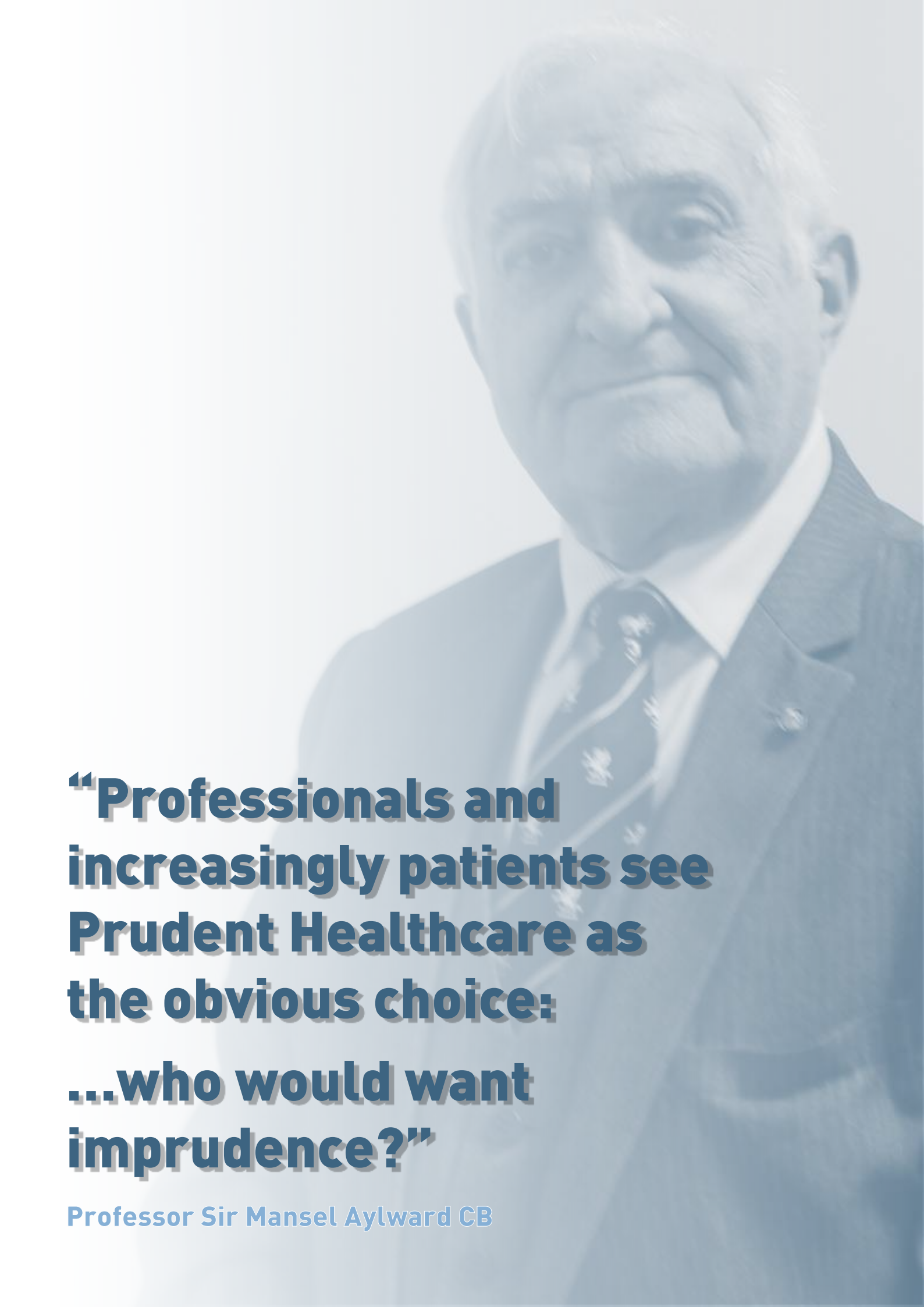
Bevan Commission Academy Innovators

Bevan Commission

“The NHS will last as long as there are folk left with faith to fight for it”

Aneurin Bevan

Contents



“Professionals and increasingly patients see Prudent Healthcare as the obvious choice:

...who would want imprudence?”

Professor Sir Mansel Aylward CB

The Bevan Commission

Professor Sir Mansel Aylward CB
Chair, The Bevan Commission

The Bevan Commission was established in 2008 on the 60th Anniversary of the founding of the National Health Service and has provided **independent, authoritative advice and guidance** directly to the Minister for Health and Social Services (now the Cabinet Secretary for Health, Well-being and Sport) on matters relating to health and healthcare in Wales.

As an independent authoritative body of internationally renowned experts the Bevan Commission ensures that Wales draws on best practice and evidence from across the world, while remaining true to the principles of the NHS as established by Aneurin Bevan. The Bevan Commission draws its expert members from within Wales, across the UK and internationally.

Since its inception the Bevan Commission's work has developed, adding significant value and impact to the work of the Welsh Government and the NHS in Wales. Its membership, aspirations and work programme have grown and have also influenced international health systems, which are now seeking to emulate the Bevan Commission and its work including Australia, New Zealand, Canada, the United States of America, Belgium and Scandinavia.

Roles and Objectives

The Bevan Commission's role is to '***observe, interpret, analyse, scrutinise, advise and comment on health and health-related matters in Wales and provide expert, advice informed by sound evidence and consensus of authoritative opinion to the Minister***'.

Its focus is on how Wales may achieve its ambition of building sustainable health and health care services, based upon Aneurin Bevan's core principles, best meeting the needs of the citizens of Wales, matching the best comparable systems elsewhere.

The Prudent Principles

The Bevan Commission was asked to consider how Wales might best meet current and future challenges to achieve sustainable and high quality health and care. In response to this the Bevan Commission developed and outlined its approach and thinking as 'Prudent Healthcare'. Defined as *'healthcare which is conceived, managed and delivered in a cautious and wise way characterised by forethought, vigilance and careful budgeting which achieves tangible benefits and quality outcomes for patients*' it is based upon the four Prudent Healthcare Principles.

Implicit in a Prudent approach to health and care, is the need to redraw the relationship between citizen and the state, so that professionals and the public can work together as equal partners; co-producing services and solutions that best fit their health needs whilst empowering people to gain greater control over their own lives.

Principles of Prudent Health

A Prudent Approach

Helen Howson
Director, The Bevan Commission & Bevan Commission Academy

'Prudent Healthcare brings together four principles which gain new strength and potential from their combination and application within an integrated health system.'

We know that demand for healthcare services is increasing globally, primarily due to population ageing, increased prevalence of chronic and complex health conditions, coupled with growing patient expectation. Life expectancy in many countries is rising, an ageing population presents health and care systems with the challenge of balancing increasing demand with reduced expenditure.

The NHS in Wales is not alone in needing to address the challenges of providing consistently high quality care in a time of diminishing resources. Governments worldwide are being expected to do more with less which is unsustainable and must change to meet future demand.

The success of science, technology and medicine has driven unparalleled advances in our understanding of disease, disability and dying, resulting in increased longevity and growing pressure on public services. Whilst our understanding has increased we still fail to address the basic, ever increasing inequalities which occur and the unfair impacts that society can have upon this.

To be able to improve and sustain health and well being in Wales we must look for a new solution and be brave enough to pursue it. We must not hang onto the old ways of thinking and working, neither must we look for seemingly attractive answers that ignore the basic principles of prudence.

We must take a different view, a Prudent view, to find a model and approach that best suits the needs of people in Wales, preventing ill health, preserving and supporting well being, providing a society that supports and enables us all to achieve this easily throughout our lives.

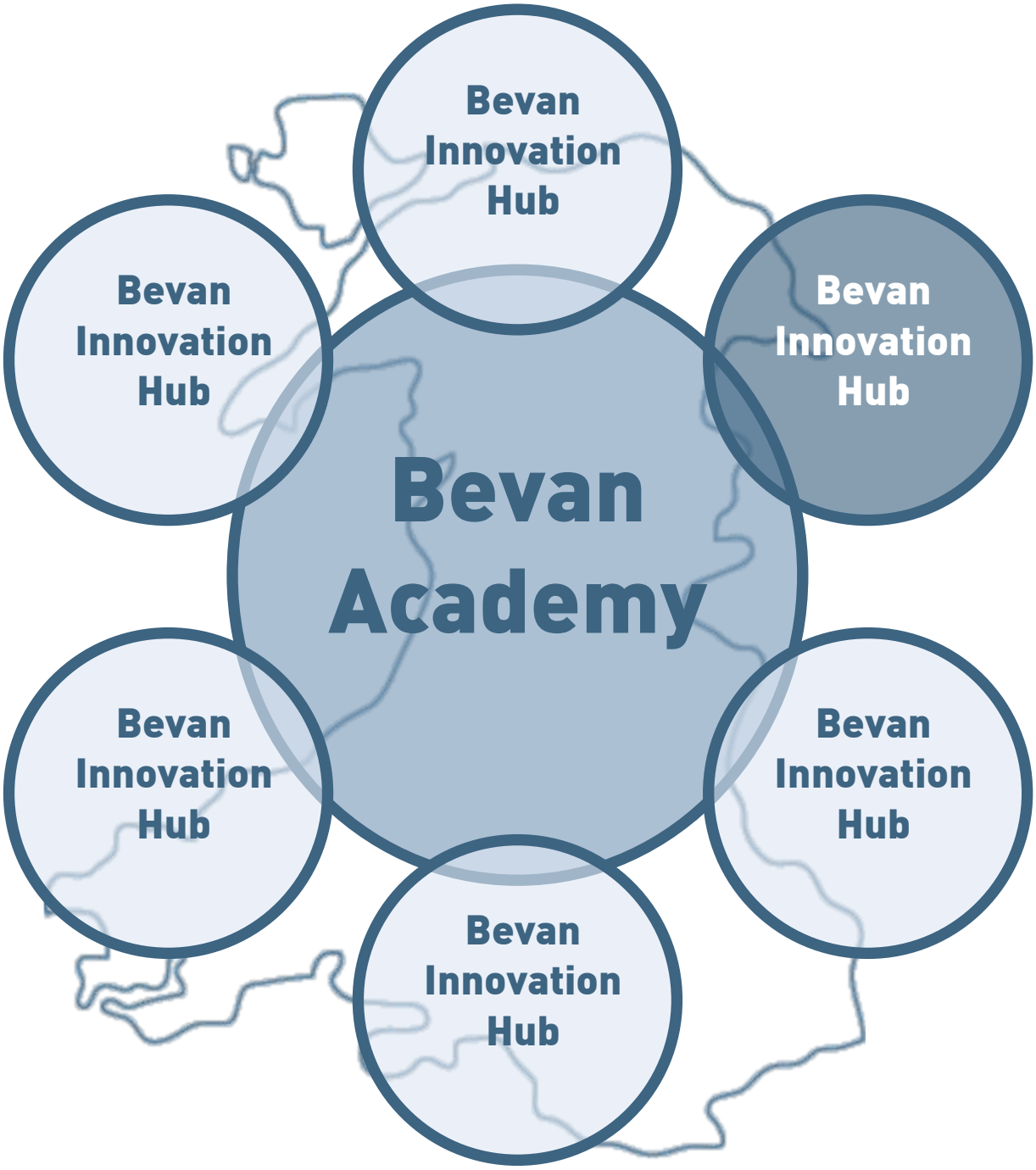
The striking feature of the challenges that are faced is their inter-relationship: solving one, requires a solution to them all. 'Prudent Healthcare', which now underpins health policy in Wales, recognises this inter-dependence and seeks a system-wide approach.

Prudent Healthcare is now attracting much interest and debate in Wales and beyond. Already a substantial body of evidence on similar approaches to managing the complexity of modern healthcare exist with many examples come from outside Wales, for example New Zealand, Alaska, Brazil, Sweden and the USA. The work in Wales is exploring how best to operationalise these principles, as a whole, and to measure accurately the benefits they may realise in a 'real world' context.

The Bevan Commission's ambition is to ensure that all four principles are considered simultaneously (because they are mutually dependent), to create a social movement for change from within and out with the system, exploiting the advantages offered by the coherence of the healthcare system in Wales and the manageable size of the country and the passion of its people for its NHS.

Doing nothing is not an option. To achieve the transformational change we need, we must share the same vision and work together to deliver sustainable services and the necessary skills for the future. We must find a better balance between accountability, trust and risk, as an essential part of the new NHS culture. We must embolden a sense of responsibility to which everyone in Wales can commit including those working in the system, those trained by the system, those using the system and citizens whose taxes pay for the system.

Above all, we must ensure that the people of Wales are proud and true owners of the NHS. We are still close to the start of the prudent journey but the commitment throughout the system is clear.


Bevan Innovation Hub
Bevan Innovation Hub
Bevan Innovation Hub
Bevan Academy
Bevan Innovation Hub
Bevan Innovation Hub
Bevan Innovation Hub

The Bevan Commission Academy

Siôn Charles
Deputy Director, Bevan Commission Academy

The Bevan Commission Academy for Leadership and Innovation in health responds to the call for the development of Prudent Healthcare and other innovative actions needed to help sustain health and healthcare in Wales. The Bevan Commission identified the need for an Academy to strengthen leadership and innovation in health across Wales, locally, regionally, nationally and internationally, sharing our excellence and expertise wider afield.

The Academy has three primary roles:

1. Inform the Bevan Commissions thinking
2. Bridges theory and practice
3. Translates thinking into action at pace

The Academy provides a dynamic learning and development environment to support inspirational leadership, innovative ideas, new ways of working and action research. It is a catalytic hub for open innovation, where people, professionals and organisations come together to think through, co-create, try out and test.

The Academy builds upon core foundations of research, innovation, teaching and skills development to help inspire people, professionals and the public, to work together to find better solutions, for more sustainable prudent health and care in Wales.

The Bevan Innovators (Fellows, Exemplars and Advocates) and the Bevan Innovation Hubs play an important part in helping to achieve these objectives.

Bevan Commission Innovators

The Bevan Commission Academy established the Innovators as a means to help stimulate, support and embed innovation within and across organisations, drawing together evidence from innovation, social movements for change and collective leadership. These innovators will identify, drive and spread innovation and act as agents for change.

The Innovators include:

- **Bevan Exemplars and Health Technology Exemplars** are staff from within NHS Wales with prudent ideas for change. The Bevan Commission has sought out individuals from all grades and staff groups offering different solutions – not more of the same – identifying and capturing the enthusiasm, ideas and the passion of ‘early innovators’. Exemplar projects aim to improve NHS Wales resource efficiency, health outcomes or patient experience and drive the application of Prudent Healthcare in practice by making the very most of all the skills and resources we have available to us.
- **Bevan Fellows** are healthcare professionals, clinicians and doctors in training who bridge clinical services, academia and practice. Bevan Fellows are given space and time within their roles to lead and research more prudent solutions. The Bevan Fellows scheme supports health boards to attract and retain healthcare professionals, clinicians and

doctors in training, thereby supporting the drive to draw top quality staff to Wales.

- **Bevan Advocates** are members of the public – Patients, Carers and Volunteers offering a personal perspective on services, health, wellbeing and illness. Bevan Advocates will help influence and support the Bevan Commission's work by providing insights into the real 'lived experience' of health, care and health services and feedback on the Bevan Commission's thinking. Bevan Advocates will also help influence wider public debate and discussion, promoting wider conversations around prudent healthcare.

The Bevan Innovation Hubs

The **Central Bevan Innovation Hub** is hosted within Swansea University. It will provide a responsive and flexible infrastructure to encourage and support diverse interests and ideas together to address challenging issues and questions. It will draw from existing resources, expertise and experiences across various issues or areas of expertise whether; clinical care, patient experience, prevention, health economics or data and information.

The central Bevan Innovation Hub will support and coordinate **Local Bevan Innovation Hubs**, each providing the opportunity for individuals or groups of people to come together to solve problems by testing new ideas and ways of working around prudent innovation. Finding solutions may be undertaken over a series of days, months or years and may be incorporated as part of more formal research, action research, study or continuing professional development (CPD) objectives. It is anticipated that support is drawn from study placements, secondments, internships or flexible working arrangements with mutual benefit.

Each **Local Bevan Innovation Hub** will have a central base within the main hub, but will take the lead on its designated innovation theme, trying out and testing innovative elements informed by wider expertise and needs. Where appropriate they will combine with local Universities and other partners institutions to maximise their impact and outcomes.

Bevan Commission Exemplar Projects

Creating a Sustainable and Flexible Workforce

The Facilities Division is responsible for providing a high quality cleaning, hostess, portering, and catering service currently employing 190 staff within Ysbyty Ystrad Fawr (YYF). The facilities team at YYF have all contributed and participated in this programme. The Facilities Division mission statement declares:

"Proudly working to provide our Services with a professional and caring approach"

This work has been co-created between ABUHB and Caerphilly County Borough Council (CCBC) passport scheme (Jobs Growth Wales is funded by European Social Fund). The development work to modernise the workforce was initially undertaken across the whole range of facilities services at YYF with Workforce and Organisational Development staff offering support in employment and training.

Strategy for Change

As part of our strategic planning for Clinical Futures we have had to consider fitness for purpose of the existing working models. We introduced our vision for the service to the supervisors, described as "To create a flexible and sustainable workforce in an environment of increasing demands and pressures".

We engaged with the supervisors and together developed a strategy to implement our vision, including a new job description and working models.

Following an approach from CCBC the opportunity to develop this role in partnership with the local authority through the Passport scheme enabled us to provide employment experience and skills development to local unemployed young people while also allowing us to trial the new role and working models.

A structured programme of induction, training and work experience was prepared and implemented. The candidates have been successfully integrated into the teams, providing cover for absences and vacancies while gaining experience in the workplace.

A review of current rosters has commenced together with approval to appoint 12 new positions that will enable the new role to be introduced on a permanent basis.

