Reducing Mortality and Harm in ABMU Local Health Board
Programme Driver Diagram

Aims/Outcome
Measure

Reduce

✓ Mortality
Reduce RAMI to <100 by 31.3.2012
✓ Harm
Reduce Secondary Care GTT Indicator by 50% by 31.3.2012

Key Interventions/Domains

• Infection Control
• Pathways
• Communication
• Mortality Reviews
• Data Quality

Key Areas for Action

• Cleaning Standards
• Antimicrobial Governance
• Hand Hygiene
• Dress Code
• Single Room provision
• Urinary Catheter Bundle
• SSI Surveillance

• Inpatient Falls
• Intermediate Care Falls
• Stroke Care
• Fractured Neck of Femur
• Thrombo prophylaxis

• SBAR
• Discharge Interface
• WHO Surgical Checklist

• Initial Review
• Investigation

• Errors
• Timeliness

ABMU Local Health Board
A total of 86 patient safety and quality ‘walkround’ visits were undertaken during January to March 2011, increasing the total to 173 visits since April 2010. Performance against an ABMU target set in September for ‘each ward, unscheduled care area and theatre suite to have been visited at least once within a 12 month cycle’ was achieved in March 2011.
Patient Safety & Quality Walkrounds - Themes

- Estates and environmental issues, particularly ability to treat patients with dignity and respect, the building fabric on some wards, storage space, security access within sites, access to car parking, dining rooms not fit for purpose
- Effective communication and engagement with staff when implementing changes to practice, avoiding rumours and poor service reputation with public
- Replacement equipment issues
- Development of strong multidisciplinary team working restricted by availability of psychology and therapy services, together with staff continuity within the team
- Challenges regarding access to medical records
- Staffing issues, particularly within Swansea Hospitals
- Frustration at not being able to enact change.

These key themes are not new to the Health Board and Executive Members through existing groups and committees are driving improvement in all of these areas.
Risk Adjusted Mortality Index

ABMU Local Health Board

* Coding completeness <95%
MORTALITY AND HARM

Risk Adjusted Mortality Index

ABMU Health Board Annual Risk Adjusted Mortality Index (CHKS 2010 RAMI)

ABMU Local Health Board
Global Trigger Tool

MORTALITY AND HARM

Sample size increased to 20 per acute site (Total of 80) per month from June 2010 discharges onwards.

Abertawe Bro Morgannwg University NHS Trust
Adverse event rate per 1000 patient days - ABMU Health Board

ABMU Local Health Board
MORTALITY AND HARM

Global Trigger Tool

Abertawe Bro Morgannwg University NHS Trust
Adverse event rate per 1000 patient days - Morriston Hospital

Abertawe Bro Morgannwg University NHS Trust
Adverse event rate per 1000 patient days - Neath Port Talbot Hospital

ABMU Local Health Board
MORTALITY AND HARM

Global Trigger Tool

Abertawe Bro Morgannwg University NHS Trust
Adverse event rate per 1000 patient days - Princess of Wales Hospital

Abertawe Bro Morgannwg University NHS Trust
Adverse event rate per 1000 patient days - Singleton Hospital

ABMU Local Health Board
Mortality Reviews

Mortality Review Team: Bruce Ferguson; Anne Biffin

Aims/Outcome Measures

**Improve**

- ✓ Cause of death established (100%)
- ✓ RCA recommendations implemented (100%)

Key Interventions

- • Initial Screening
- • Unexpected Death Review
- • Lessons Learned

Key Areas for Action

- • Develop Screening Tool
- • Establish Weekly Screening
- • Mortality Review Tool
- • Establish Weekly Review
- • RCA Training
- • Mortality Review Report

