Swansea BHF Heart Failure Project

Developing models of integrated care for chronic conditions
The King’s Fund

Thursday 1st May 2014

Kathryn Roberts: BHF Community HF Coordinator
Beverley Mayer: BHF In-patient HF Liaison Nurse
Vanessa Morton: Advanced Pharmacy Practitioner
The Location:

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Formed in 2009, Comprises:

**Swansea (pop: 252,093), Neath Port Talbot (137,812) & Bridgend (154,350)**

**Singleton Hospital**
(Acute GP Unit, CoE & Minor A&E)

**Morriston Hospital**
(90 bed Cardiac Centre & Admissions with Major A&E)

**Princess of Wales Hospital**
(HF Service)
(Admissions with Major A&E)

**NPT Hospital**
(HF Service)
(Rehabilitation/CoE with Minor A&E)

35 GP Practices
Increasing incidence & prevalence of Heart Failure......

Older age and aging population  
Swansea over 75 yrs = ↑ than average in Wales & UK

Social deprivation → poorer health & education  
Swansea = ↑ average level in Wales

- HF - Major cause admissions & re-admissions
ABMUHB above Welsh average  
higher in Swansea than neighbouring hospitals

- HF patients have ↑ length of stay
Longer length of stay in Swansea bed than on average in Wales, Bridgend or NPT

- Improved survival rates post cardiac event +/- other co-morbid conditions
Cardiac centre on doorstep but no dedicated HF service!
HF service in Bridgend & NPT inequity since ABMUHB formed 2009

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Unknown numbers of HF patients – accuracy of clinical coding & practice registers?

Access to specialist care (Echo) & long waiting times

No clear HF pathway across patient journey

In-patients? seen by Cardiology or access to HF specialist team

Limited Community expertise & resources

Inadequate integration & communication

Poor quality of life for patients & pressure on carers

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Project Aims:

- To improve quality of care of HF patients by delivery of integrated, robust, evidenced based service model through education, training, & clinical management

- To improve the quality of life of HF patients

- To reduce inequality of HF provision within ABMUHB

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Monitor & evaluated by BHF (ICF GHK)
Internal ABMUHB audit / National HF Audit
ABMUHB Steering Group
Outcomes
- Patients (Service Satisfaction, Stories, QoL, Self-Care/knowledge)
- HCP (Service Satisfaction / increased knowledge, skill & confidence)
- National HF Audit
- Improved HF pathway/referrals to new/complex/community clinics
- Reduced admission & re-admission rate (30 day) / ..... ↓ LoS ?
- Improved prescribing rates of evidenced based HF medication
- Referrals to CR, Device Therapy & Palliative Care

2 year BHF funded project

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Core Team

- BHF Community Co-ordinator (1.0 wte)
- Consultant Cardiologists
- GPwSI
- BHF CCM Nurses (7 x 1.0 wte)
- BHF In-Patient Liaison Nurse (0.8 wte)
- Pharmacists (Community & Hospital)
- Admin Support (Community) (0.4 wte)
- Audit Clerk (1.0 wte; works across Health Board)
How?
Education & Training Cascade

Ward Based Staff & Medical teams
Heart Failure Discharge Nurse
Heart Failure Coordinator
GPWSI Cardiologists
Cardiac Rehabilitation
CCM nurses
Chronic Conditions Heart Failure Clinical Leads
Practice Nurses
District Nurses
HF Pharmacist
Palliative Care
GPs
Community Resource Team

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Weekly HF MDT
Swansea BHF HF Project Map

Suspected HF (+/- BNP test) community

Acute HF Admission 999

Previous MI

Chronic Heart Failure - community

GPwSI triage

‘Rapid access’ 1 stop specialist assessment / ECHO Complex HF hospital clinic

CCM nurse (Chronic case mgt)

Palliative Care

Primary Care GP/PN (Chronic Condition/ HF clinic - ? long term f/u)

Cardiac Rehab & patient support group

Community HF clinics (HF CCM nurses HF Pharmacist)

Primary Care HF register validation

Ambulatory unit / home IV Diuretics – Community Resource Team

MDT

HF Liaison Nurse

In-Patient Titration & discharge plan & pt education

Cardiologist review/ward

Swansea BHF HF Project Map
SWANSEA HEART FAILURE PATHWAY

Diagnosing - Take a detailed history and perform a clinical examination, complete suspected Heart Failure proforma & send to GPwSI

- Previous MI
  - Referral received by GPwSI cardiology & BNP requested (if not already) if appropriate
  - 'One stop’ Specialist assessment / Complex clinic with Doppler echocardiograph...