Outline of Problem

Facilities employ 1400 staff of whom 78% are A4C Band 1 and 2 with 48% aged over 50. This age profile presents a significant challenge in terms of the risk associated with the large number of staff retiring and leaving a skill deficit. There is little in the way of succession planning or talent management. The current cleaning, patient food & beverage service model is not attracting young people in to healthcare facilities management due to the lack of career pathways.

- Unplanned recruitment, tending to be opportunistic;
- Low turnover at supervisory bands, lack of opportunities;
- No structured training;
- Inconsistent and inappropriate induction programmes

These factors do not enable new staff to understand how all the services in facilities operate. We want our staff to take ownership "no matter what role they are undertaking if they see a patient's water jug is empty it should be common practise to fill it up" and to instil a culture that acknowledges that facilities staff play an important role in the overall patient experience.

- Narrow job descriptions e.g. domestic assistant, ward hostess or porter;
- Limited skill sets;
- Lack of transferable skills;
- Use of external staff to fill gaps;

The current roles reflect the historic work models employed at the hospitals preceding YYF and have created significant difficulties in planning or prioritising how gaps could be filled. Current staff lack transferable skills and tend to operate in silos.

Lessons Learnt

- Overcoming some staff prejudices and resistance to change requires a high level of commitment from those introducing the change.
- The candidates require a great deal of practical support, through mentoring and basic skills training.
- Don't underestimate the commitment and capability of these young people, give them a chance!
- Allowing reasonable time-scales to complete the project.

Creating a Sustainable and Flexible Workforce

Bevan Commission

Assessment of problem and analysis of its causes

In many instances staff are employed for only few hours a day across complex working patterns. This also created difficulties in recruiting individuals who wanted the opportunity to have a career in facilities management. Through working with staff and managers we determined that the service requires individuals that are:

- Multi-skilled;
- Flexibly allocated;
- Committed to customer service

To meet this requirement we have developed the role of "Integrated Facilities Operative" (multi-skilled staff with transferable skills who are able to undertake a variety of facilities roles dependent upon service need). The challenge for the organisation was how to introduce this new role and concept and trial its operation.

Existing NHS recruitment processes are geared to professional staff groups and were not felt appropriate to many facilities roles. Alternative recruitment routes were sought. The NHS Scotland Competency Framework is being adopted and tailored to our local requirements to support improvements in skills and provide a framework within which staff can attain a range of competencies.

While in the long term existing staff will be encouraged to move into such roles, our partnership with CCBC has enabled us to introduce on a trial basis this new role while offering work experience and employment opportunities.

Message for Others

It takes one person to make a difference.

Individuals who may have no qualifications and/or lack of work/life experiences really can improve the patient experience for example.

Effects of Changes

A number of benefits have been seen:

- High retention. Of 9 starters, 1 has been appointed to a substantive post, 2 have gained external employment and 5 will join the staff bank in March on completion of the trial. Also 22 permanent staff members have increased their hours to full time.
- Reduced variable pay.
- Increased productivity due to flexible role and shift pattern.
- Efficiency gains with flexible workforce enabling supervisors to allocate and prioritise workload more effectively.
- Supports cultural change and integrated working.
- Encouraged staff to explore different ways of working.
- Established partnership with local authority.
- Staff feel empowered and valued.

The outcomes have reassured us that the model is effective and supports the organisation's longer term aims of:

- A motivated workforce who go the extra mile.
- Team working.
- Sustainable employment opportunities with career pathways.
- Individuals using own initiative to undertake tasks like spillage clean up, litter pick up around site, walk around making sure all public areas are clean & tidy.
- Values and beliefs of the Health Board adopted.
- Individuals proud of their contribution to patient care.
- Empowering the workforce by listening to their concerns.

The Team:
The Facilities Team ABUHB

Commissioner Mentor:
Sir Paul Williams

Contact Details:
Michelle Key

Michelle.Key@wales.nhs.uk

Postcards: Because We Care

In the United Kingdom, deliberate self harm is one of the top five reasons for acute medical admissions.

Most patients with deliberate self harm have initial contact with hospital through the Emergency Department. Repetition of deliberate self harm is also common, ranging from 6% to 30% in 12 months, 5% will go on to commit suicide. The mental health service, through the psychiatric liaison service, sees all patients with self poisoning for assessment and diagnosis and to determine discharge destination and follow-up, thus ensuring that service users are able to access the most appropriate care pathway.

This idea supports individuals through a non-pharmacological intervention. A postcard scheme has been co-produced with service users and in addition a credit card crisis card. The postcards will be forwarded every month for twelve months with an opportunity for service users to telephone at any time to stop receiving them if they are no longer required.

The work has been undertaken within the Emergency Department (ED) within ABUHB in order to support the needs of mental health service users. Service user access into the department can be through multiple routes e.g. criminal justice system, GP and through a less structured approach-deliberate self harm/poisoning. In order to support service users and prevent multiple attendance a "Postcard Scheme" has been developed which aims to provide support and a regular point of contact for service users.

Starting Conditions

Recent figures from the Crisis Liaison Team (CLT) based in the Royal Gwent Hospital and Neville Hall Hospital have shown a marked increase in the number of people accessing the Emergency Departments with self harm, mental illness, suicidal ideation and substance abuse. For many of these patients this will be their first contact with mental Health services and although they may not need referral to secondary services there is undoubtedly a need for some level of support.

Research from Australia indicates that patients who access EDs with self harm felt that they were not being listened to and did not feel connected to services. The CLT felt strongly that this patient group needed further support with their difficulties and believed that utilising a "soft" and non-judgemental approach may encourage patients who utilise self harm to manage their internal distress to contact services prior to self harming.

The Crisis liaison team within the ED in the Royal Gwent Hospital undertook an analysis of those individuals who self harmed/poisoned within a 12 month period. Within that data a number of individuals reappeared several times, these individuals were those who were not known to mental health services, however did have a regular attendance within the ED due to self harm/poisoning. With the support of the ED team the Crisis Liaison service and ABCi researched the use of a postcard scheme to maintain contact with the service users who attended at ED. The postcard has been set up for service users who had self harmed and presented at the ED and the postcards are sent in the first, third, six and twelfth month after discharge and provide a consistent message of support.

Both clinicians and service users agreed that the service would not be useful for the following groups of people:

- Individuals who have an addiction to either alcohol or drugs;
- Individuals who are already known to Community Mental Health Teams, as a pathway back into secondary service is co-ordinated by the mental health liaison service; and/or
- Individuals who have a diagnosed personality disorder and who are receiving care from secondary care services.

In addition in the first month along with the postcard a small credit card size information leaflet is sent which includes the number of crisis numbers and third sector organisations who are able to support in times of crisis. A telephone number is also provided on the postcards for the liaison service, which provides a 24 hour telephone answer machine line for enquiries and offers service users a point of contact.

Service users are able to opt out of the scheme at any time, in addition there is flexibility within the system to be able to continue the receipt of the postcards for longer than 12 months if required.

Postcards: Because We Care

Bevan Commission

Goals and Targets

The impact of change is significant for this project to such an extent it will introduce a cultural change and positively challenge any preconceived ideas about mental health service users.

- The measures are multi factorial;
- Reduce the number of re-attendance for mental health service users who have self-harmed/ poisoned, attending at A&E;
- Provide a more appropriate care pathway for service users' Service user Feedback
- Staff satisfaction rate

Future State

The project is still in its early stage, however the feedback from service users and professionals is extremely positive.

ED Consultant " It's great that we have a safety net for this group of individuals, it's a great idea"

5% of those who have attended ED with self harm/poisoning have been picked up through the scheme thus far and the impact for those service users, has been no repeat admissions, no opt out from the postcard scheme and positive feedback from the third sector, which has had a slight increase in referral for support with crisis.

The next 12-months will see an increase in those service users who use the service and therefore the CLT is now in contact with the IT department to develop a text messaging service to send every service user a message following attendance at the Emergency department. The CLT will also offer this service to any service user referred into the team from any source, ie GP, police, ambulance service. Additionally the CLT, together with service users from HAFAL will develop a leaflet for all service users who have been assessed by the team.

This leaflet will be advise where the service user can access support whether it be from statutory services or third sector agencies in hours or out of hours. It will also give service users appropriate electronic resources which can be accessed from home.

Actions

Plan stage: In order to determine what the postcard would look like and decide what words should be incorporated onto the postcard, the team leader met with service users and members of the third sector. The idea was very strongly supported. The design of the postcard and the wording on the postcards was co-produced during these sessions. Both service users and clinicians agreed that the postcard would have a non-clinical approach and would be offered as a tool of support.

Do stage: the literature was developed and shared with the third sector and service users. The design and the wording was shared with clinicians from both mental health and the ED. Outcome measures were determined:

- To reduce the number of repeat admissions for those who have self harmed to ED;
- To provide service users with alternative support options;
- To increase a positive service user approach to care, diverting individuals away from the ED as much as possible.

Study stage: In the first 3 months of the project there were no repeat admissions into ED for this service user group. No service users asked to be removed from the scheme

Act stage: the project continues and will be further monitored month upon month. Postcards continue to be sent out as previously described.

Outcomes

Initial data shows that of the 93 patients who were enlisted on the scheme over six months 6% re-attended the Emergency Department with self harm. This is the lower percentage of the national average. Therefore with the development of the texting system it has been decided that all service users seen by the CLT will be offered the opportunity to enlist in this scheme.

Commissioner Mentor:
Professor Elizabeth Robb

Contact Details:
Annie Llewellyn Davies
annie.llewellyn@wales.nhs.uk

Bevan Commission

Traditional vs Conventional Decontamination Methods with Cystoscopy

Aneurin Bevan University Health Board (ABUHB) were given an opportunity to introduce the Genesis Medical Vision Science scope and 7000 series Digital Processing Unit. The Urology Directorate were keen to use this equipment as it would support them in maintaining their flexi cystoscope service and address aspects such as annual flexi testing on the routine list and throughput of patients in Urology Theatre.

The Decontamination Manager having reviewed the Welsh Health Technical Memorandum 01-06 on 'difficult to clean probes', together with the Authorised Engineer's (Decon) support and evidence of chemical decontamination efficacy, welcomed the product in assisting the Health Board in improving patient healthcare. It was deemed it would help focus care where it was needed.

This Project Supports Prudent Healthcare

Providing safe, high quality and meaningful care in a timely manner using evidence based practice.

This approach to cystoscope use is evidence based, whilst recognising the required standards for decontamination (WHTM 01-6).

The Decontamination Manager and Urology Directorate have worked together linking with NHS Shared Services Authorised Engineer (Decontamination) to examine the feasibility of introducing such a scope; recognising each other's input and expertise and the Clinical need.

Anticipated Benefits

- **Patient safety:** The decontamination method whilst being semi-automated uses evidence based data proving the removal and destruction of any microorganisms present. The innovative scope design allows for non or minimal organic matter contamination. Considering all standards, risks and scope design, the Decontamination Manager has designed a Decontamination approach which ensures patient safety through a proven validated process.
- **Patient experience:** The cystoscope design together with this decontamination method can be used 'at the bedside' as well as in static clinics / theatres. This provides a flexible way of working, meeting the needs of patients who may not be able to attend existing cystoscopy clinics. It has the potential to go to the patient rather than the patient to limited choice venues.
- **Patient outcomes:** Recognising the clinical demand and the clientele group, any delay in a patient having a cystoscope for treatment or diagnosis can impact greatly on morbidity and potentially mortality; they include infection risk, clinical diagnosis delay, reduced quality of life and increased resource demand such as ongoing clinic, medicines and hospital admissions.
- **Efficiency:** Increasing patient flowthrough by using this more efficient scope will allow for prompt diagnosis and therefore treatment, improving patient experience by reducing delays, complaints and allow for focus on those that need specialist Urology service; directing those who need further treatment. A key aspect of Prudent Healthcare.
- **Motivation for the project:** This is an opportunity to make a significant difference for the general public utilising NHS monies more effectively and following the Prudent Healthcare Principles.

The Team:
Samantha Murray (Decontamination Manager)
Julie Rees (Urology Directorate Manager)

Industry Partner:
Jo Wilkinson (Director - Genesis Medical Ltd)

Commissioner Mentor:
Chris Martin

Contact:
Samantha Murray
samantha.murray@wales.nhs.uk

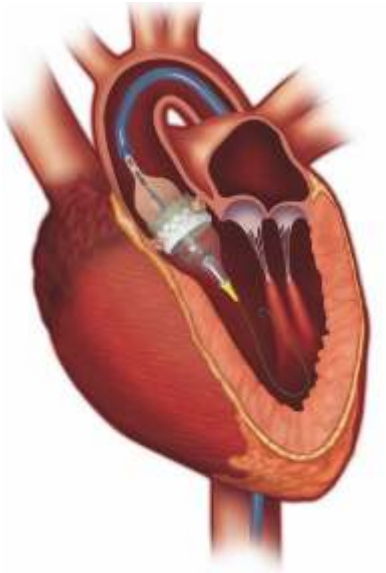
The Morriston Transcatheter Aortic Valve Implantation (TAVI)

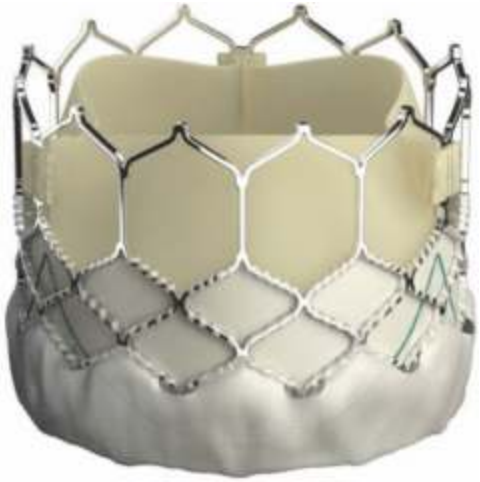
Bevan Commission

- Replacement of worn out heart valves without opening the chest and using heart lung bypass machine;
- Uses local anaesthetic where possible;
- Avoids Intensive Care Unit (ICU) bed usage.

This Project Supports Prudent Healthcare

- Multi-disciplinary co-production;
- Minimises resource use;
- Caring for those with great need;
- Minimally invasive, quick recovery;
- Regional delivery of care for Mid and South Wales





Anticipated Benefits

- Excellent clinical outcomes using transformational technology;
- Heart valve replacement under local anaesthetic;
- Rapid recovery and return to improved quality of life for patients;
- Minimising use of expensive and limited infrastructure resources;
- Realising the combined skills of the multi disciplinary-team approach

Clinical Results

- 37 patients treated, mean age 81 years;
- 81% of cases under local anaesthetic;
- 1 unplanned ITU admission;
- 5 day median post-op length of stay;
- No procedural deaths, all patients discharged.

Why TAVI? Dismal prognosis of Untreated Heart Valve Disease

The Team:

Dr Dave Smith
Prof Alex Chase
Mrs Anwen Jenkins
Mr Pankaj Kumar
Mr Aprim Youhana

Industry Partner:

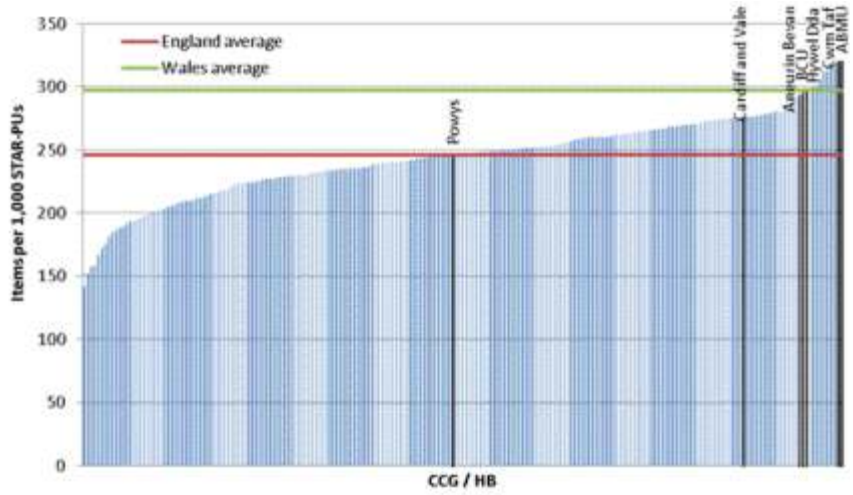
Edwards Lifesciences

Contact Details:

Dave.Smith@wales.nhs.uk

Bevan Commission

The Big Fight Campaign



- Total antibacterial prescribing across Welsh Health Boards and English Clinical Commissioning Groups – September quarter 2015

Project Scope

The Big Fight campaign aims to improve patient outcomes and minimise the potential risks for increasing antibiotic resistance and *C. difficile* infection (CDi) through the development and implementation of a multidisciplinary programme through which the principles of prudent healthcare can be applied to improve antimicrobial stewardship in primary care.

Key stakeholders include:

- Patients, carers and the public;
- Local authorities; and
- Healthcare professionals

Analysis / Problem Solving Methods / Approach

The Big Fight team were able to access a variety of support through the Bevan Commission Exemplar programme. This support enabled the team to take a 'fresh look' at implementation of improved antimicrobial stewardship in the community and develop a programme of work.

Big Fight Campaign Work streams :

Starting Conditions

ABMU Health Board has, for a number of years had the highest antibiotic prescribing in Wales and one of the highest across England and Wales combined. Prescribing data also shows wide variation in the prescribing of antibacterials.

The Medicines Management team had implemented a variety of antimicrobial stewardship improvement interventions over several years with limited success which culminated in the successful case for a funded Big Fight Campaign with a dedicated team of staff which commenced in early 2016. The team includes an antimicrobial pharmacist, infection control nurse and data analyst.