ABMU Local Health Board
MORTALITY AND HARM

Mortality Reviews

ABMU Local Health Board
Mortality Reviews

- Reviews being undertaken consistently at NPTH
- Between 20 – 65% of deaths screened at NPTH were identified as needing more in depth review
- Limited spread to PoWH, Morriston & Singleton
- Further spread constrained by availability of Consultant medical staff to undertake full reviews
- Process to be revised and implementation across the Health Board restarted July 2011
- Key themes
  - Consultant review not always undertaken promptly
  - Times of entries are not always recorded
  - Suitable patients are not being put on the Care of the Dying Pathway
  - Appropriateness of investigations (imaging) needs to be evaluated against patients’ suitability for aggressive treatment such as surgery
Infection Control

Infection Control Committee: Victoria Franklin; Nicola Williams

AIM

Reduce Hospital Acquired Infections

C.Difficile 20% (AOF)
C.Section Wound Infection (AOF)
Joint Replacement Surgery (AOF)
MRSA
Urinary Catheter Infections

INTERVENTION

Fully implement Bare Below Elbows
Full compliance with appropriate hand hygiene
Achieve compliance with NSOC (meet minimum standards of cleanliness)
Achieve full compliance with Health Board Antimicrobial Policy
Increase single room provision/develop surge capacity and isolation ward
Full roll out Short Term Urinary Catheter Bundle
Achieve full compliance with SSI Mandatory Surveillance Programmes

OVERARCHING MEASURE

Health Board wide Infection Surveillance data and WHAIP surveillance data
C.Difficile acquired rates (HCAI)
MRSA bacteraemia
MSSA bacteraemia
Beds closed due to norovirus

MEASURE/DATA SOURCE

New: Spot audits
New: Provide graphs audit quarterly
Current: Ward level overall compliance – Nursing Metrics
New: Monthly C4C compliance
Current: Monthly environmental audits
Nurse Metrics
New: Quarterly Directorate audits
Current: Antimicrobial Pharmacist targeted reviews
New: Spot audits
Current: Quarterly review
New: Monthly compliance
Current: Urinary tract infections rates – Ward Metrics
Current: Quarterly WHAIP SSI reports

ABMU Local Health Board
INFECTION CONTROL

Infection Reduction Activities undertaken in the last year

- Targeted hand hygiene actions
- Bed Cleaning video
- Commode cleaning bundle fully rolled out
- Monthly infection control environmental audits
- Antimicrobial / Microbiology ward rounds
- Revised antimicrobial prescribing policy – reduction in prescribing ‘C. diff high risk’ antibiotics
- Implementation of antibiotic stickers within drug charts

- Norovirus toolkit – 50% reduction in bed days lost this year
- Increased Incidence of C. difficile meetings implemented > 2 cases in 28 days
- Suite of ward infection prevention & control metrics implemented – keeping infection a high priority
- Infection control data visible on every ward
- Urinary Catheter Bundle fully rolled out
- Peripheral Venflon bundle pilot commenced
Trends in Antibiotic Prescribing

Total Issues of Ciprofloxacin and Cefuroxime Morriston Hospital August 2007 to March 2011

R² = 0.7273

INFECTION CONTROL
INFECTION CONTROL

21.5% Reduction in C. difficile Infection rates

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INFECTION CONTROL

Infection Control Indicators: All Directorates; All Hospitals; All Wards; All Areas

Number of Catheter Associated Urinary Tract Infections

ABMU Health Board
INFECTION CONTROL

MRSA

MSSA

ABMU Health Board
Hand Hygiene

- Monthly Observational Audit undertaken in all areas
- Hand Hygiene video on intranet
- Zero Tolerance to non compliance with WHO 5 moments implemented
- 569 staff trained as Hand Hygiene Trainers
- 1,510 staff trained between April and September
INFECTION CONTROL

Hand Hygiene

Average Staff Hand Hygiene Compliance by month, June 2010 - April 2011

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INFECTION CONTROL

Hand Hygiene Audit

Hand Hygiene Observational Audit Analysis, Progress by Staff Group, June 2010 - April 2011

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Peripheral Venflon Bundle

Peripheral venflon bundle being piloted within a medical ward
## INFECTION CONTROL