  - Abnormality consistent with heart failure
    - Assess severity, aetiology, precipitating factors, type of cardiac dysfunction, correctable causes
      - Other cardiac abnormality – further specialist / tertiary review
      - Heart failure due to left ventricular systolic dysfunction

  - No clear abnormality
    - Consider measuring BNP if levels not known
      - Normal levels
      - Raised levels
        - Investigate other diagnoses

  - No previous MI
    - BNP result to GPwSI
      - Within 2 weeks
        - High levels
          - Consider Referral to BHF Community HF Coordinator

      - Within 6 weeks
        - Raised levels
          - Investigate other diagnoses

- Heart failure unlikely, other diagnosis – follow breathlessness pathway

Long term chronic condition management in community with specialist (GPwSI or Complex clinic) support as required including appropriate referral to cardiac rehabilitation or palliative support

NICE 2010
• Patient focus
• Raising awareness – earlier diagnosis / earlier referral
• HF Practice registers - validation
• The right investigations & Specialist assessment & plan
• Referral to HF Service (via discharge route / cardiology clinic
• In-patient – HF Liaison Nurse (collaboration & discharge planning / early communication
• Nurse led clinic review or home visit (clinical mentorship)
• Integrated – MDT
• Long term follow-up

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National HF Audit

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<th>April 2013</th>
<th>May</th>
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<th>July</th>
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‘All patients **discharged** from hospital with a **diagnosis of heart failure** in the primary position (the main condition treated or investigated during the episode of care)’ from April 2013, using the following codes:

- I50.0 (CCF), I50.1 (LVF), I50.9 (HF unspecified), I11.0 (Hypertensive heart disease with CCF), I42.0 (DCM), I25.5 (Ischaemic cardiomyopathy), I42.9 (Cardiomyopathy unspecified).
The Role of the HEART FAILURE In-Patient LIAISON NURSE

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Current in-patient service

- Targeted location
- 90 bedded cardiac centre
- Managed by a Cardiologist
- 10 months active patient involvement
- 121 patients reviewed
- 59% Swansea locality patients
5 key areas of work

- Patient Education
- Drug Up Titration
- Discharge Liaison
- Develop Best Practice
- Data Collection for Audit
Patient education

• Understanding Diagnosis & Echo
• Empowerment with Drug Treatments
• Risk Factor Management
• Self Care Monitoring

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Heart Failure Self Care Checklist

**EVERY DAY:**
- Weigh yourself in the morning before breakfast, write it down and compare to yesterday’s weight.
- Take your medicine as prescribed.
- Check for swelling in your feet, ankles, legs and stomach.
- Eat low salt food.
- Balance activity and rest periods.

Which Heart Failure Zone are you today?
**GREEN, YELLOW or RED?**

**Symptoms well controlled**
- Your usual symptoms are under control and you have:
  - No increased shortness of breath.
  - No extra swelling of your feet, ankles, legs or stomach.
  - No chest pain.
  - No extra weight gain of more than 2-3 pounds
  - Weight gain up to 3lb—weigh again next day. If weight continues to increase move to yellow area.

**Get in touch with your doctor or nurse as soon as possible if you experience**
- Rapid weight gain of more than 4-5 pounds over 2 consecutive days or a week.
- Increased shortness of breath and tolerating less activity.
- Increased swelling of your feet, ankles, legs, or stomach.
- Loss of appetite/nausea
- Worsening dry cough.
- Dizziness or different to usual
- Feeling uneasy, you know something is not right.
- It is harder for you to breathe when lying down.
- You need to sleep sitting up in a chair.

**Call for help immediately if you experience**
- Call 999 or 112 (from mobile) if you have any of the following:
  - Struggling to breathe.
  - Unrelieved shortness of breath while sitting still.
  - Have chest pain not relieved by nitroglycerin (GTN).
  - Severe and persistent shortness of breath
  - Fainting
Effective Self Care = Early Detection
Early Call for Help = Early Intervention
Prevention of Worsening of Condition
Prevention of Costly Hospital Admission
Drug up titration

- All Patients on Evidence Based Treatment
- Promote Dose Up Titration in Hospital
- Ensure Safe Monitoring of Drug Tolerance
- Make Hospital Bed Days Cost Effective

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"Make hospital bed days count"

Effective doses of beneficial drug therapy on board

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Early!! Day of Discharge
- Effective Communication
- Treatment Plan – Medicines & Monitoring
- Education Needs & Self Care
- Emotional / Social Issues

WHO:
- GPs, Chronic Conditions Nurses, HF Specialist Nurses, Cardiac Rehab Team
- Palliative Care

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INTEGRATED CARE PATHWAY

SYSTEMATIC LIAISON

Primary care GP’s & CCN

Secondary care consultants & liaison nurse

COMMUNITY CLINIC (MDT), HF REHAB, & HF Palliation

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- All health care personnel
- Informal education ‘bites’ on project ward
- Heart failure ‘Interest Group’
- Weekly multi-disciplinary meeting
- Pathway for heart attack patients with the potential for heart failure (ECHO) to direct Cardiac Rehab
- ‘Heart Failure Bundle’ to guide clinical Practice
- ‘Care plan’ for Nurse guidance
Challenges of the patient Journey

- Extends Beyond the Hospital
- Educate & Up Titrate
- Empower Patient
- Communicate
- Provide Early Discharge Support
- On-going Monitoring
- Shared Care & Collaboration