-

Goals and Targets

- A reduction in overall antimicrobial prescribing in primary care across ABMU Health Board.
- A reduction in variation of overall antimicrobial prescribing in primary care across ABMU Health Board.
- That more key stakeholders across ABMU Health Board (including care home staff, GP practice staff and community pharmacy staff as a minimum) understand the importance of and feel well informed and supported regarding antimicrobial stewardship and have a good working knowledge of prevention and optimal management of *CDi*, re-infection and relapse.
- A reduction in inappropriate GP appointments for self limiting viral infections across ABMU Health Board.
- A reduction in overall *CDi* cases in non-inpatients across ABMU Health Board.

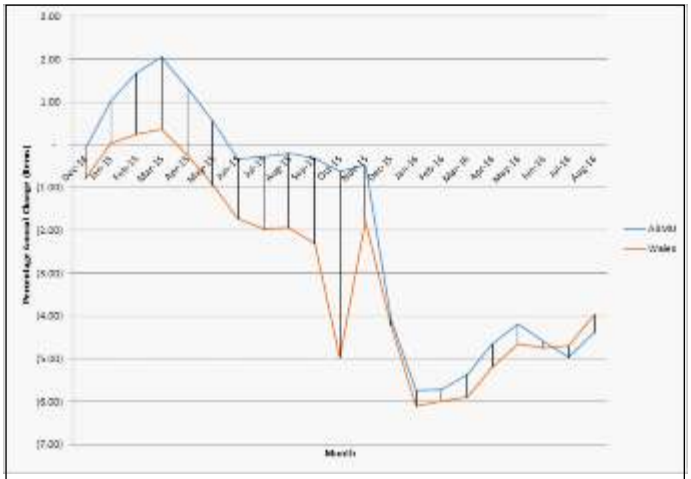
The Big Fight Campaign

Bevan Commission

Future State

Recent prescribing data shows that ABMU Health Board is reducing overall prescribing of antibacterials at a greater rate than the rest of Wales.

NB Antimicrobial prescribing is significantly affected by seasonal variation and so whilst initial results are promising it will be difficult to validate any improvement until after winter 2016/17 where antimicrobial prescribing traditionally reaches its highest levels.



- Rolling annual rate of change in antimicrobial prescribing

Progress is being made to reduce the number of cases of non-inpatient CDi.

Period	ABMU	Wales
Apr – Oct 2014	44	292
Apr – Oct 2015	45	318
Apr – Oct 2016	28	255

Interventions / Actions

The Big Fight Team have progressed a number of priority actions to improve antimicrobial stewardship in the community. Two such examples are reported as separate posters ('GP Practices' and 'Enhanced Antimicrobial Stewardship in Care Homes').

Others include:

- Engagement with key stakeholders;
- Utilisation of the ABMU Health Board 'GP Practice Prescribing Management Scheme' to:
  - Introduce non-clinical local Big Fight Campaign Managers in GP practices;
  - Facilitate GP practice-based antimicrobial stewardship improvement plans, clinical audit and patient engagement activities;
- Production of a toolkit to support cluster based pharmacists and technicians to support antimicrobial stewardship activities;
- Provision of resources to support patient education and co-production;
- Analysis and dissemination of GP level prescribing data linked to the Welsh National Prescribing Indicators;
- Inclusion of Antimicrobial Stewardship in GP Cluster Plans across ABMU.

Benefit / Impact / Outcome

The Big Fight team undertook a stakeholder engagement event in November 2016 – 'The Big Event' was multidisciplinary with over 100 attendees (including from GP practices, care homes and patient representatives), which generated a wealth of ideas around engagement.

Fit with Prudent Health

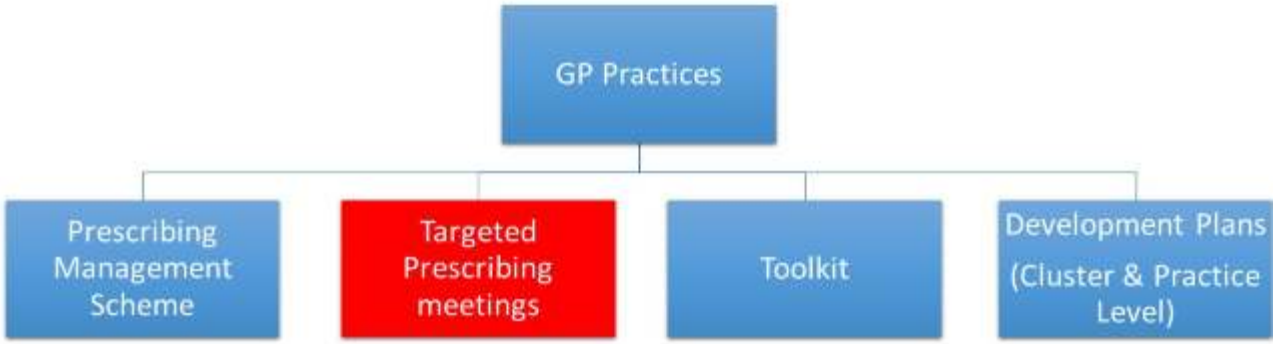
- Messages will be co-produced with members of the public to educate and raise awareness of the dangers of inappropriate antibiotic use and associated antibiotic resistance. This will help to manage patient expectation/demand for antibiotics during GP consultations.
- Education/support for members of the public about self care of self limiting infections will better enable them to choose well when seeking support i.e. community pharmacist advice. It is anticipated that this will also help to reduce inappropriate GP consultations.
- Improved cost effectiveness of antimicrobial prescribing.
- A reduction in harm.
- Enhanced antimicrobial stewardship knowledge of GPs and other stakeholders in the community

Commissioner Mentor:
Professor Phillip Routledge

Contact Details:
Rhys Howell (rhys.howell@wales.nhs.uk)
Debra Woolley (debra.woolley@wales.nhs.uk)
Janice Price (janice.e.price@wales.nhs.uk)
Christine Woods (Christine.woods@wales.nhs.uk)

Bevan Commission

The Big Fight Campaign: GP Practices

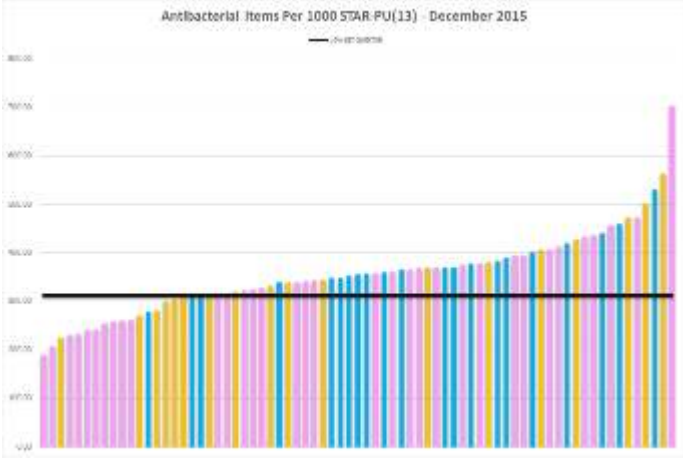


Project Scope

The project aims to reduce the rates of antibiotic prescribing in primary care and the variation in prescribing amongst GP practices, year on year, through a number of interventions. A key intervention was to target the 10% of practices, with the highest rates of antibiotic prescribing.

Despite significant work to improve antimicrobial prescribing over a number of years, Abertawe Bro Morgannwg University Health Board (ABMUHB) continues to demonstrate the highest rate of prescribing of antibacterial agents and also shows significant variation between practices. This included a focus on antibacterials during annual prescribing visits and educational events such as Prescribing Leads meetings.

Variation in prescribing of antibacterial across GP practices within the ABMU Health Board localities



Key Swansea Neath Bridgend

Analysis / Problem Solving Methods / Approach

The Big Fight Campaign was introduced with the primary aim of intensifying the approach to improve patient outcomes and minimise the potential risks of increasing antibiotic resistance and *C. difficile* infection (CDi) through the development and implementation of a multidisciplinary programme.

The scale and scope of the Big Fight Campaign is significant. For it to have any chance of succeeding it was important to identify some initial interventions to implement, learn from and scale up. Within the GP practice work stream, four key interventions were identified, one of which was the targeted prescribing meetings for the top 10% of prescribers of antibacterials.

Goals & Targets

Key outcome measures for the Campaign for first year are:

- A reduction in overall antibacterial prescribing in primary care across ABMUHB by at least 1 percentage point better than the Welsh national average trend (December quarter 2016 vs December quarter 2015)
- A reduction in variation of overall antibacterial prescribing in primary care across ABMUHB between December quarter 2015 and December quarter 2016

The Big Fight Campaign: GP Practices

Bevan Commission

Future State

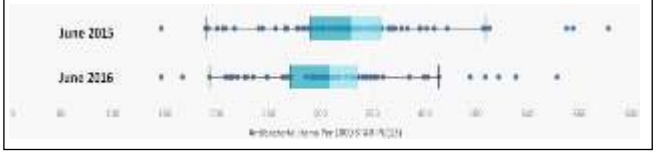
Seven of the highest prescribing practices (A to G) were visited by the Big Fight Antimicrobial Pharmacist in the first 3 months of the Campaign (represents 10% of GP practices in the ABMUHB Localities). The majority showed a reduction in prescribing above that seen in other practices. As a consequence, this intervention was seen to be effective and therefore extended to additional GP practices.

Percentage annual change in antimicrobial prescribing (Sept14–Aug15 vs Sept15–Aug16)
Key: Red = not on track; Green = on track

GP Practice	% Change
ABMU	-4.74%
A	-8.78%
B	-14.25%
C	-24.87%
D	-4.72%
E	-4.04%
F	-16.13%
G	-6.24%
H	-13.94%
I	-0.59%
J	-7.88%
K	24.65%
L	-2.08%
M	-4.33%
N	-8.94%
O	2.01%
P	-13.24%
NATIONAL GP	-4.51%

By targeting high prescribers, this was felt to be an intervention that would contribute to a reduced variation in prescribing.

Variation in prescribing quarters ending June 2015 vs June 2016



Interventions / Actions

A standard presentation was developed focusing on key aspects of antimicrobial prescribing. A series of graphs with benchmarking antimicrobial prescribing data at a GP Cluster and GP Practice level was included at each presentation. The presentation provided the basis for discussion with GPs. The practice was asked to arrange a meeting to which all GPs and nurses were invited.

Discussions centred around challenges facing primary care and potential solutions and strategies to manage patients expectations for antibiotics, such as delayed prescription and patient information leaflets with safety netting advice and guidance on treating symptoms with remedies commonly found in the home.

During the presentation GPs were invited to share individualised prescribing data and discuss amongst colleagues in the practice.

Benefit / Impact / Outcomes

Following an evaluation of the intervention in September it was felt this intervention was delivering tangible outcomes and should be extended to other practices.

The number of practices visited by the Big Fight team now exceeds 20% and a number of additional GP Practices have requested support from the Big Fight Team to discuss their prescribing.

In addition to a reduction in antimicrobial prescribing, there has also been a reduction in the variation of antibacterial prescribing.

The Big Fight Team have a better understanding of the cultural norms which are leading to the high rates of antibacterial prescribing. This is informing the materials and tools now being developed to support more sustainable change.

Contact Details:
Debra Woolley (debra.woolley@wales.nhs.uk)

Bevan Commission

The Big Fight Campaign: Care Homes

Project Scope

The care homes project focuses on educating and informing staff in care homes on areas that contribute towards achieving the aim of Big Fight Campaign including, awareness raising of harms caused by inappropriate use of antibiotics, and appropriate identification and management of urinary tract infections in care home residents.

Prior to the Big Fight Campaign there was no dedicated Infection Prevention and Control Nurse (IPCN) resource for primary care and the Abertawe Bro Morgannwg University Health Board (ABMUHB) IPCNs had not provided any training to staff in care homes.

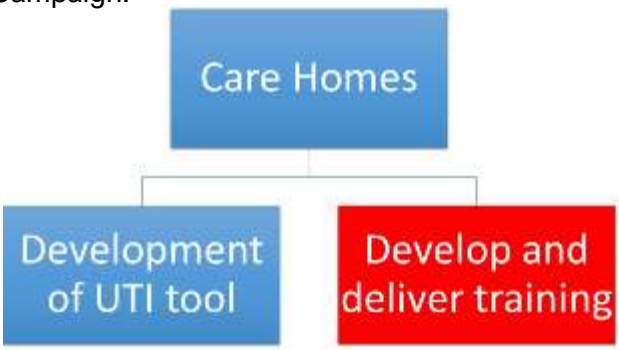
Questions asked prior to training showed that:

- Few staff understood the risks of increasing antimicrobial resistance;
- Many staff understood that antimicrobials did not cure all infections;
- Few staff knew about *Clostridium difficile* infection (CDi);
- Many staff thought that residents with a positive "dipstick" should be treated with antibiotics.

Analysis / Problem-Solving Methods / Approach

The care homes were identified and it was decided to undertake face-to-face education rather than an alternative method e.g. E-learning. This was principally to enable the Big Fight Team build relationships and engage with this important stakeholder group.

This also presented an opportunity to better understand training needs of care home staff and align these with the aims of the Big Fight Campaign.



Goals & Targets

The aim was to visit all care homes in ABMUHB at least once in the first year of the Big Fight Campaign in order to:

- Improve staff knowledge of the risks of inappropriately prescribing antimicrobials including resistance and *CDi.*
- Introduce a tool to assist with the correct diagnosis of urinary tract infection including advice on "dipsticking" urine, thereby reducing inappropriate antimicrobial prescribing. The tool is being shared with GPs, primary care nurses and care home staff.
- Discuss steps to prevent the development of urinary tract infection.
- Build supporting relationships with care home staff including supporting them when they have patients with *CDi.*
- Emphasise the need for flu vaccination.
- Encourage staff to take messages about antimicrobial resistance and the need to only take antimicrobials when necessary home to their families and friends.

Future State

As of the end of October 2016, 60% of care homes have received training. Following training, the majority of staff

- Can indicate the reasons for the need for prudent and appropriate prescribing of antimicrobials and the meaning of resistance;
- Know the symptoms of *CDi* and how to prevent spread;
- Know the need to only treat residents who have signs and symptoms of urinary tract infection with antimicrobials; and
- Know not to "dipstick" urine because it is dark and malodorous.

Following feedback from staff the content and emphasis of the training was modified to meet their training needs.

The Big Fight Campaign: Care Homes

Bevan Commission

Interventions/ Actions

A training package was developed in February 2016 by the Big Fight Nurse. The package was piloted initially and amended following responses and feedback from staff.

The revised package was then rolled out to other care homes. Short videos on antibiotic resistance and the need to be vaccinated against flu have been added to the presentation to support the key messages.

Benefit / Impact / Outcomes

- Established and strengthened Big Fight and IPCN relationships with care home staff.
- Improved knowledge as evidenced by post session questionnaires.
- Positive feedback evidenced through post-training evaluations.
- Self assessments completed by staff also demonstrate that they perceive they have increased knowledge after the training.
- Identified baseline knowledge amongst staff is variable requiring a flexible training approach.

Summary of Care Home staff knowledge prior to training	
Risks of antimicrobial resistance	34% (N = 251)
Antibiotics did not cure all infections	77% (N = 251)
Main symptom of Clostridium difficile infection	47% (N = 251)
Usefulness of "dipsticking" urine	27% (N = 251)

- A number of care home staff completed this section during the presentation. Therefore knowledge may be less than indicated above.

Summary of Care Home staff knowledge after training	
The reasons for prudent and appropriate antimicrobial prescribing	82% (N = 271)
The meaning of antimicrobial resistance	83% (N = 271)
Main symptom of Clostridium difficile infection	87% (N = 271)
How to prevent spread of infection	78-100% (N = 76)
Treat residents for UTI only if they have signs and symptoms of infection.	90% (N = 266)
Not "dipsticking" urine because it is dark and malodorous.	95% (N = 266)

- Analysis has not been completed on all questionnaires completed by staff.

Post session questions

Cleaning your hands is the single most important step in the prevention of cross infection	True or False	
We need to be careful about prescribing antibiotics when they are not really needed because bacteria (bugs) may become resistant	True or False	
When the bacteria (bugs) become resistant to antibiotics antibiotics don't work	True or False	
Antibiotics can increase the risk of a person getting *Clostridium difficile* infection	True or False	
The main/initial symptom of *Clostridium difficile* infection is diarrhoea	True or False	
People who have had *Clostridium difficile* infection once are more likely to have it again in the future	True or False	
If someone has diarrhoea (Loose stool, Type 5-7 on the Bristol Stool Chart) that isn't caused by something else - you should suspect *Clostridium difficile* infection	True or False	
Residents who are thought to have *Clostridium difficile* infection should be nursed in a single room	True or False	
You should wear gloves and aprons when you look after a resident with *Clostridium difficile* infection	True or False	
You should always wash your hands after looking after a resident with diarrhoea	True or False	
You should always send a specimen of stool to the lab for testing if you suspect a resident has diarrhoea that might be caused by Clostridium difficile	True or False	
People with *Clostridium difficile* infection produce large amounts of spores that can contaminate the environment	True or False	
A clean environment reduces the risk of residents picking up bacteria (bugs) from other residents?	True or False	
You should clean all equipment that is shared between to residents?	True or False	
You don't need to wash your hands if you wear gloves?	True or False	
Alcohol gel is effective against *Clostridium difficile* infection?	True or False	
You should dipstick test the urine of residents who have dark smelly urine?	True or False	
You should only treat patients with antibiotics for a UTI if they have signs and symptoms of infection?	True or False	

Fit with Prudent Healthcare

The care homes project, as part of the Big Fight campaign, supports prudent healthcare:

- Correct diagnosis of Urinary Tract Infection (UTI) and appropriate prescribing will reduce the risk of residents receiving unnecessary/inappropriate antimicrobials.
- Correct diagnosis of UTI using the tool based on evidence will reduce variation and inappropriate practice.
- Appropriate prescribing will reduce the risk of increasing antimicrobial resistance.
- Appropriate prescribing will reduce the risk of residents developing *CDi.*
- Appropriate prescribing will improve the cost effectiveness of antimicrobial prescribing.