### Bacteraemia in Intensive Care

Incidence of CVC related infection 01/01/10 to 31/12/2010

<table>
<thead>
<tr>
<th>Location</th>
<th>HELICS defined CVC infections/1000 catheter days</th>
<th>WHAIP defined CVC infections/1000 catheter days</th>
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</thead>
<tbody>
<tr>
<td>Neath Port Talbot</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Princess of Wales</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Swansea</td>
<td>0.5</td>
<td>0.3</td>
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<tr>
<td>All Wales Rate</td>
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<td>0.2</td>
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</table>

**ABMU Local Health Board**
INFECTION CONTROL

Bacteraemia in Intensive Care

Incidence of Critical Care Ventilator Associated Pneumonia 01/01/10 to 31/12/2010

<table>
<thead>
<tr>
<th></th>
<th>HELICS defined VAP rate/1000 ICU ventilator days</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neath Port Talbot</td>
<td>0.0</td>
</tr>
<tr>
<td>Princess of Wales</td>
<td>0.0</td>
</tr>
<tr>
<td>Swansea</td>
<td>1.5</td>
</tr>
<tr>
<td>All Wales Rate</td>
<td>1.0</td>
</tr>
</tbody>
</table>

ABMU Local Health Board
IC Falls Pathway
Intermediate Care Falls Reduction Implementation Group: Victoria Franklin: Nicola Williams

Aims/Outcome
Measures
Reduce
✓ The mortality associated with falls in the community
✓ The harm associated with falls in the community

Key Interventions

• Trigger Bundle
• Assessment Bundle
• Intervention Bundle
• Monitoring Bundle

Key Areas for Action

• Complete the initial screening using an agreed tool
• Log the fall on central Falls Register
• Notification of the fall as per locally agreed pathway, copy to GP
• Take falls history
• Complete falls risk assessment
• Provide falls prevention information
• Refer as appropriate for specialist assessment
• Initiate bespoke plan
• Agree plan with patient and carers
• Agree timescale and review date
• Copy plan to GP
• Review Plan compliance
• Evaluate efficacy
• Update or close plan as appropriate

ABMU Local Health Board
Inpatient Falls Reduction Implementation Group: Victoria Franklin: Nicola Williams

Aims/Outcome Measures

Reduce

- The number of inpatient falls (50%)

Key Interventions

- Initial Falls Risk Assessment
- Bed Rails Assessment
- Risk Reassessment
- Falls Bundle
- Safe Rounds

Key Areas for Action

- Compliance Improvement
- Compliance Improvement
- Compliance Improvement
- Develop and Implement
- Roll Out to all Wards

ABMU Local Health Board
Falls Reduction

• An inpatient Falls Reduction Bundle is being established and will be rolled out across the organisation
• Falls reduction aids introduced – sensor pads
• SAFE Rounds significantly reduced incidence of in-patient falls
• A Community Falls Reduction Collaborative is being established
• Integrated falls group established and Integrated falls strategy under development
FALLS
Inpatient falls – Ward Metrics data

General Care Indicators: All Directorates; All Hospitals; All Wards; All Areas

Number of patient slips/trips/falls

ABMU Local Health Board
Improving Patient Identification

• Health Board wide focus to reduce the incidence of patient identification errors
• Electronic bar coded wrist bands (bed side) that contain the NHS number as unique identifier rolled out across the whole Health Board
Wristband Audit

Safety Indicators: All Directorates; All Hospitals; All Wards; All Areas

% of Patients wearing a legible armband that meets...
Rapid Response to Acute Illness

General Care Indicators: All Directorates; All Hospitals; All Wards; All Areas

Number of fully completed MEWS/ PAR S...