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Primary Care / Community Heart Failure Clinics

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Aim:

- Improve quality of life & mortality
- Improve patient & carer knowledge through support & education
- Ensure appropriate prescribing & titration of evidence based heart failure medication to the maximum tolerated dose
- Improve compliance, through patient counselling & regular monitoring of symptoms.
- Improve Health Care Professions awareness of heart failure & best management
• Patient assessment & examination
• Review current drug therapy *(effects/side-effects)*
• Review/adjust loop diuretic therapy
• Initiate & optimise ACE
• Initiate & optimise Beta blocker
• Initiate & optimise MRA
• Offer appropriate advice & education
Local Primary /Community Care
Heart Failure Guide

- Details comprehensive guidance  *i.e. setting up a clinic*
- Clear pathways for treatment
- What drugs to consider, when & how to prescribe/monitor
- When to refer to specialist
- Available to all healthcare professionals across the health board *(via intranet)*
Loop Diuretics &

– ACE Inhibitors / ARBII
– Beta Blockers (+/- Ivabradine if appropriate)
– Mineralocorticoid Receptor Antagonist

(*aldosterone antagonists*)

Life saving, ↓symptom (↑QoL), less admissions

ACCF/AHA 2013: Circulation  [http://circ.ahajournals.org/](http://circ.ahajournals.org/)
Non-pharmacological Management

- Education
- Medication
- Self-management/Daily weights
- Fluids
- Low salt intake
- Weight reduction

- Exercise
- ↓ alcohol
- Flu & pneumococcal vaccination
- Stop smoking

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How are the clinics ‘integrated’?

- Coordinator receives referrals from in-patient liaison nurse, cardiologist, GPwSI or CCM Nurse
- Community Clinic or Home Visit – shared planning with patient
- After patient has been seen & care plan devised, Information shared with GP & referring cardiologist (? Devices etc)
- Discharged to GP when stable & optimised. Re-referral if needed
- Always 3 way communication to ensure the patient receives best care in most appropriate place
- Brings HF & Chronic conditions care to the patient when they need it (Specialist/Generalist)

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Mr R originally under the care of his cardiologist on optimum HF medication

Has HF, AF & a pace maker fitted

Seen regularly in anticoagulation clinic

Before Christmas had severe diarrhoea and vomiting

Developed acute renal failure - admitted under renal team - all medication stopped until kidney function stabilised.

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• Renal physician advised referral into the Community HF clinics to restart HF drugs & Monitor

• Mr R’s GP discussed with team - as seen regularly in INR clinic, (also run by some of HF Team), took over HF care.

• It was found patient heart rate was 45 bmp - through discussion with pacing team, PPM was adjusted, further drug optimisation facilitated
• Patient now fully optimised but remained breathless! ? - discussed at MDT
• Iron Studies performed & diagnosed with anaemia; reviewed by cardiologist & renal consultant informed - ferrous sulphate initiated with ongoing care again back with community team
• GP has referred for endoscopy & colonoscopy
• Patient centered throughout
• “a 100% better”
• Integration of HF team, (cardiologists, HFSN/CCMN, pacing clinic) & renal physicians ensured a seamless approach
• New professional relationships developed to improve patient care

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• Integrated working with Pacing team allowed an opportunity to arise where both teams now due to run a joint clinic from June 2014

• Integrated working with renal team has also allowed shared learning and shadowing of clinics to raise awareness
Changes with management structure
Primary Care engagement
Increased awareness – referrals
Pressure on acute beds
Training...Confidence
Coding / accuracy of HF numbers
Admin & Audit support
No formal funding for clinics / HF CR

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Outcomes

• The Patients – positive feedback
• Clinical supervision/MDT- Staff skill confidence
• Steering group – supportive
• Drive to improve records to aid coding
• Extra admin hours
• First year National HF Audit
• More pts identified
• Admissions/ readmissions/ LoS ?

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ABMU GP Disease Register Information 2009 - 2014 Heart Failure

**SWANSEA Numbers**

250 new HF patients identified between March 2013 & March 2014 ~ 1.0 % prevalence
• Extending in-patient HF service to neighbouring Singleton Hospital linking with the acute GP unit
• Enhancing Palliative Care
• Ambulatory HF Unit & home IV/SC diuretic
• Improve flow of patients to echo / Complex HF clinic
• Joint HF/ Post Bi-Ventricular Pacing clinic
• Re-balancing provision across ABMUHB (Neath Port Talbot & Bridgend)
• Ongoing Education & Training
“A solid foundation of a skilled Swansea workforce providing integrated, high quality & equitable Heart Failure care across Primary, Secondary & Tertiary Care, enabling the patient access to services when they need & close to home.”

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bhf.org.uk
Email: kathryn.roberts4@wales.nhs.uk

BHF Community HF Coordinator
Office: Room 27 First Floor
Gorseinon Hospital
Gorseinon
Swansea
SA4 4UU

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