Contact Details:
Janice Price (janice.e.price@wales.nhs.uk)

Bevan Commission

Radio-Frequency Identification (RFID) Tagging System

Abertawe Bro Morgannwg University Health Board (ABMUHB)has over 25,000 Capital and Revenue medical devices with a combined value of over £40M. This equipment contributes to the diagnosis and treatment of patients across a wide range of clinical disciplines. These devices are in the main mobile and can “follow” the patient between departments and even between hospitals.

During this movement, many devices are lost or mislaid, the effect of which reduces the number available to treat patients and takes up staff time in locating them. In February 2009 the Nursing Times reported that a third of nurses spend one hour every shift looking for medical equipment. This equates to over £4 million in lost nurses’ time per annum when applied to ABMUHB.

An evidence based solution to this problem, which has well documented peer reviewed tangible benefits, is to introduce a Radio-Frequency Identification (RFID) tagging system. This system would utilise the hospital’s existing wireless infrastructure and would allow staff to locate tagged assets within a few metres of its location, providing 24/7 visibility of all key assets.

This Project Supports Prudent Healthcare

- Improved patient care by ensuring that the right equipment is made available in a timely manner, e.g. locating specialised medical equipment such as bariatric beds and hoists, ultralow beds etc will support the concept of delivering the right care, in the right place, every time to everyone.
- A reduction in patient waiting times by minimising delays due to, for example, porters locating equipment such as wheelchairs.
- Improved equipment utilisation has the potential of reducing capital and revenue costs, or to treat more patients using the same install base by ensuring the organisation extracts maximum value from these resources.
- Reduction of risk and improved patient safety by locating equipment for statutory maintenance or implementing safety notice guidance.
- Support of the Health Boards emergency planning arrangements by providing quick and accurate location of key equipment in the event of an emergency situation.
- Efficient use of clinical and technical staff time by not needing to scour departments looking for equipment.
- Non-Cash releasing savings in Nurse time as a consequence of spending less time looking for equipment.“Good people can fail to meet patients’ needs when their working conditions do not provide them with the conditions for success.” Berwick D. (2013)

● Examples of Infusion Devices with a RFID tags being installed.

The Team:

Mike Rowlands
(Head of Medical Equipment Management Services)
Noel Harry
Andrew Morris
Spencer Hopkins
Marta Kasprzyk

Industry Partners:

Stanley Healthcare
Simon Jarvis
Becton Dickinson
Peter Highmore
Mark Maggs
Jose Maria de Pablo del Olmo

Commissioner Mentor:

Prof Trevor Jones

Contact Details:

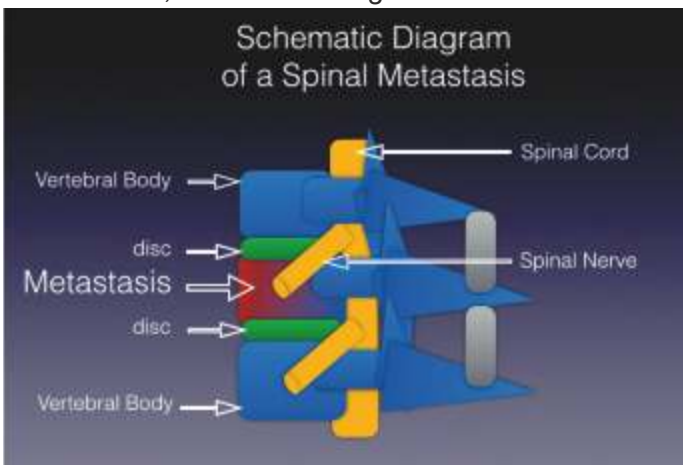
Mike Rowlands
Morriston Hospital
Swansea SA6 6NL

Calculating Fracture Risk in Spinal Metastases using fineSA® MRI Technology

Bevan Commission

There is currently no predictive model for fracture associated with spinal metastases.

This project aims to introduce a novel MRI tool which directly measures the amount of bone material in a spinal metastasis. Using this information, the bone strength can be calculated.



Prudent Principles of fineSA® MRI

1. To enhance health and wellbeing by pre-empting and preventing harm to the patient.
2. To introduce a low-cost tool which reduces the need for high-cost treatment of complications related to spinal metastases.
3. To avoid harm, by offering low-risk treatment of high risk spinal metastases.
4. To introduce fineSA MRI once there is sufficient robust evidence to support its usefulness to patients.

fineSA® MRI Overview

Fine structure analysis (fineSA®) MRI is a new technique which samples one line of k-space, resulting in a spatial spectrum for the chosen anatomic location, sampled in a specific orientation.

FineSA® is therefore a one dimensional spectrum representation of a structural “slice”, instead of conventional MRI which samples a larger area and creates a two dimensional image.

The advantage of fineSA® is that the data gained is approximately 10X higher resolution than standard MR, in a scan time of 3 mins in vivo on current MRI 3T platforms ie similar to the length of time for a DXA scan at one site but without the use of ionizing radiation.

Clinical Application of fineSA® MRI

The purpose of this Bevan Commissioned study is to acquire data from vertebral bodies containing metastases, in order to ascertain whether it is possible to calculate the amount of loading required to cause a fracture, or calculation of fracture, risk.

This is not a screening test, since the spinal metastases being analysed have already been diagnosed. The test is not designed to screen for fractures either, since the metastases must be asymptomatic for inclusion in this study.

Financial Benefits of fineSA® MRI

The test costs £25, in addition to the standard cost of an MRI, which is approximately £225 ie a total cost of £250.

Once the diagnostic accuracy of this test has been established, it will be possible to compare the cost of testing a large number of people with asymptomatic metastases, in order to prevent the estimated cost of £14,023 per treated metastatic spinal cord compression(NICE 2008), which occurs in between 5-10% of people with advanced cancer.The prevalence of spinal metastases is estimated as between 3-5% of all people with cancer (NICE 2008).

The Team:


Iona Collins


Richard Hugtenburg


Yuzhi Cai


Paola Griffiths


Amanda Davies


John Wagstaff

Commissioner Mentor:

Chris Martin

Contact Details:

Iona Collins
ionacollins2@wales.nhs.uk
01792 703735

Bevan Commission

Operationalising Prudent Healthcare in the GPOOH Setting: Facilitative Webinars

Design, deliver and disseminate five 10-minute webinars. The first introduces the context and history of Prudent Healthcare (PHC), linking it to wider, contemporary resonant themes - Overdiagnosis, Slow Medicine, Too Much Medicine; the remaining four cover each of the principles, renamed according to the acronym SPEM (the Latin word for hope);

- **Standardisation:** Reduce inappropriate variation using evidence based practices consistently and transparently.
- **Prioritisation:** Care for those with the greatest health need first, making the most effective use of all skills and resources.
- **Empowerment:** Achieve health and well-being with the public, patients and professionals as equal partners through co-production.
- **Minimalism:** Do only what is needed, no more, no less; and do no harm.

Scope

The webinars will initially be available on a dedicated ABMU intranet page, but the hope is subsequently to offer them at a national level.

These explain how and why PHC principles can be applied in the GP Out-Of-Hours (GPOOH) environment, grounding the abstract principles in operational reality. These lessons may also have a broader audience in primary care, and it is hoped will shortly be consolidated within ABMU's GP clusters. The webinars will initially feature clinicians, but will be treated as living documents with the aim of incorporating patient experiences in the future.

This Project Supports Prudent Healthcare

This project helps to operationalise PHC principles by creating a memorable acronym by which to remember them (SPEM – Latin for 'hope') and anchoring this in four brief, visual webinars. The principles will be clarified and consolidated by linking them to a specific action set for the GPOOH context.

Anticipated Benefits

- The first aim of this project is to raise awareness of the Prudent Healthcare principles by explaining them visually and providing a memorable structure by which to recall them. By using the Latin word spem, hope, as the mnemonic device it is intended to show that the PHC principles suggest a way forward in challenging times, and to inculcate a sense of ownership and empowerment to clinicians.
- The second aim of the project is to ground the sometimes abstract PHC principles in operational reality.
- Standardisation can be demonstrated in the implementation of catheter care pathways, 24/7 DVT pathways and End-of-Life pathways, all of which improve patient safety and experience and reduce procedural waste.
- Prioritisation can be demonstrated by the application of the new Clinical Support Hub, part of the 111 Wales Pathfinder, which channels workflows much more efficiently than current arrangements and links patients with the right professional delivering the right process in the right place and with the right priority.
- Empowerment can be demonstrated by supporting self-care, as exemplified by the 111 Pathfinder minor illness streaming processes, which are supported by pharmacists, also emphasising skillmix maximisation.
- Minimalism can be illustrated by the Clinical Support Hub's providing advice to paramedics on scene, enabling them to avoid unnecessary conveyance of patients and facilitating enhanced community care, particularly of Chronic, Complex, Frail and Failing, Elderly, Polymedicated, Polymorbid patients (CFEPs – "see-feps"). The assessment and treatment of UTIs, RTIs and SSTIs by pharmacists illustrates the principle of skillmix maximisation.
- In combining the four principles, and expanding on their interlinkages, the webinars encourage clinicians to practice in resonance with the "new bargain between citizen and state" (Professor Mark Drakeford).

The Team:

Dr Stephen Bassett
(CD GPOOH Service, ABMU)

ABMU PHC Lead:

Dr Sara Hayes

Commissioner Mentor:

Dr Anthony Calland MBE

Contact Details:

Dr Stephen Bassett
Steve.bassett@wales.nhs.uk

Boxing Clever: is it good NEWS?

Bevan Commission

Cwm Taf Critical Care Outreach Teams (CCOTs) have been selected by the Bevan Commission to be part of a trial of a 'disposable sepsis box'. Training and awareness of the sepsis boxes commenced in April 2016with the trial starting in May 2016, lasting for 12 months with the aim of reducing sepsis.

Sepsis is a time critical medical emergency, characterised by the body's inflammatory response to infection. It is estimated to affect 100,000 people every year in the UK and cause the deaths of around 44,000 people.

The outreach team see approximately 400 patients per year in Cwm Taf who are diagnosed with sepsis and require medical intervention. These patients need urgent treatment at the bedside to prevent further deterioration and admission to critical care.

This Project Supports Prudent Healthcare

The sepsis box is an innovative product that delivers simple life saving initiatives called the sepsis 6. If the contents of the box are delivered in a timely manner the evidence suggests that patient improvement on the ward following the intervention of the Sepsis Six will prevent admission to a critical care bed which cost per day is far more significant.

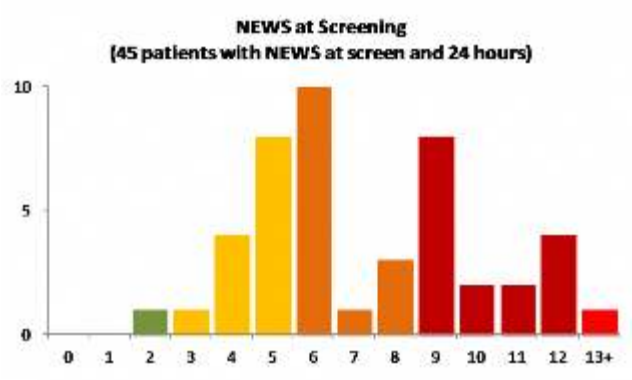
Anticipated Benefits

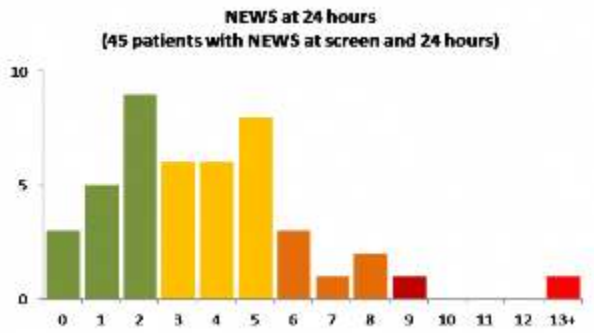
The anticipated benefits of the Sepsis boxes are they will improve patient safety by an early delivery of the Sepsis Six so preventing further deterioration and a better patient outcome. There is key motivation for the project across the Health Board and to be part of such a significant development in the fight against sepsis.

There is strong evidence to suggest that early recognition of sepsis and simple, but prompt treatment can have a profound effect upon mortality and reduce the level of harm in sepsis survivors.

Outcome

Sepsis boxes are favourably associated with the delivery of Sepsis Six and together have shown a significant drop in NEWS at 24hrs and an inferred better patient outcome.





The Team:
Andrew Hermon, Chris Hancock, Anne Evans, Cwm Taf University Health Board Outreach Teams

Industry Partners:
Rocialle, 1000 Lives

Commissioner Mentor:
Chris Martin

Contact Details:
Andrew Hermon (Senior Nurse Critical Care, Cwm Taf University Health Board)

Bevan Commission

Advanced Practitioner Physiotherapists (APP) in Primary Care – A new Era

Project Scope

This service simplifies the Musculoskelatal (MSK) referral pathway by making Advanced Practitioner Physiotherapists (APP) the 1st point of Contact for MSK conditions in Primary Care.

The purpose of this initiative is to allow patients presenting with MSK complaints to be seen in their local GP surgery by an APP, thereby reducing the demand on the GP, relieve pressure on primary care services and release vital GP capacity allowing them to deal with more complex medical cases, to "do what only they can do".

Analysis and Approach

We have identified the need for new models of care to provide a sustainable primary care workforce for the future needs of the population.

The impetus for the service change is to determine whether the APP can effectively manage this cohort of patients thereby releasing vital GP capacity.

The APP model is endorsed by the Chartered Society of Physiotherapy (CSP) to enable physiotherapists to become the first point of contact for MSK patients in primary care.

At the time of writing there was no published research to date regarding this APP model of care.

Interventions

Permanent funding has been sourced for 13.5wte APPs in primary care across BCUHB. Ensuring consistency across the patch and making this service accessible to patients across North Wales.

Future plans:

- To increase the percentage of first point of contacts for MSK conditions in primary care.
- To establish changes in referral rates from primary care to secondary care for MSK services.
- To secure further funding to ensure each GP cluster has access to the MSK APP service.
- To ensure successful recruitment of B5 physiotherapists to enable backfilling and release of staff.
- Further upskill staff in the extended scope skills required for this position.
- To continue to promote / present this new service at all available opportunities.
- To attract external staff with the right skill set into these new primary care positions as they become available.
- To ensure high levels of patient satisfaction by distributing patient satisfaction questionnaires.
- Continually re-evaluate and developing robust governance framework.
- Continued full evaluation of the service.

Outcomes

Activity

- APPs saw a total of 6120 patients in primary care (January 2015 – October 2016)

First point of Contact

- APPs saw 524 patients as the first point of contact (9%).

Secondary Care referrals

- Aim is to show a reduction in secondary MSK care referrals - this data is not available at present.

Upskilling the workforce

- This service has increased the number of physiotherapists with extended scope skills (see table above)

Cost Savings

- By seeing an APP / ESP Physiotherapist as an alternative to the GP, the following cost savings have been achieved:

Advanced Practitioner Physiotherapists (APP) in Primary Care – A new Era

Bevan Commission

GP seeing 6120 patients	£133,324.00
APP (8a) seeing 3060 patients	£55,192.00
ESP (7) seeing 3060 patients	£45,604.00
Cost Saving	**£32,527.00**

Patient Satisfaction Questionnaire Results (June 2016)

83 returned questionnaires highlighting the following themes:

- Patient acceptance of this new model of care and happy to see an APP as 1st point of contact.
- This new innovative service was viewed as excellent by the majority of patients.
- APPs were able to manage this cohort of patients in primary care.
- The need for this service to operate on a more frequent basis.
- Comments received regarding the locality of the service and ease of access.

Future areas of evaluation include:

GP feedback

- To receive GP feedback from all clusters groups currently running this new model of care. Early feedback demonstrates the positive impact this service is having on the community.

Practice feedback

- To receive feedback from the staff working within the GP practices.

Orthopaedic Conversion rate

- Ortho conversion rate (IT issues).

Continue to promote the service

Fit with Prudent Healthcare

Principle 1: It is essential that the APPs achieve concordance with the patient, ensuring they work together as equal partners with patient "buy in " when formulating a treatment plan. This model of care will ensure the patient is seen sooner by an APP (rather than waiting for a CMATS/ physiotherapy appointment.)

This early intervention is essential to prevent chronicity of MSK disorders. There is good evidence to show that rapid access to MSK services reduces the amount of time the person is off work, prevents an acute problem becoming chronic, thereby reducing the total intervention required to achieved the desired outcome. Early intervention is more likely to get engagement from the patient in the treatment plan.

Principle 2: APPs are in an excellent position to take on the roles and responsibilities previously considered the domain of the GP, assess and manage the 30% MSK caseload, and as such improve the patient experience whilst benefiting both primary and secondary care services. By taking on this caseload, it will enable the GPs to take on the more urgent medical cases and "do only what they can do".

Using the APPs as gatekeepers to MSK services in secondary care will ensure only the most appropriate cases go through and in the long term result in a reduction in secondary care MSK waiting times.

Principle 3: Ensure all APPs use evidence based practice and give the patient the tools / lifelong management skills to manage their condition.

Principle 4: Ensure role out across North Wales, in the GP clusters. Currently the APP model has been rolled out in 49 GP practices across North Wales with plans to expand further. These services have been set up in the same way, collecting the same data to ensure consistency and to reduce inappropriate variation.