ABMU Local Health Board
% compliance with Recognition bundle by week
Cyril Evans Ward

% compliance with admission bundle by week
Cyril Evans Ward
RRAILS Implementation plan

- June 2011 Medicine
- August 2011 General Surgery
- October 2011 MSK
- December 2011 Regional Services
- February 2012 ED
- April 2012 W&CH, Clinical Support, MH
- RRAILS workshops, Outreach, Transforming Care, Resuscitation.
Zero Tolerance to hospital acquired pressure ulcers

- Nutritional & Pressure Ulcer risk assessments audited monthly
- SKIN bundle rolled out across all inpatient areas
- SKIN Bundle pilot within a District Nurse Team Commenced
- Successful Care Home SKIN Bundle Pilot
Preventing Pressure Ulcers

ABM University Health Board, Incidence of Grade 1 Pressure Ulcers, Nov 2009 - Feb 2011

Mean
1 SD ~ 2.571
2 SD ~ 0.667

UCL

ABMU Local Health Board
Pressure Ulcer Incidence
Swansea Hospitals

<table>
<thead>
<tr>
<th></th>
<th>2005</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>Feb 2011</th>
</tr>
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<tbody>
<tr>
<td>No of patients</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>971</td>
<td>1234</td>
<td>1106</td>
<td>1078</td>
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<tr>
<td>Patients with</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>acquired pressure</td>
<td></td>
<td>64</td>
<td>75</td>
<td>22</td>
<td>11</td>
</tr>
<tr>
<td>ulcers</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Percentage %</td>
<td>10%</td>
<td>6.59%</td>
<td>6.08%</td>
<td>1.99%</td>
<td>1%</td>
</tr>
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</table>

- Zero Tolerance to any hospital acquired pressure ulcer
- Significant organisational cultural change
Thromboprophylaxis

Aims/Outcome Measures

Reduce Mortality
✓ Deaths related to HAT

Harm
✓ % of patients diagnosed with DT or PE who’ve been in hospital in last 3 months

Key Interventions

• Risk Assessment
• Prophylactic Treatment
• Patient involvement

Key Areas for Action

Documented Risk Assessment on admission
Reassessment of risk every 24 hours / When there is a change in the patient’s condition
Mechanical Methods
Pharmacological methods
Patient awareness of risk factors and symptoms
HAT Collaborative Team

- Executive Lead – Medical Director
- Project Board - Thromboprophylaxis & Anticoagulation Committee (Chaired by Medical Director)
- Local HAT Collaborative Team: Anticoagulation CNS, Orthopaedic Surgical Practitioner, 3 Clinical Pharmacists, CE & Governance Manager
Adoption of HAT Risk Assessment Tools

- Three HAT Risk Assessment & Treatment Tools have been developed through repeated PDSA cycles and wide consultation with clinicians:
  - Combined Acute Admissions
  - Elective General Surgery
  - Elective Orthopaedic Surgery

- Acute Admissions Tool embedded as part of the admission process in the Clinical Decision Unit at POWH, in use for acute admissions at Singleton and soon to be piloted in Morriston CDU
- Elective General and Elective Orthopaedic Tools fully embedded into the HB’s Pre Assessment Process at POWH and NPTH.
- Cardiac at Morriston will be adopting the Acute and Elective General Surgery Tools from end May 2011
Elective Orthopaedic Surgery HAT Risk Assessment

- All patients attending for pre-assessment at POW & NPT have a documented risk assessment
- All patients admitted to POW & NPT for elective orthopaedic surgery who have no contraindications receive thromboprophylaxis
- Risk assessment is being undertaken at Morriston but data collection needs to be formalised

Elective Orthopaedics HAT Risk Assessment Compliance POWH & NPTH

ABMU Local Health Board
HOSPITAL ACQUIRED THROMBOSIS

Combined Acute Admissions HAT Risk Assessment CDU POWH

- Consultants in CDU at POWH and Morriston identified as Clinical Champions
- Training provided for trainee doctors by the Anticoagulation CNS

ABMU Local Health Board
Elective General Surgery
HAT Risk Assessment
POWH & NPTH

- All patients attending for pre-assessment at POW & NPT have a documented risk assessment
- This includes Adult General Surgery, Gynaecology majors and Ophthalmology patients
- Now needs to be embedded into pre-assessment at Morriston and Singleton
- Data collection to establish % of eligible, at risk, patients prescribed thromboprophylaxis required

