background
- No guidelines or education in place to support nurses in facilitation of patient self administration
- Pilot agreed by Nursing and Midwifery Board

Assessment
- 29 of the 48 patients in pilot group took part (patients were not suitable, out of area or refused to take part)
- Patients were educated and assessed – on discharge:
  - 39% level 3 - able to self inject
  - 46 level 2 – required minimal prompting
  - 11 level 1 - required supervision
Extended thromboprophylaxis

Assessment

• Once discharged **all** patients received a follow up District Nurse visit
• Patient satisfaction questionnaire filled in at 6 week outpatient appointment.
• Patient feedback was positive: 93% of patients found that the assessment process was structured and easy to understand
• 80% patients indicated they were very confident at self administering
• 67% felt that the initial district nurse visit was important
• The pilot has to date saved **130 hours** of District Nursing Time.

Recommendations

• Extend pilot to included Trauma and Gynaecology
• Implement triplicate of care pathway which will improve data collection
• Present pilot feedback to Nursing and Midwifery Board
Next steps

- HAT is a continuing priority for the UHB Executive Board.
- Develop Task and Finish Groups to help embed the Risk Assessment Tool and increase compliance
- Continue education of Junior Doctors
- Await board decision on business case for Thrombosis Nurse
- Ensure appropriate Risk Assessment Tool are in admission booklets
Were VTE assessments completed?
- Fully: 82
- Partially: 30
- No: 21

Did patients receive Pharmalogical Thromboprophylaxis?
- Yes: 54
- No: 77
- N/A: 2

Did patients receive Mechanical Thromboprophylaxis?
- Yes: 43
- No: 88
- N/A: 2

How many patients received Thromboprophylaxis?
- Yes: 49
- No: 82