Commissioner Mentor:
Mary Cowern

Contact Details:
Cathy Wynne (cathy.wynne@wales.nhs.uk)
Robert Caine (robert.caine@wales.nhs.uk)

Bevan Commission

Implementation of an Innovative Palliative and End of Life Care Education Programme into Nursing Homes

Project Scope

The six steps palliative and end of life care education programme was implemented by the Macmillan End of Life Care Plan Facilitation team in 2013 to provide end of life care training across North Wales to Nursing homes that will result in high quality care and improved outcomes and experiences for their patients and families. It is vital that residents have access to timely, skilled care and support as this can avoid unnecessary emergency admissions to hospital, and can enable more people to live and die in the place of their choice. Up to date 75 care settings and 122 champions have gone through the programme . Work continues with Flintshire county Council who we have been successfully working with throughout the programme. Key Stakeholders include BCUHB and Macmillan cancer support.

Starting Conditions

We focused on 12 Nursing Homes in North Wales (west) that took part in the six steps programme which took place between November 2015 and July 2016. This was delivered by the Macmillan End of Life Care Plan Facilitation Team at BCUHB.

There were 20 registered nurses who attended the programme of workshops; seven half day and one full day session.

- **Step 1** Discussions as the end of life approaches
- **Step 2** Assessment Care Planning and Review
- **Step 3** Co-ordination of Care
- **Step 4** Delivery of High Quality Care in Care Homes
- **Step 5** Care in the Last Days of Life
- **Step 6** Care after Death

Venues were organised close to the areas where care homes were situated.

Strengths	Weaknesses
Consistent dissemination of best practice	Rurality Resources Course Promotion / organisation / support Engagement of other health care professionals
Opportunities	**Threats**
Future dissemination of education course Continued Professional Development Robust Audit System	Resources Transient Team / on permeant member Culture within Care Homes Staff retention in Care Homes

Lewin's forcefield was used to identify the drivers and resistors to change . Attended meetings with influential drivers within the organisation. Spoke to resistors within care home sector who did not understand the impact or potential of the programme. It was important to find out the values of the organisation in relation to palliative and end of life care, we used the McKinseys 7s model.

Shared Values

The All-Wales End of Life Care Delivery Plan (WG 2016). Residents in care home settings in North Wales have quality palliative and end of life care. The organisation supports care home staff to improve their knowledge and skills in palliative and end of life care to aid reductions in unscheduled admissions into secondary care.

Goals & Targets

That all nursing and residential homes in North Wales have had opportunity to attend the six steps to success programme.

That BCUHB promote the programme in all care settings .

Key targets include:

1. Unscheduled admissions into secondary care from care homes reduced.
2. Residents have a choice in their care plan / advance care planning offered.
3. All residents have a key worker.
4. Deaths in hospital reduced.
5. Out of hours admissions reduced.
6. Bereavement support to other residents.
7. Knowledge skills and confidence of staff improved.

Implementation of an Innovative Palliative and End of Life Care Education Programme into Nursing Homes

Bevan Commission

Interventions and Plans

- To continue working with Flintshire county council and discuss options with Wrexham county Council to promote the programme.
- Hold two awareness days to promote the programme.
- All Nursing homes in Wrexham North Wales to go through a six-steps programme.
- Commence a palliative and end of life care programme in secondary care across North Wales.
- To secure funding for permanent staff in the team.
- To maintain support of senior drivers within organisation.
- To continue and promote audit data.
- To cascade the programme across Wales.
- To ensure sustainability of the programme.
- To maintain quality by providing regular updates for staff who have attended the course.
- To achieve accreditation for the course
- Develop a web resource.

Outcomes

All goals and targets have been achieved for this project.

● Pre- and post-data results of the knowledge skills and confidence of staff who took part in the programme in the west area of North Wales.
(Pre-November 2015 to post-July 2016)

	Pre (n=84)	Post (n=59)
Resident identified on end of life register?	12%	75%
Advance care plan in place?	37%	66%
Key worker identified?	14%	85%
Preferred place of death documented?	68%	78%
Unscheduled admissions	15	7
Out of hours admissions	7	3
Deaths in hospital	13	5
Bereavement support offered to other residents	23%	92%

● Pre- and post-data results from the west area (North Wales)

Fit with Prudent Healthcare

- Inappropriate variation reduced due to the same evidence based training programme implemented in all care settings across North Wales.
- The six steps programme provides a cost effective and efficient method of disseminating best practice in end of life care.
- Residents have a say in their health care choices, allowing co-production and equality.
- There is a robust clinical governance system underpinning this project and this ensures quality and safety for the residents/patients and their families.
- Promotes equitable and consistent practice.

Commissioner Mentor:
Dr Bimal Bhowmick

Contact Details:
Theresa Richards
01978 727 177

Bevan Commission

Training Extended Scope Physiotherapists to use Diagnostic Ultrasound in Musculoskeletal (MSK) Clinics to Create a One Stop Shop

Project Scope

When GPs refer patients with MSK problems they are now largely seen by Extended Scope Physiotherapists (ESP's) specialising in MSK medicine. Some of these cases need further investigation with ultrasound to determine the diagnosis and the nature of their treatment programme. Presently ultrasonography (US) is performed in the Radiology Department by a radiologist or radiographer. The waiting time is about 6-8 weeks. After further delay the patient attends for follow up by the ESP when the diagnosis is made and a suitable treatment programme put into place. This means that such patients have to attend the hospital **three times** and **wait two months** for their diagnosis to be made and treatment started.

A comprehensive training programme to up skill ESP's in US has been designed with the Radiology Department. When the ESP is competent she will be able to perform an ultrasound examination when appropriate as part of the initial assessment in the MSK clinic. This means that the patient will receive diagnosis and start treatment at the initial appointment.

Starting Conditions

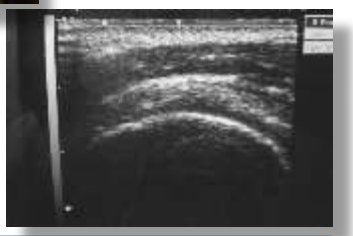
At the outset of the project US for MSK cases was performed by radiographers or radiologists in the X-Ray department. We were aware that US is increasingly performed by the clinician who sees the patient in the clinic rather than by X-Ray personnel and set out to investigate how to set this up. We had two ESPs keen to learn US and translate this competence into their clinic. Although at first sight this might seem a simple matter, we were faced with barriers, including capacity for training and funding. It seemed unlikely that our idea would come to fruition.

Analysis / Problem Solving Methods / Approach

Introducing a physio-led US service into a MSK clinic is at first sight simple. Train the physiotherapist, acquire access to a machine and you are set to go.

The reduced capacity within the radiology department proved to be a difficult barrier to overcome. Another factor at play here is that traditionally US has "belonged" to radiology and this project involved transferring the right to perform US to a different profession – physiotherapy.

Our approach to solving this problem was to become Bevan Exemplars and use the influence and status of The Commission to move things forward.



Goals & Targets

The project goal is to set up a "one stop shop" where patients are assessed, have an ultrasound scan if appropriate and a diagnosis and treatment plan made at a single appointment.

To achieve this we need to have an ESP trained to be competent in US and also access to an US machine.

This project is still ongoing. One ESP has completed the theoretical part of the training programme; the other one is to start this in January 2017. Finance to cover the cost of the 6 month practical training and supervision is now available and this will start in 2017.

We are still working on funding for a new US machine.

Interventions and Actions

Becoming a Bevan exemplar and using this to move forward.

- Accepted as Bevan Exemplar (August 2015)
- Attended Bevan Exemplar day, Cardiff (December 2015)
- Attended costings workshop, Bangor (May 2016)
- Identified BCUHB board member responsible for Bevan Exemplars (February 2016)

Training Extended Scope Physiotherapists to use Diagnostic Ultrasound in Musculoskeletal (MSK) Clinics to Create a One Stop Shop

Bevan Commission

- Identified present BCUHB board member responsible for Bevan Exemplars (May 2016)
- Meetings with BCUHB Board member
- Funding agreed for radiology training sessions (September 2016)

Training in Ultrasonography

- Visited Telford Hospital to observe an ESP using MSK Ultrasound. (March 2015)
- Completion of a diagnostic Master's module, Keele University. (February - April 2016)

Setting up Practical training

- Regular communication with Lead Consultant Radiologist BCUHB West
- Business Case sent to Lead Consultant Radiologist. (April 2015)
- Meeting with Lead radiographer. (June 2016)
- Meeting to finalise training sessions. (November 2016)
- Training sessions to begin (January 2017)

Outcomes

Patients with MSK conditions requiring US will benefit from seeing an US Proficient Extended Scope Physiotherapist (ESP) because:

- Patients attend **one rather than three** appointments
- Instant diagnosis and treatment plan
- The ESP can assess the clinical significance of the findings
- The ESP will also become competent in using US as a means if targeting their corticosteroid injection more accurately. This will improve the outcome of the injection and reduce referrals to the radiologist who presently carry out these procedures
- For those patients requiring surgery the reduced diagnostic time will result in earlier referral and earlier surgical intervention if needed, improving outcomes
- This is a safe cost

Fit with Prudent Healthcare

This project supports prudent healthcare by **making the most effective use of all skills and resources**. The introduction of a "one stop shop" approach will avoid multiple hospital appointments and provide immediate diagnosis and treatment. In some patient's surgery may be needed and the result of the scan may well avoid conservative treatment which is not going to help. This is an example of **only doing what is needed, no more no less**.

The project also supports prudent healthcare by **achieving health and wellbeing by co-production**. This 'real time' method of scanning offers immediate feedback to the patient. It is a very visual and interactive form of imaging, from both a professional and patient perspective. This ensures **co-production** by immediate information exchange between clinician and patient which will improve the patient's experience and engagement. This feedback will be reassuring to the anxious patient who is frightened to move the painful joint for fear of causing damage or harm. This fear is often a major barrier, stopping the patient moving freely and naturally which is so important in rehabilitation. Demonstrating that the muscle/tendon is not damaged helps to overcome these concerns and allows the patient to confidently start moving again. This will improve outcomes with conservative management and reduce onward unnecessary referral to Orthopaedic surgeons **making most effective use of all skills and resources** as well as **possibly avoiding doing harm to the patient.**

The use of US rather than X-Ray will avoid exposure to radiation thereby **doing no harm**.

Training physiotherapists to carry out procedures which were previously performed by highly qualified and expensive radiologists will free up their time to carry more complex procedures as well as freeing up one radiology and one MSK ESP appointment slot for other needful cases, which is again **making most effective use of all skills and resources.**

Commissioner Mentor:
Dame Carol Black

Contact Details:
Siobhan Jones
Extended Scope Physiotherapist
Betsi Cadwaladr UHB(West)
01248 384 100

Bevan Commission

Identifying and Reducing Avoidable Drug-associated Bleeds

This BCUHB pharmacovigilance / quality improvement project is about finding out more about just one fraction of medication-related harm; that of drug-associated bleeds (DaBs). It seeks to improve local / national data capture of DaBs, in order to learn lessons and reduce future occurrences.

Project Scope

Stakeholders include the local Endoscopy Steering Group and the Welsh Medical Imaging Sub-Committee of the Welsh Scientific Advisory Committee, local / national Clinical Coding departments, external Gastro-intestinal (GI) Reporting tool commercial software companies, NHS Wales Informatics Service (NWIS), the Medicines and Healthcare Products Regulatory Agency (MHRA) and its associates, BCUHB's Drug and Therapeutics Group, finance department and cross-sector healthcare professionals.

The project, in time will be a Wales-wide project impacting on the wider UK and beyond.

Initially, the Bevan Exemplar is working with stakeholders to refine the processes involved in identification of and capturing clinical coding of DaBs.

Another aspect is the collection of pharmacovigilance data regarding DaBs in the form of yellow MHRA cards. All drugs, whether new or long established therapies, have an inherent risk of Adverse Drug Reactions (ADRs). Identifying and reporting ADRs to the MHRA is an important part of drug surveillance. With time, root cause analysis of individual DaB cases should highlight avoidable DaBs and reveal potentially rectifiable contributory factors.

With improved clinical coding and identification, more accurate DaBs data should reflect a truer picture of both patient harm and NHS resource consumption.

Ultimately, national standards for the software companies engaged in GI reporting tools are strived for with parallel development of Bronchoscopy reporting tools for collecting drug-associated harm to lungs.

This project seeks to make a positive difference to reducing DaB harm and costs.

Why this Project?

- The NHS can't fix what it doesn't know is wrong.
- All NHS Professionals have a duty of care to learn and feedback regarding avoidable harm.
- Landmark research published in 2004 highlighted that 6.5% of all admissions are related to medicines, of which 72% are avoidable[1]. It involved 18,000 patients in two Merseyside hospitals.
- Gastro-intestinal (GI) bleeding was cited as the cause for 54% of deaths in this landmark study[1].
- GI bleeding caused by drugs needs preventing.
- However, bleeding as a mode of drug harm takes various forms, whether intracranial haemorrhage, haematoma or GI bleeding or from other body sites, so harm capture needs to count bleeds wherever they happen.
- Capturing information regarding drug-associated bleeds should be routine for healthcare professionals across the specialties.

- Pirmohamed et al[1] reported drugs causing bleeding were aspirin, non steroidal anti-inflammatory drugs, warfarin, and antidepressants. However there are new drugs which weren't available in 2004. These include a novel class of oral anticoagulants widely prescribed within the NHS called NOACs. There is a known risk of GI bleeding with these and this risk is greater for those over 75years of age[2].
- NWIS data is available for emergency admissions involving DaBs, as coded by NHS Wales' clinical coding departments but clinical coders rely on clear documentation in medical notes/ reports.
- Analysing DaB harm adds a new focus to a suspected medication-related admissions Wrexham project led by the Bevan Exemplar since April 2006.
- Here is the Bevan Commission's opportunity to use Welsh intelligence to lead the rest of the UK.

Identifying and Reducing Avoidable Drug-associated Bleeds

Bevan Commission

Anticipated Benefits

Within BCUHB & ultimately across Wales:

Make it safer:

- Help NHS Wales provide a safer, more efficient service.
- Drive pharmacovigilance forward.

Make it sound:

- More accurately count and clinically code DaBs.

Make it happen:

- Elucidate which, when, where, how and why DaBs occur & identify solutions.

Make it sustainable:

- Ultimately reduce DaB patient harm (and associated measures of this: deaths, inpatient bed days, gastroenterology scoping DaB costs, litigation, primary/secondary care consultations).
- Work to reduce NHS pressure and hospital escalation status frequency.
- Count DaBs' financial cost to enable wider engagement.
- Continuing motivation of applicant and front-line colleagues.
- Continuing Professional Development of all through learning and feedback.

Within the UK

- Develop a national standard, endorsed by the MHRA for all GI reporting tool commercial software companies.
- Incorporate into the GI reporting tool which drugs are known to be associated with bleeds but include a free-text option to enable new harm from existing/new drugs to be recorded.
- Similarly trigger development of a national standard for a Bronchoscopy reporting tool.

This Project Supports Prudent Healthcare

- **Through co-production with Gastroenterology / MHRA /software company/ healthcare professionals:** Better capture DaB clinical coding data. Introduce national standards for GI reporting tools and explore similar for eg Bronchoscopy. Ultimately achieve fewer DaBs.
- **Utilising skills:** Benefiting from Pharmacists' root cause analysis/ drug safety skills.
- **Harm & resource usage limitation:** Reduce patient harm in terms of deaths, haemorrhages, bed days consumed, DAB episodes, gastroenterology scoping resource usage.
- **Helping the needy:** DaBs (which includes haemorrhagic strokes) affect quality of life and can be fatal. The elderly are frequently affected.
- **Reduce inappropriate variation:** Drive pharmacovigilance forward across BCUHB / Wales /UK for new and existing drug therapies.

References:

1. Pirmohamed M, James S, Meakin S et al. Adverse drug reactions as cause of admission to hospital: prospective analysis of 18,820 patients. British Medical Journal 2004; 329 (7456):15-9. http://www.bmj.com/content/329/7456/15.long (accessed 31 August 2016)
2. Abraham NS, Singh S, Alexander GC et al. Comparative risk of gastrointestinal bleeding with dabigatran, rivaroxaban, and warfarin: population based cohort study British Medical Journal 2015; 350:h1857 http://www.bmj.com/content/350/bmj.h1857 (accessed 31 August 2016)

The Team:

Janet Thomas
Patient Safety Pharmacist, BCUHB (East)

Commissioner Mentor:

Professor Philip Routledge OBE
Head of Pharmacology, All Wales Therapeutics and Toxicology Centre, Cardiff.

Contact Details:

Janet Thomas
Patient Safety Pharmacist, BCUHB (East), Pharmacy Department, Wrexham Maelor Hospital, LL13 7TD.

Janet.Thomas3@wales.nhs.uk
01978 726 343/ 725 045

Bevan Commission

Implementation of the Choice and Partnership Approach (CAPA) in North Wales Child and Adult Mental Health Services (CAMHS)

Rationale for Service Re-design

In 2012 CAMHS was affected by long waiting times for routine assessment in excess of 12 months. This was having a negative impact on the quality of service user experience and affecting morale of the clinicians.

There was an acceptance and willingness for change across the teams to alter our methods of service delivery. The CAPA model was proposed as a basis for a re-design of the service.

At that stage there was partially implemented job planning and limited knowledge of skill mix and a lack of clarity about service capacity. We needed a language with which we could describe the amount of work it was possible for the teams to deliver whilst being able to communicate to our organisation what was needed in order to reduce waiting times.

The complex processes involved in our CAMHS needed a framework to examine, streamline and refine systems.

What is CAPA?