ABMU Local Health Board
**STROKE**

**Stroke Pathway**

**Acute Stroke Care Pathway Group: Bruce Ferguson: Andrew Phillips: Hilary Dover**

**Aims/Outcome Measures**

- **Reduce**
  - Mortality within 30 days of emergency admission
  - Readmission within 28 days

- **Improve**
  - Percentage of people discharged to usual address
  - Average Functional outcome (Barthel) score on discharge

**Key Interventions**

- First Hours Bundle
- First Day Bundle
- First 3 Days Bundle
- 7 Days Bundle

**Key Areas for Action**

- Compliance Improvement
- Compliance Improvement
- Compliance Improvement
- Compliance Improvement

**ABMU Local Health Board**
STROKE

Stroke First Hours Bundle

Princess of Wales Hospital

Morriston Hospital

ABMU Local Health Board
STROKE

Stroke First Day Bundle

Princess of Wales Hospital

Morriston Hospital

ABMU Local Health Board
Stroke 3 Day Bundle

Princess of Wales Hospital

% compliance with First 3 Days bundle
Stroke patients
from Feb 2009 to May 2011

Morriston Hospital

% compliance with First 3 Days bundle
Stroke patients
from Jan 2010 to May 2011

ABMU Local Health Board
STROKE

Stroke 7 Day Bundle

Princess of Wales Hospital

Morriston Hospital

% compliance with First 7 Days bundle
Stroke patients
from Feb 2009 to May 2011

% compliance with First 7 Days bundle
Stroke patients
from Jan 2010 to May 2011

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Stroke Length of Stay

Length of Stay
Stroke patients
from Feb 2009 to May 2011

POWH

Length of Stay
Stroke patients
from Jan 2010 to May 2011

Morriston

ABMU Local Health Board
FRACTURED NOF PATHWAY

# NOF Pathway

MSK Directorate: Dougie Russell: Mike Bond

Aims/Outcome Measures

Reduce

✓ Mortality
✓ Number of missed diagnoses

Improve

✓ The number of patients having surgery within 24 hours of admission (90%)

Key Interventions

- Diagnosis
- Peer Review
- Guidance
- Theatre availability

Key Areas for Action

- Diagnostic Protocols
- Peer Review of all Cases
- Pathway Development
- Performance Feedback
- Prioritise on Theatre Lists

ABMU Local Health Board
FRACTURED NOF PATHWAY

# NoF Pathway

% of patients with a fractured neck of femur that went to theatre within 24 hours for repair of the fractured femur (Trust Overview)

Deaths in hospital within 30 days of emergency admission with a hip fracture (neck of femur) for patients aged 65 and over (Trust Overview)
Emergency readmission within 20 days of discharge following hip fracture for patients aged 65 and over (Trust Overview)
Theatre Communication

Aims/Outcome Measures

- Reduce
  - Wrong site surgery cases
  - Incidence of theatre related incidents

Key Interventions

- Completion of Time Out
- Completion of Sign Out
- Awareness

Key Areas for Action

- Time Out Compliance
- Sign Out Compliance
- Incident Investigation
- Performance Feedback

ABMU Local Health Board
WHO Surgical Checklist

Compliance with WHO / NPSA Surgical Checklist
Abertawe Bro Morgannwg University Health Board

ABMU Local Health Board
Data Quality
Clinical Outcomes Steering Group: Bruce Ferguson

Aims/Outcome Measures

Improve

✓ Timeliness of clinical coding (95% within 6 weeks)
✓ Coding Completeness (Coding depth in peer group upper quartile)

Key Interventions

• Coding Timeliness
• Coding Depth
• Coding Accuracy
• Feedback

Key Areas for Action

• Ward based coding
• Access to closed libraries
• Workforce reorganisation
• Use of electronic resources
• Coding Bookmark
• Co Morbidities
• Coding awareness sessions
• Qualified staff
• Coder training
• Coding Clinics
• Feedback reports
• Coder Liaison

ABMU Local Health Board
Data Quality

Clinical coding performance has improved over the past year with the Health Board achieving the national target of 95% completeness within 3 months of discharge for the past 7 months. Coding completeness for April 2010 to January 2011 is currently 96%.