CAPA is an evidence based framework for the delivery of modern CAMHS which places emphasis on collaboration and shared decision making with service users (York and Kingsbury, 2013). This model has been adopted by more than 500 services across the UK and the world but has not been widely adopted in Wales.

The CAPA model involves several key components and is most effective when all components are in place. It is underpinned by principles of empowerment of children and families to take an active role in improvement of their mental health. It combines demand and capacity theory, evidence based practice, clinical leadership and staff development.

- "Choice" appointments put the service user at the centre of care. The clinician acts as a "facilitator with expertise" rather than an "expert with power".
- Work carried out by the team is categorised as "Core" and "Specific" Partnership work – identifying the team skills required to meet the needs of the service users.
- Job planning allows calculation of the availability capacity of a particular skill set.
- Peer group meetings- discussion of the service user goals, any obstacles can be identified or shared. This allows us to learn from each other and facilitates "letting go" of families.

What did we do?

11 key components of the CAPA model

- Consultation with key stakeholders including the service users and the clinicians.
- Training of Clinicians with workshops lead by the originators of the model.
- Put in place the Choice and Partnership system of appointments.
- Set up Peer case discussions.
- Job Planning.
- Regular team away days.
- Regular management meetings to discuss CAPA implementation and review our progress.

What difference does CAPA make?

- Flexible use of capacity to meet demand. We can estimate when demand outstrips capacity and can have a language to describe and a mechanism to evidence this.
- Defining and ensuring provision of functions such as early intervention matched to the needs of the service user with the aim of delivering the right intervention at the right time to the right children, young people and families.
- Collaborative goal setting and care planning with the service user at the centre.
- Collaboration as a vehicle for co-production to enrich service developments.
- Team and individual job plans which define capacity and protect staff from overworking.
- Defined care pathways for major conditions

Implementation of the Choice and Partnership Approach (CAPA) in North Wales Child and Adult Mental Health Services (CAMHS)

Bevan Commission

Progress to Date and the Future

All clinicians on the teams now have regular job planning and we have individual and team job plans which can be adjusted according to the demands on the service. We routinely review performance data and activity figures about referrals, choice and partnership activity.

We are using the CAPA framework to deploy new funding from the Welsh Government and have reduced our waiting times to 28 days for routine assessments.

Recruiting skilled CAMHS clinicians is a challenge and we will need to identify and address gaps in the skills of the current workforce.

CAPA processes are part of our induction for new recruits to the service.

In 2012, we were 50% adherent to the model using the CAPA component rating scale. We are currently 77% adherent. We need to be closer to 85%. In order to achieve this we need to further develop our understanding of "core" and "specific" work as well as to promote goal setting by clinicians. To this end we will form a CAPA implementation group the members of which will be drawn from clinicians across the teams.

A further training event is planned for the clinicians and administrations teams to develop an understanding of CAPA.

Planning is underway for CAPA to be introduced in the East and West CAMHS of North Wales and the clinicians from Central area will be experienced and helpful facilitators.

CAPA *is* Prudent Healthcare

Public and professionals are equal partners through co-production

CAPA involves the service user in decision making with a clinician whose skills are matched to their needs. The service user is an active participant in their healthcare.

Care for those with greatest healthcare need first, making most effective use of all skills and resources

CAPA model allows for flexible deployment of resource to meet demands with systems that allow for delivery of early intervention.

Do only what is needed no more and no less. Do no harm.

CAPA is a "Pull System" rather than a "push system". This means that approaches are tailored to the goals of the service user so that no more than necessary is done with a range of flexibly applied approaches.

Reduce inappropriate variation using evidence based practices consistently and transparently. CAPA avoids unnecessary duplication and variation by development of evidence based "care bundles".

References

York, A. and Kingsbury, S. (2012) *The Choice and Partnership Approach. A service Transformation Model.* Exeter: Short Run Press.

The Team:

Dr Helen Fitzpatrick
(Clinical Lead for Central area CAMHS, BCUHB)

Susan Wynne
(CAMHS Service Manager, Central area CAMHS, BCUHB)

Commissioner Mentor:

Fran Targett OBE

Contact Details:

Conwy CAMHS
Llandudno Hospital,
BCUHB

Tel: 01492 863 377

Bevan Commission

Enabling Patients to Receive Appointment Reminders in Their Preferred Language

Betsi Cadwaladr University Health Board (BCUHB) is geographically the largest health organisation in Wales and provides a full range of primary, community, mental health and acute hospital services for a population of over 670,000 people across the six counties of North Wales (Anglesey, Gwynedd, Conwy, Denbighshire, Flintshire and Wrexham) as well as some parts of mid Wales, Cheshire and Shropshire. 44% of the Health Board's population speak Welsh, well above the national average of 19%.[1]

- BCUHB sent over 600,000 appointment reminder text messages (SMS) during the last financial year; the need to send bilingually doubles the output to over 1,200,000 text messages (and doubles the cost!).
- Over 43,000 appointment reminders were delivered via an agent telephone call; these calls are always made initially in English, with the patient given an option of receiving a follow-up call in Welsh.
- The Welsh Language Standards state that BCUHB should be actively asking patients for their preferred language of communication, recording the choice and then using this information to inform future communications.
- As a result of the above, this project aims to improve the patient experience by allowing patients to choose the language in which communications are received; this in turn will make significant cost and efficiency savings for the health board.

The project will enable patients to state their language of choice for appointment reminders (Welsh, English or Bilingual) – this could be:

- when at a GP reception desk.
- during a telephone call with a hospital booking clerk.
- by responding to a text message specifically asking for language choice.
- when visiting the health board's internet site.

In the long term, the recorded language choice could be used to manage resources, inform patient booking/clinic management and impact on all patient communications.

In 2015-16, over 600,000 text message appointment reminders were sent.

- If just 10% of patients chose to receive appointment reminders in one language, thousands of pounds would be saved by the health board.
- If all patients asked to have their reminders in one language, the cost would be reduced by 50%.

With the future scope to send text reminders for the majority of BCUHB's 1.1 million outpatient appointments and for nearly 80,000 planned admissions, the potential savings could be massive.

There were also over 43,000 agent telephone calls made in 2015-16. Distressed and concerned patients immediately feel more at ease when contacted in their first or preferred language. The project will allow the appropriate agent to call patients initially without needing a second phone call, improving the quality of the experience for the patient.

This Project Supports Prudent Healthcare

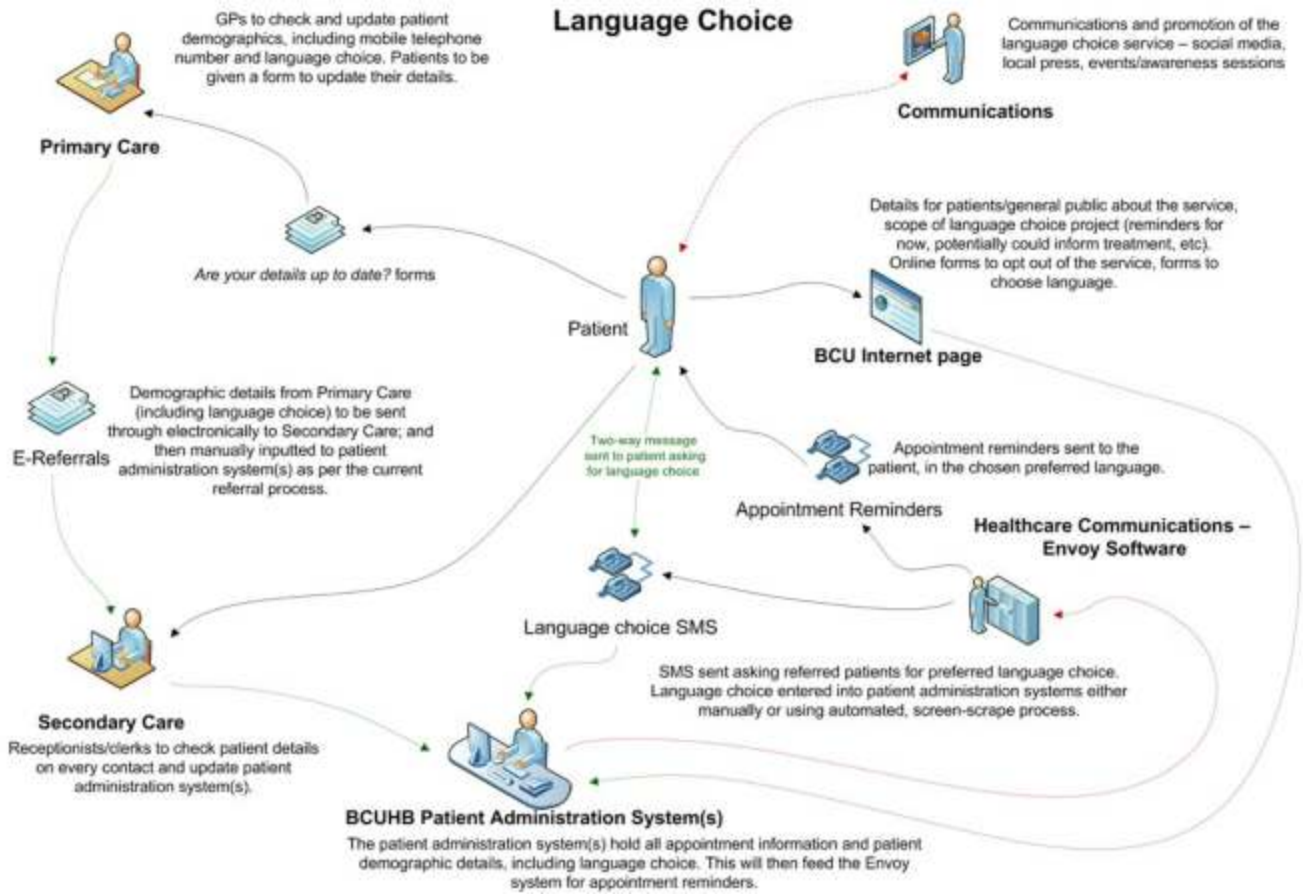
The project supports prudent healthcare by encouraging collaboration and co-production within secondary care, primary care, local and national informatics teams and with an industry partner. This is a prudent innovation project, making effective and best use of existing resources, offering both financial and quality benefits: the health board *can* do this and *should* do this.

References:

1. *2011 Census, Key Statistics for Unitary Authorities in Wales*

Enabling Patients to Receive Appointment Reminders in Their Preferred Language

Bevan Commission



Outcomes

- The language choice intelligence for appointment reminders has been developed by our industry partner Healthcare Communications within their *Envoy* patient communications software. This will be available for BCUHB in late January 2017. Furthermore, Healthcare Communications have created a language choice selection feature for online letters accessed via their patient portal (not currently used by BCUHB).
- Within secondary care, language choice can be recorded in the main patient administration systems used within the health board; work with the NHS Wales Informatics Service (NWIS) continues in order to allow the recording of '*Bilingual – Welsh/English*' as a conscious choice on the national systems. In the meantime, a work around solution will prevent delays in 'going-live'.
- Adapting the e-referrals process to bring though preferred language from primary care has been deemed too resource heavy, with too many external dependencies, at this point in time. This still remains an integral part of the long term vision (as recording information at the start of the patient journey will be key for long term success) but is out-of-scope for the immediate future.
- It is expected that language choice for appointment reminders will be implemented across the health board in early 2017.

Project Lead:
Richard Westwood, Betsi Cadwaladr University Health Board
richard.westwood@wales.nhs.uk

Industry Partner:
Healthcare Communications
www.healthcare-communications.com

Sponsor:
Richard Walker
Betsi Cadwaladr University Health Board
richard.walker@wales.nhs.uk

Bevan Commission

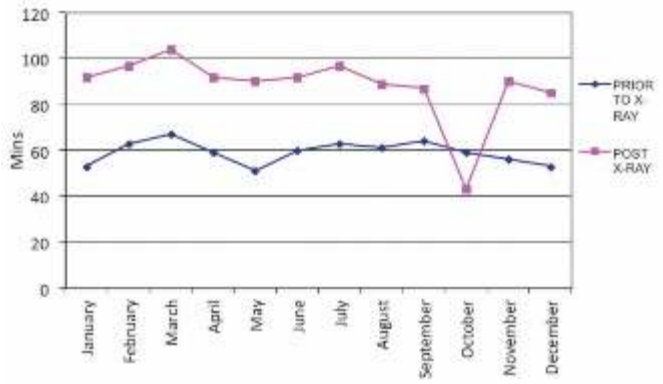
Radiographer-Led Discharge (RLD) for Accident and Emergency Patients

This project aims to reduce the waiting time for patients attending minor injuries and paediatrics within the accident and emergency department by allowing eligible patients to be discharged directly from emergency radiology if no bony injury is demonstrated on their x-rays.

Using highly qualified and skilled Reporting Radiographers, images can be reported immediately and the patient informed of the result from the individual responsible for the report. For patients who would only require treatment if their x-rays demonstrated a fracture, this would eliminate the requirement to return to Accident and Emergency (A&E) if no fracture is demonstrated.

Where bony injuries are present, the Emergency Unit (EU) clinician will receive the official report immediately from the Reporting Radiographer, meaning the risk of potential delayed diagnosis is eliminated. This project will be trialled in Cardiff and Vale UHB at the University Hospital of Wales site.

Only adults and paediatric patients with specific minor injuries will be eligible, with inclusion criteria being applied to ensure patients receive the same level of care and treatment as using traditional pathways.



- Median waiting times in minutes for patients attending EM/EP 2013

- Percentage of patients in Cardiff and Vale UHB EU achieving the 4hr treatment target

This Project Supports Prudent Healthcare

This project is underpinned by prudent healthcare principles; making the most effective use of skills and resources and reducing variation and duplication.

Reporting Radiographers have undertaken a PgDip in Image Interpretation, having been assessed to the same level of accuracy, sensitivity and specificity as a Consultant Radiologist in the interpretation of plain film x-rays of the skeleton.

Directly linking the skills of Reporting Radiographers with the patient ensures consistently high abnormality detection. This reduces the variation that can occur when EU staff who do not possess this further training are required to interpret x-rays.

Radiology reports are the 'Gold Standard', meaning every radiological report that describes a positive injury requires retrospective cross checking with the EU notes to ensure the abnormality was noted by EU staff at the time of the patient's visit.

This requires senior staff to be taken away from clinical duties, with the whole process frequently taking at least 4 hours daily. Due to clinical demands within Radiology, it can be 2-7 days before a radiological report is generated, and a further 2-4 days before EU clinicians are available to cross check these reports. It is therefore possible for a patient who attended up to 2 weeks previously to be recalled to EU due to an injury that was undiagnosed at their initial attendance.

Radiographer Led Discharge will reduce the number of these reports that require scrutiny; any positive reports for EM/EP patients will document that the referrer was advised of the report at the time of imaging thus making the requirement for retrospective cross checking obsolete. Where a fracture or abnormality is noted, the EU clinician is informed immediately, eliminating the risk of a delayed diagnosis and the potential legal concerns and costs that may follow.

The potential for EU clinicians to misdiagnose a normal variant as an acute injury is also eliminated; thus ensuring patients do not receive unnecessary treatment or are asked to needlessly return to the trauma clinic for further follow up. Applying, for example, a plaster cast to a patient

Radiographer-Led Discharge (RLD) for Accident and Emergency Patients

Bevan Commission

where none is required not only restricts the patient from undertaking normal daily activities, but can cause medical complications. This means this project also aligns with the prudent principle of only doing what is required, no more, no less, and doing no harm.

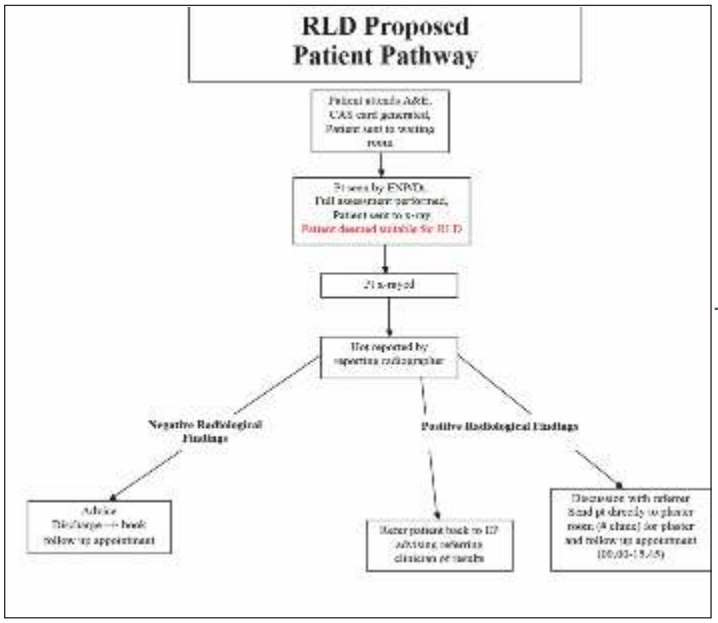
This project also allows for those with the greatest need to be cared for first. Patients who do not require treatment after x-ray will be given injury management advice and discharged immediately from Emergency Radiology, meaning less patients returning to A&E.

This allows for EU clinician's time to be spent with patients who do require treatment, reducing their waiting times and increasing the compliance with national waiting time targets. This allows all patients within the Minor Injuries and Emergency Paediatric departments to benefit from RLD, whether directly or indirectly.

The patient is central to this project, with multidisciplinary professionals all working together to minimise waiting times whilst maximising patient care and experience. With Reporting Radiographers working in close partnership with EU junior doctors, clinicians and nurse practitioners, knowledge and skills can be shared and strong working relationships cultivated. This increases staff morale and role satisfaction as well as providing future areas for role extension.

Anticipated Benefits

What we are improving	Measure	Current position	End state position	How will we measure it	Frequency
Patient waiting times	4hr target compliance Individual waiting times for patients referred for RLD	EU 4hr target compliance rates: Mar'16 – 74.41% Apr'16 – 85.01% May'16 – 85.53%	Zero 4hr target breeches for RLD patients Anticipated increase in overall EU 4hr compliance rate	BIS	Monthly
Recall rates	Number of patients recalled due to a positive radiological report Hours spent cross checking radiological report with treatment provided	May 2016 – 55 patients required action (letter to GP / patient recalled to EU / f/u appointment arranged) as the injury was not noted by EU clinicians at the time of patient attendance. 5 – 7.5hrs per day	50% reduction in recall rate for EM/EP patients. No recalls required for attendances during RLD hours of operation 25% reduction in time required to cross check radiology reports with EU notes	Interrogation of EU recall paper diary – no IT/BIS solution available	Monthly
New pathway for eligible EM/EP patients	Referrals for RLD	Service not currently active. Data indicates approx 53.5% eligible attendances 08:30 – 17:00	100% referrals to RLD for eligible patients during hours available	BIS and pilot study data	Monthly
Patient re-attendance rates (<28 days)	Number of individual patients who re-attend EU as an 'Unscheduled Returner'	Mar'26 – 257 Apr'16 – 219 May'16 –241	10% reduction for patients attending EM/EP	IT/BIS	Monthly
Patient satisfaction with service	Patient questionnaires for all referred to RLD		100% satisfaction with RLD service.	Patient Experience/ Concerns and Claims team	Monthly



The Team:

Lisa Jenkins
Jo Mower
Zoe Roberts
Alison Bax
Wayne Parsons

Commissioner Mentor:

Lt General Louis Lillywhite

Contact Details:

lisa.jenkins2@wales.nhs.uk

Bevan Commission

Seven-Day Rehabilitation and Workforce Integration at the Stroke Rehabilitation Centre

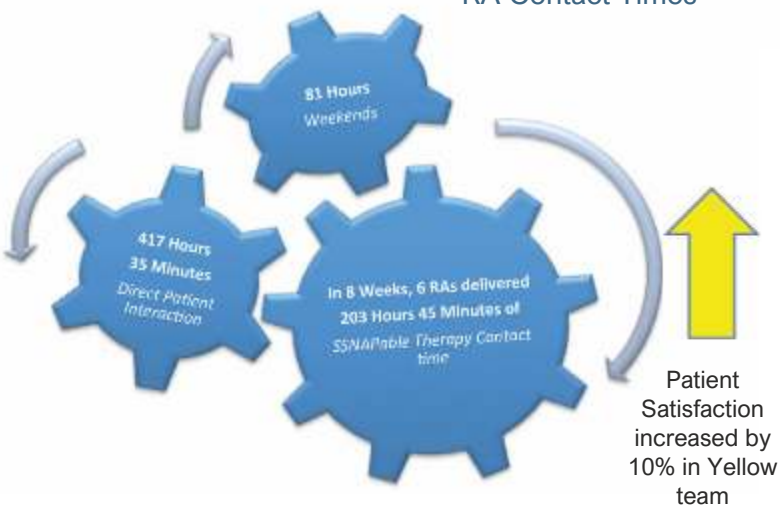
The need to deliver 7-day stroke rehabilitation through an integrated multidisciplinary workforce was identified in staff engagement workshops. This project aimed to provide patient-centred, focused rehabilitation and enhanced ward activity, over 7 days, by trialling the role of Rehab Assistant (RA).

Method

The RA role was trialled with a group of 15 patients (yellow team) over 8 weeks. RAs received training from each of the therapy disciplines to enhance their knowledge and skills in the delivery of rehabilitation programs. 6 RAs working a 7 day job plan provided rehab input and activities every day. 16 student volunteers were also recruited to assist in running activities.

Results

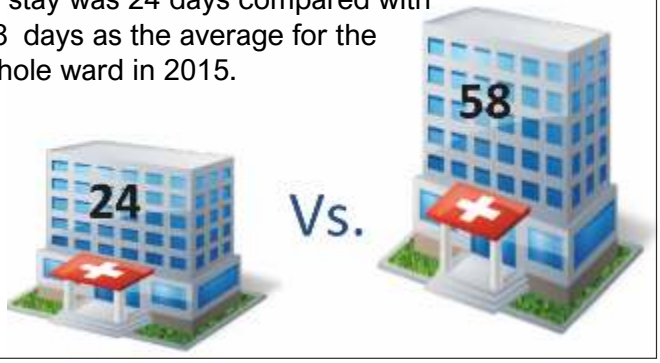
RA Contact Times



Patient Satisfaction increased by 10% in Yellow team

Length of stay in Days

Six patients spent their whole stay in the RA group. Their average length of stay was 24 days compared with 58 days as the average for the whole ward in 2015.



Service Improvement Outcomes

Introduction of the RA role has had a positive impact on the rehabilitation delivered at the centre.

Following this project, it is recommended that the RA role continues and is rolled out to the whole ward, with more detailed exploration of how the role fits into an integrated multidisciplinary workforce and implementation of an integrated tripartite leadership model.

The Team:

Susan Thomas
Ceri-Ann Hughes
Sian Todd
Lisa Jenkins
Niki Turner

Contact Details:

susan.thomas20@wales.nhs.uk

The CAMPCO Project

Bevan Commission

The cost to the NHS of caring for patients with chronic wounds are estimated at £2.3bn–£3.1bn per year (at 2005–2006 costs); around 3% of the total health expenditure. Patients with chronic wounds tend to have other chronic underlying conditions making it difficult for them to attend hospital clinics where specialised care can be provided. This calls for projects that can take specialised care to the community and nearer to patients' homes.

The Technology

'WoundCare Centre' has the potential to provide virtual web based multi-disciplinary assessment of chronic wounds from a remote secondary care site, whilst patients remain in their own community settings. The proposal is to utilise a new, low cost, consumer 3D technology ('WoundCare') to enable accurate measurement, consistent image capture and 3D modelling of wounds, allowing for the first time accurate trend analysis. 'WoundCare' is available on tablet devices and laptops with a web application and secure cloud based storage and integration capability.

Aims & Objectives

Our ultimate aim to take specialised wound management care (that is currently only accessible to patients in secondary care setting) nearer to the patients and thus reduce morbidity and mortality with affordable resource implications. To achieve this aim we will pilot the use of 'WoundCare' and 'WoundCare Centre' technologies in routine clinical practice.

This Project Supports Prudent Healthcare

This project fits hand in glove with the four principles of prudent health care. It involves meticulous and planned approach to co-production involving equal partners from academia (WWIC & Cardiff University), NHS partner (Cardiff and Vale UHB), Industry (GPCSL) and patient groups (Cynnwys Pobl).

Together we aim to provide excellent clinical care to those who need it most but find it hard to access it ie house-bound patients with chronic wounds that are difficult to heal without proper care and intervention. Existing resource in the form of wound care expertise and district nursing would be combined in a novel way with help from latest technology developed by our Welsh industry partner in achieving our goals. A more robust specialised assessment at the point-of-care within communities means that only those who benefit from secondary care interventions will be appointed to be seen in the hospital there by saving time, travel costs and other resources.

Finally, this approach to wound care will standardise clinical care when implemented on a wider basis thereby avoiding unwarranted variations in care provision. The proposal has a definitive potential to deliver evidence based expert wound management to the place where it is needed most, ie within the community setting.

Anticipated Benefits

- Pilot and establish the feasibility of implementing and continued use of 'WoundCare' technology in actual clinical practice.
- Improve the changes in general health outcome using EQ5D as a result of this new pilot wound care service at 6 months.
- Improve changes in Wound related quality of life using CWIS (Cardiff Wound Impact Schedule) as a result of this new pilot wound care service at 6 months(Price and Harding 2004).
- Achieve a high proportion of chronic wounds that have healed or significantly improved at the end of project.
- We anticipate reduction in estimated cost / resource used as compared to the same care provided in a secondary care setting.
- Ensure patient and care providing clinicians satisfaction with the pilot service.
- Obtain feed-back to ensure quality improvement for any future extensions of this project.

The Team:

Prof Keith Harding, Maureen Fallon, Michael Clark & Kirsty Mahoney
(Cardiff and Vale UHB, Wound Healing Research Unit)

Wendy Murray & Wendy Simmonds
(Penarth District Nursing Team)

Lisa Gibbons & Nicola Darroch
(Roath Clinic Team)

Sally Farnham & Kate Sinnot
(Riverside District Nursing Team)

Industry Partner:

Huw Morgan
General Practice Commissioning Solutions Limited (GPCSL), Swansea

Commissioner Mentor:

Prof Trevor Jones

Contact Details:

Dr G Naik
Clinical Research Fellow, Department of Wound Healing, Upper Ground Floor, University Hospital Wales
NaikG@cardiff.ac.uk / 07768 620 259

Bevan Commission

Development of an 'Ectodermal Dysplasia Plus' NGS Panel

Ectodermal dysplasia (ED) is not a single condition but a group of closely related genetic disorders affecting the development or function of the ectodermal structures – hair, teeth, nails, sweat glands, cranial-facial structure, parts of the eye and ear, digits, nerves and parts of some organs. Physical features vary greatly between affected individuals even for the same type of ED, and abnormalities range from mild to severe.

Cardiff is considered to be a centre of clinical excellence for the genetic aspects of ED. Currently, Laboratory Genetics provides a worldwide service for this disorder.

The current laboratory service is offered using an expensive, low-throughput sequencing technology that requires analysis of individual genes leading to high costs (£500-1,000 per gene).

The laboratory requires the validation of clinical exome sequencing to replace single gene for the ED service; the required technology is Illumina's TruSight One panel and HiSeq 2500 sequencing system. This will allow all clinically-relevant ED genes to be analysed at the same time, instead of individually as present.

Results

Peripheral blood extracted DNA samples were collected from 32 patients with ED and 32 patient control samples. This cohort contained 69 unique variants identified using Sanger sequencing which were targeted for next-generation sequencing using the Illumina TruSight One clinical exome. Assay sensitivity was 100.00% (94.79% to 100.00% 95CI). The panel can detect single-nucleotide and small insertion-deletion (<~40bp) variants.

	Prev Tested Tested	NGS Test Concorddant Results	NGS False Negatives
No of Patients Sampled	64		
Unique Variants	69	69	0
SNV	53	53	0
Indel (1bp to 36bp)	16	16	0
CNV	0	0	0

● Variants from clinical samples tested through this evaluation

The Team:

Sian Morgan FRCPath, Prof Angus Clarke, Dr Arveen Kamath, Lyndon Rosser, Matt Lyon, Christopher Anderson, Rachel Butler

This Project Supports Prudent Healthcare

POSITIVE PATIENT OUTCOMES INCREASED:

- Improve public health - Increased diagnostic yield.
- Improve patient care - deliver a genetic diagnosis that matter to families.
- The opportunity to recognise interactions between genetic variants at functionally-related loci

HEALTH SYSTEM EFFICIENCY INCREASED:

As a great exemplar of Prudent Healthcare, clinical exome analysis for patients with ED if undertaken early enough, could potentially:

- Avoid needless clinical appointments in specialist clinics. Avoid additional investigations.
- Patients often have to travel long distances to attend these clinics, sometimes out of Wales.
- Prevent unnecessary investigations or treatments. By achieving a molecular diagnosis in a timely fashion, family-based testing can allow those at-risk but who are shown NOT to carry the family's mutation to be removed from the additional recommended health monitoring and surveillance.
- Avoid significant delays in patients receiving a diagnosis.
- Provide timely genetic counselling for family members, in time for critical family planning decision-making.
- It is cheaper than the current service due to the clinical uncertainty around the most likely gene responsible.
- The precise gene and mutation involved will be therapeutically important in the future.

IMPACT OF VALIDATING THE CLINICAL EXOME SEQUENCING WORKFLOW FOR THE LABORATORY:

- Replace the current expensive Sanger sequencing for other rare genetic disease services.
- Repatriation of rare genetic disease services currently sent to external laboratories.
- Remain competitive in the field of genetic testing to deliver up to date patient services.
- Improve the ability to attract and retain staff.

Validation of Copy-number Detection from Next-generation Sequencing Data

Bevan Commission

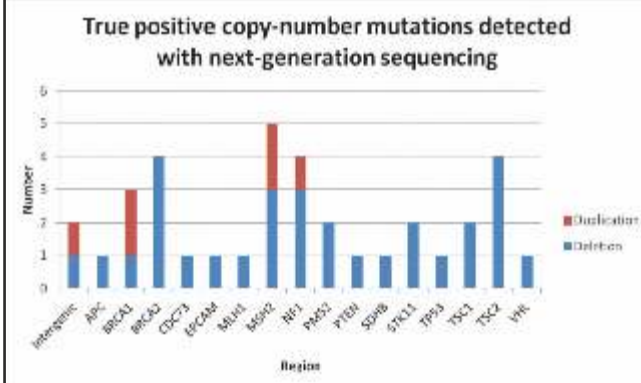
Gene deletions and duplications (collectively known as Copy-Number Variants (CNVs)) account for 5-10% of all pathogenic mutations but are difficult to detect and require specialist secondary testing. Recently, the All-Wales Medical Genetics Laboratory implemented next-generation sequencing (NGS) for detection of single base changes in several cancer predisposition genes.

This cutting edge technique provides higher resolution, improved accuracy and faster gene characterisation at a fraction of the cost of previous technologies. Reports in the scientific literature also suggest this data can be used for CNV analysis. The aim of the study was to compare CNV identification using NGS with the current gold standard test, with the anticipation of eliminating the need for secondary testing.

Results

38 known CNVs across 17 genes (below) identified using current NHS gold standard testing were interrogated using NGS. 36 true-positive mutations were correctly recalled (94.7%, 82.3%-99.4% 95CI).

Two false-negative mutations were subsequently identified using alternative analysis approaches.



- Copy-number changes detected using next-generation sequencing identified through routine testing using current NHS gold standard.

This Project Supports Prudent Healthcare

This new analysis method has potential to increase mutation detection compared with current NHS testing. In principle the approach can be applied to any genetic region or disease.

During this study cancer predisposition genes were selected for characterisation. Identifying this type of mutation will affect patient management in order to increase surveillance and early detection of cancerous legions improving health outcomes.

In doing so, patients and their families' with the greatest healthcare needs are identified.

Additionally, the new method improves resource efficiency by eliminating the need for secondary testing, saving staff time, consumables and equipment maintenance. The patient experience is also improved by minimising the time taken to report results.

These preliminary results demonstrate high sensitivity for CNV detection using NGS data. Further analysis will be undertaken to fully assess the characteristics of this method before the current gold-standard can be displaced.

The Team:

Matthew Lyon
Jade Heath
Sian Morgan
Sheila Palmer-Smith
Ruth Best
Peter Davies
Christopher Anderson
Rachel Butler

All Wales Genetics Laboratory
Institute of Medical Genetics
University Hospital of Wales

Contact Details:

Matthew Lyon

matt.lyon@wales.nhs.uk

Bevan Commission

Tumour Profiling using Next Generation Sequencing (NGS)

The project aims to use our existing staff knowledge and experience of Next Generation Sequencing (NGS) to validate the Qiagen GeneRead Tumour Actionable Mutations panel for the analysis of Formalin-Fixed Paraffin-Embedded solid tumour samples. This tumour profiling will direct treatment options for patients based on the presence/absence of specific genetic mutations within the tumour. Such genetic analysis is currently performed using a less sensitive technology, thus this technology transfer ensures that an increased number of patients will potentially gain access to stratified medicine.

This Project Supports Prudent Healthcare

1. Achieve health and well-being:

- The primary outcome of this health technology is to improve patient health and well-being.
- The use of NGS is beneficial to patient health as it increases the sensitivity of mutation detection compared to the currently utilised technology. This means that low level mutations in tumour samples can be identified, providing more patients the opportunity to benefit from available stratified medicine treatments.

2. Effective use of resources:

- This health technology identifies cancer patients that are most likely to benefit from the administration of specific anti-cancer drugs, so these drugs can be targeted to those patients with the greatest need.
- The use of NGS has distinctive benefits over the current technology in terms of effectively utilising skills and resources. The same NGS pipeline will be used for the analysis of all lung and colorectal solid tumour samples received by the laboratory thereby removing the need to perform multiple different analyses for each tumour sample. This streamlined workflow will allow significant savings to be realised in terms of staff time.