<table>
<thead>
<tr>
<th>Month</th>
<th>Jan-10</th>
<th>Feb-10</th>
<th>Mar-10</th>
<th>Apr-10</th>
<th>May-10</th>
<th>Jun-10</th>
<th>Jul-10</th>
<th>Aug-10</th>
<th>Sep-10</th>
<th>Oct-10</th>
<th>Nov-10</th>
<th>Dec-10</th>
</tr>
</thead>
<tbody>
<tr>
<td>%</td>
<td>98%</td>
<td>98%</td>
<td>98%</td>
<td>98%</td>
<td>98%</td>
<td>98%</td>
<td>98%</td>
<td>98%</td>
<td>97%</td>
<td>97%</td>
<td>96%</td>
<td>93%</td>
</tr>
</tbody>
</table>

Percentage of Deaths Z515 code – Jan 2010 to end of Dec 2010 (CHKS Figs)

<table>
<thead>
<tr>
<th>Month</th>
<th>Jan-10</th>
<th>Feb-10</th>
<th>Mar-10</th>
<th>Apr-10</th>
<th>May-10</th>
<th>Jun-10</th>
<th>Jul-10</th>
<th>Aug-10</th>
<th>Sep-10</th>
<th>Oct-10</th>
<th>Nov-10</th>
<th>Dec-10</th>
</tr>
</thead>
<tbody>
<tr>
<td>%</td>
<td>4.59</td>
<td>15.79</td>
<td>16.21</td>
<td>18.22</td>
<td>17.24</td>
<td>20.7</td>
<td>21.98</td>
<td>16.8</td>
<td>16.37</td>
<td>16.36</td>
<td>14.64</td>
<td>9.18</td>
</tr>
</tbody>
</table>
ERAS in Colorectal Surgery

- MDT with the patient at the centre - Patient education provided preoperatively, Patients collect their own data for each ERAS Goal
- Compliance with data collection

ABMU Local Health Board
ERAS in Colorectal Surgery

- The median length of stay for major colorectal resections within the ERAS programme is just 4 days compared to 11 days previous to ERAS, with 86% being performed laparoscopically. This reduced length of stay is not associated with an increase in readmission rate.
The new model of care involves monitoring of Anticoagulation therapy through point of care testing (POCT) together with dosing and prescribing being undertaken by Independent Pharmacist/Nurse Prescribers, in a one-stop, network-based clinic.

### Clydach Pilot: Initial Comparative Data March – May 2011

<table>
<thead>
<tr>
<th>Metric</th>
<th>Clydach</th>
<th>Acute Sites - Swansea</th>
</tr>
</thead>
<tbody>
<tr>
<td>% INR in range</td>
<td>60.6</td>
<td>56.5</td>
</tr>
<tr>
<td>% INR below range</td>
<td>13.7</td>
<td>24.1</td>
</tr>
<tr>
<td>% INR above range</td>
<td>25.6</td>
<td>19.3</td>
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<tr>
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</tr>
<tr>
<td>%INR &gt;8</td>
<td>0.0</td>
<td>0.3</td>
</tr>
</tbody>
</table>
Benefits of monitoring INR in Primary Care

• Improves patient convenience by providing INR testing nearer to patients which is easily accessible. This should encourage attendance and decrease DNA rates.
• Combining monitoring and dosing improves patient safety by
  - reducing potential dosing errors
  - establishing high INRs immediately, whilst the patient is present
• Improves anticoagulation control – could reduce number of INR tests required to maintain in-range control as patient reviewed by Independent Prescriber at each visit.
• Ensures that maintenance of patients is properly controlled, the need for continuation of therapy is reviewed regularly and therapy is discontinued where appropriate