3. Do no harm:

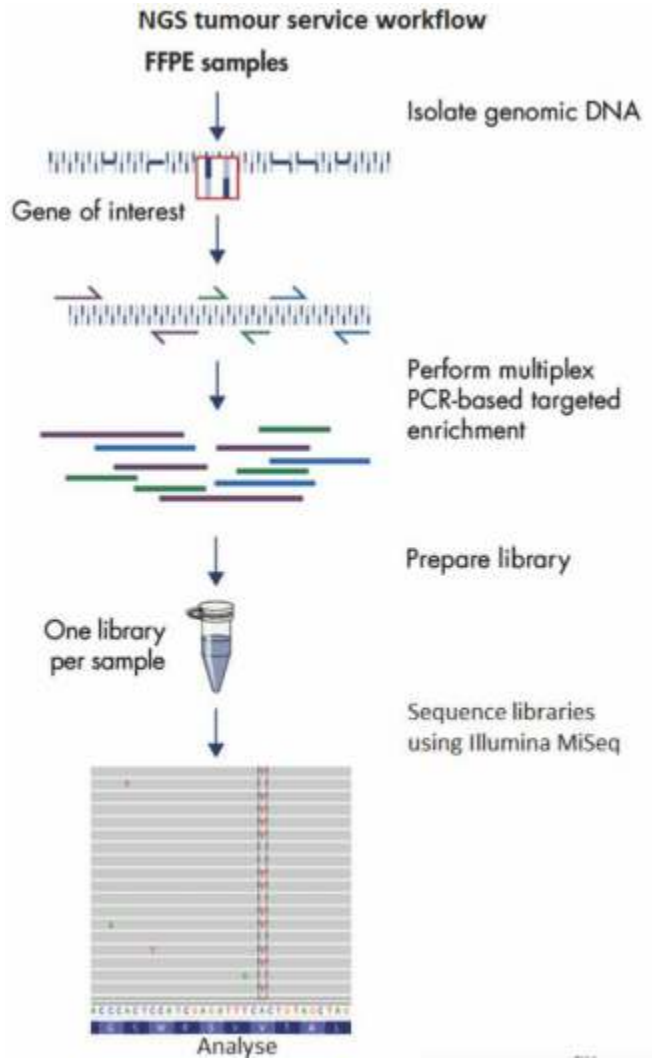
- As already mentioned, the aim of the genetic analysis of tumour samples within the laboratory is to identify patients most likely to benefit from anti-cancer drugs. Conversely, the genetic analysis performed allows the identification of patients for whom treatment should be avoided as, given the patient's tumour genotype, such drugs are unlikely to hold any benefit and could in fact simply cause adverse side-effects.
- The GeneRead NGS panel requires significantly less DNA compared to the currently utilised pyrosequencing technology therefore ensuring that precious tumour sample DNA is preserved, as well as allowing more patients the opportunity to have their tumours genotyped and potentially benefit from available stratified medicine treatments.

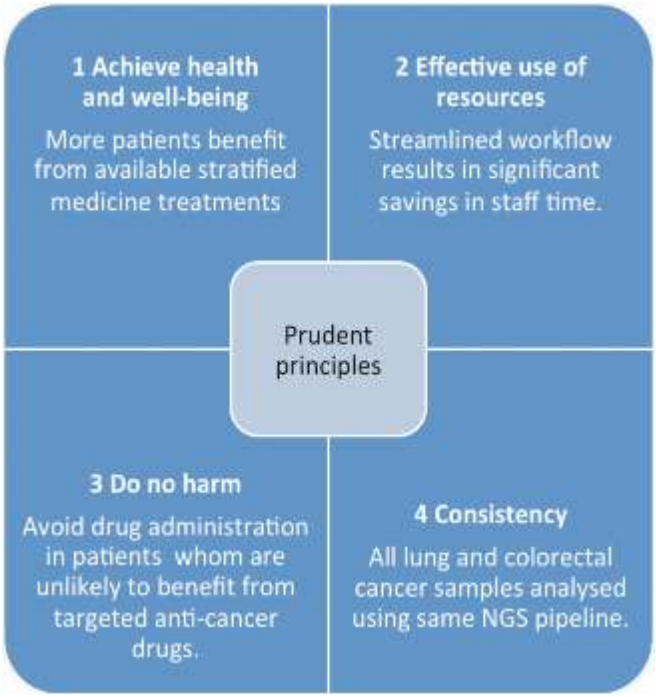
4. Consistency:

- All lung and colorectal solid tumour samples will be analysed using the same NGS technology and utilising the same analysis pipeline; therefore ensuring consistency within the solid tumour service and uniform analysis for cancer patients throughout Wales.

Tumour Profiling using Next Generation Sequencing (NGS)

Bevan Commission





Anticipated Outcomes

- One of the major benefits of NGS is the high throughput nature of the technology, which allows large numbers of samples and/or genes to be investigated simultaneously in an efficient manner, unlike the current pyrosequencing technology based around single gene assays for a small number of patients. The increased capacity of NGS is well-suited to cope with the large volume of samples within the solid tumour area of the laboratory. As well as this benefit, NGS uses less DNA and is more sensitive than the currently utilised technique; therefore this technology transfer ensures that an increased number of patients will potentially gain access to stratified medicine.
- This service will remove the need to perform repeat analyses and as such will result in a consistency in the reporting times of samples. Currently ~20% of patients fail for at least one of the pyrosequencing assays performed as part of the testing strategy and these need to be repeated at a cost to the laboratory. Therefore the technology transfer will be time-saving to staff and will result in a faster result to many patients.

The Team:

Helen Roberts (Bevan Exemplar)
Michelle Wood (Clinical Scientist)
Adrianne Davies (Genetic Technologist)
Matt Lyon (Bioinformatician)

Industry Partner:

Antony Harris (Qiagen)

Commissioner Mentor:

Trevor M Jones

Contact Details:

Helen Roberts
Senior Clinical Scientist and
Head of Solid Tumour Service

All Wales Laboratory Genetics Service
Institute of Medical Genetics
UHW, Heath Park, Cardiff

Helen.roberts20@wales.nhs.uk
029 2074 2641

Bevan Commission

Automation of Cell Free DNA from Blood

The project is to validate an automated method of extraction of cell free DNA from blood, to introduce into service for the Institute of Medical Genetics. The project is being carried out in collaboration with Qiagen, transferring from the current manual method using the QIAVac, to the automated system using the QIAsymphony

Project Plan

February: Procure Consumables from Qiagen

March – September: Sample Collection: Samples would be collected from 2 areas:

a. **Prenatal:** The Institute of Medical Genetics was awarded £92,000 for validation of Non-Invasive Prenatal Testing. From March, 100 blood samples were to be collected from Antenatal Screening Wales.

b. **Cancer:** The Institute of Medical Genetics are collaborating with Cardiff University on two research projects for the application of cell free DNA in lung patients and colorectal patients. The collection of 20-40 samples from these patients will begin in March

June-October: Training and extraction of samples.

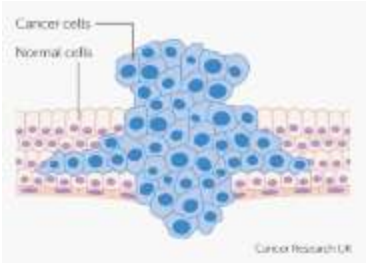
September-October: Completion of validation paperwork, SOPs

October: Introduce service into lab

Starting Conditions

Recent developments in technology has shown that cell free DNA is a useful resource with vast potential for cancer patients (circulating tumour DNA) and in prenatal testing (free fetal DNA). As a laboratory we are expanding our services to offer genetic analysis to these categories of patients.

Currently the extraction team at the All Wales Medical Genetics Service are undertaking manual extraction of these samples in a time consuming, difficult process that is open to error. In order to meet anticipated demands for this growing technology an automated extraction method is required. The implementation of automated cell free DNA extraction from blood would mean that more samples can be processed in a shorter time period, with less room for error.



Analysis & Approach

A legal issue regarding the tendering process meant that there were delays to the initiation of the NIPT validation project. This in turn impacted on this automation project, by the fact that there were no samples to extract.

This was added to by the lack of samples collected by the cancer teams, due to a mixture of consent, eligible patients and volume of sample received.

To date approximately 15 samples have been received that may be used for the automated extraction. This will increase in the next month to allow training to begin.

Automation of Cell Free DNA from Blood

Bevan Commission

Goals & Targets

IMPROVED HEALTHCARE OUTCOMES:

Laboratory able to provide automated cell free DNA extraction service throughout Wales.

IMPROVED PATIENT EXPERIENCE / SAFETY OUTCOME:

More patients will be able to reliably access non-invasive services for either personalised medicine (avoiding the need for tumour biopsy) or pre-natal diagnosis (avoiding the need for amniocentesis). This will allow our laboratory to expand our downstream testing repertoire, resulting in further benefits from cancer patients and allowing our Non-Invasive Prenatal Testing service to thrive.

We can evaluate the output DNA using our standard quantification methods (Nanodrop and Qubit), and through downstream processing. This project would benefit two groups of patients; cancer patients with poor health who cannot undergo surgery can be genetically tested to elucidate effective treatments.

It also reduces risk of miscarriage in pregnancies, by avoiding the commonly used amniocentesis test.

RESOURCE EFFICIENCY:

Reduction in hands-on time.

ACCURACY:

We expect the accuracy of the extraction to be improved, processing a large number of samples would be impossible in the same time period, and with the same level of consistency.

Future State

At the current time, the project has not moved forward. Samples are currently being collected, to initiate the project. This has resulted in a huge delay to the project, but the team is confident that an automated service is still possible and achievable. The project is vitally important to being able to offer patients the best healthcare, while ensuring the laboratory is the most efficient it can be!

This Project Supports Prudent Healthcare

Principle 1: This validation will ultimately providing a better Health Service for antenatal and oncology patients, allowing the Laboratory to provide a robust non-invasive genetic testing service, as a cost effective and low-risk alternative to surgery, and therefore improving the patient experience.

Principle 2: Automating our extraction service will allow the Laboratory to increase the number of extractions we can currently perform from 24 in 6 hours to 96 in 6 hours. The amount of hands on time will be reduced significantly.

Principle 3: If the validation is successful, there will be ultimately a reduction in the number of invasive pre-natal testing and also the number of biopsies taken, as we are able to provide a non-invasive genetic testing service.

Principle 4: The Qiasymphony eliminates manual pipetting errors, ensures standardisation and avoids contamination with the use of tip guards and built-in UV lamps. The system has a barcode reading system to allow full sample tracking throughout the process. Publications from Qiagen have shown the automated system compared to manual produces a higher concentration better quality DNA, and this particular machine is being used in other Laboratories, Great Ormond Street Hospital and Dundee Genetic Laboratories for cell free DNA extraction.

The Team:

Hazel Ingram
Sian Morgan
Joshua Jones
Antony Harris

Industry Partners:

Antenatal Screening Wales
Qiagen Ltd

Contact Details:

Hazel Ingram
Hazel.ingram@wales.nhs.uk

Institute of Medical Genetics
University Hospital of Wales, Cardiff, CF14 4XW

Bevan Commission

Development of Ga68 DOTA PET Imaging for Neuroendocrine Tumours in Wales

Neuroendocrine tumours are rare tumours derived from cells at the interface between the nervous and endocrine systems. There are many histological subtypes but many tumours secrete biologically active amines and most express receptors for peptide hormones (Somatostatin receptors). Treatment may include surgery, medical therapy with somatostatin analogues or targeted radiotherapy using agents which specifically bind to the somatostatin receptors (This is called Peptide Receptor Radionuclide Therapy (PRRT)).

Selection of appropriate therapy depends crucially on understanding the extent of the disease and the degree to which the tumour expresses somatostatin receptors. Previously CT and MRI scans have been used to image the anatomical spread and size of any tumours but functional imaging has been shown to increase the diagnostic accuracy and to give molecular characterisation regarding the nature and behaviour of the tumours.

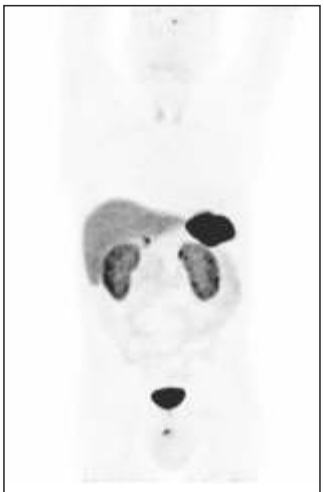
Functional imaging can be performed with Octreotide scans but the most accurate form of imaging is a positron emission scan (PET scan) using Gallium DOTA derivates. Currently this is not available in Wales and patients have to travel to London for the scans. The project is to support the development of Gallium PET imaging at the PETIC centre in Cardiff. The project involves developing all of the steps for the safe and efficient production of the radiopharmaceutical and training to provide clinical expertise for the provision of the service.

Specifically the exemplar budget has been used for staff training in production of the radiopharmaceutical and in the medical supervision and reporting of the scans. The Bevan Commission has supported training costs to Coimbra University in Portugal and the Memorial Sloane Kettering Cancer Centre in New York.

This Project Supports Prudent Healthcare

1. Accurate imaging and functional assessment allows patients to receive the right treatment every time, for example in selecting patients for surgery this allows the identification of patients that would truly benefit from a major surgical procedure.
2. The appropriate choice of treatment allows for the best use of resources and ensures resources are used most efficiently. Patients only receive treatments that will genuinely benefit them.
3. The development of a local service in Wales allows greater access to all patients and access to patients who are too unwell to make the long journey to London.
4. The widespread availability of this imaging service allows treating doctors to give only the treatments that are most effective, to avoid treatments that will not be of benefit and to reduce harm associated with unhelpful or unnecessary treatments.

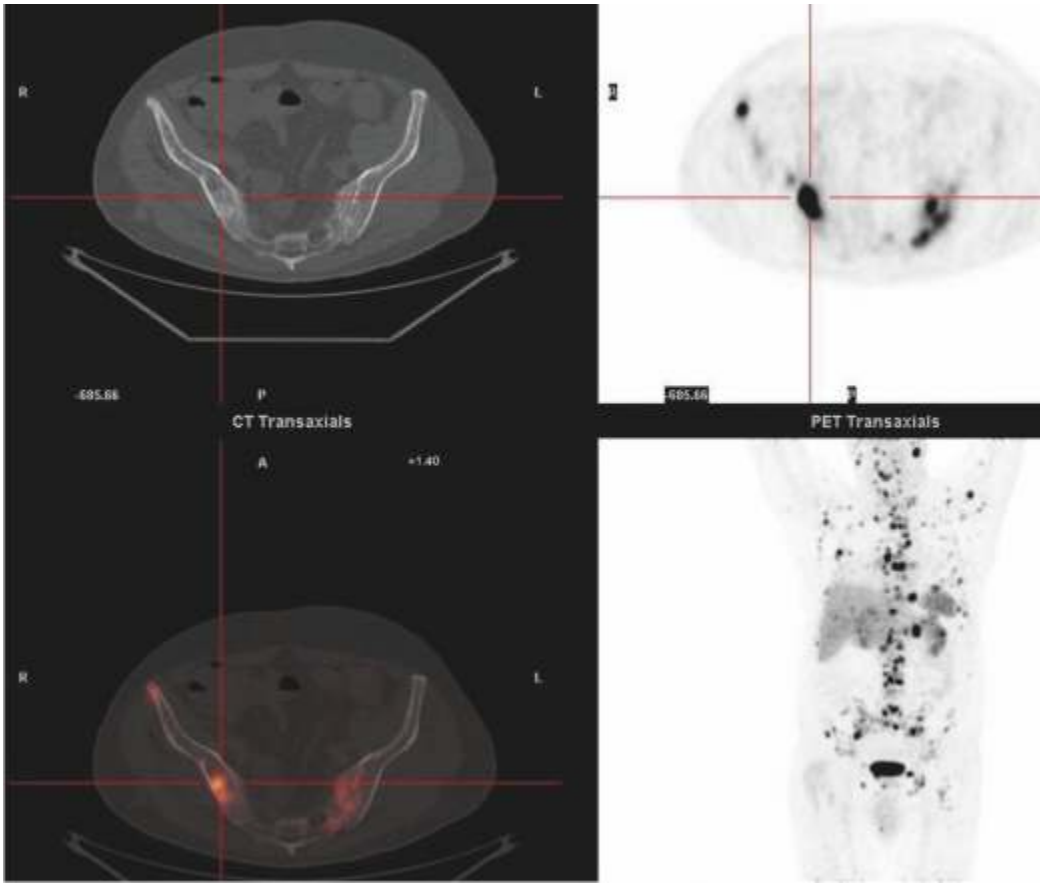
- Ga-68 DOTA-TATE PET scan showing extensive metastatic disease from neuroendocrine tumour.



- Ga-68 DOTA-TATE PET scan showing normal distribution of tracer in pituitary gland, thyroid gland, liver, spleen, kidneys, adrenal glands and urinary bladder.

Development of Ga68 DOTA PET Imaging for Neuroendocrine Tumours in Wales

Bevan Commission



Anticipated Benefits

The development of a local service allows this state of the art imaging to be available to many patients who would otherwise be unable to access it by travelling long distances to other centres in the UK. Gallium DOTA-PET has a proven increased sensitivity compared to standard Octreotide scans currently available in many hospitals in Wales. The development of this service allows patients in Wales with neuroendocine tumours to access the best and most accurate imaging available.

Ga-68 DOTA imaging will give the best information at staging and the most accurate restaging information following therapy to allow doctors to best understand whether or not therapeutic interventions are successful. The developments here are supported by the Welsh Health Specialist Services Committee (WHSCC) and by patient representative groups for neuroendocrine tumours.

The availability of this imaging will allow Wales to remain amongst the forefront of developing imaging technology and to produce cutting edge research in the field of neuroendocrine tumours.

The Team:

Dr Patrick Fielding
Dr Christopher Marshall
Dr John Rees
Dr Adam Dabkowski

Industry Partner:

IBA Radiopharma Solutions

Commissioner Mentor:

Lt Gen Louis Lillywhite MBE

Contact Details:

Dr Patrick Fielding

Consultant Radiologist
PETIC, Dept Radiology,
University Hospital of Wales,

CARDIFF CF14 4XW

Patrick.fielding@wales.nhs.uk

Bevan Commission

3M SpotOn Core Temperature Monitoring System

Project Scope

Inadvertent peri-operative hypothermia is a constant problem in surgery. Virtually all patients experience this to some extent following the administration of an anaesthetic. So much so that NICE published guidance in April 2008 (CG65) on avoidance of this situation.

Core elements of this advice are widely adopted throughout Wales, but patients often still finish surgery hypothermic. One particular element which is poorly followed is in the measurement and recording of patient temperature regularly over the course of a surgical procedure. The reason for this is the lack of a reliable non-invasive patient temperature measure for use in the clinical environment.

Starting Conditions

Following years of clinical anaesthesia practice, it was evident that the area requiring study was in the peri-operative temperature management of trauma patients. It was perceived that some of our elderly patients with medical co-morbidities are those most at risk of developing peri-operative hypothermia. Although presumed to be currently without problem, no previously published patient temperature audit had been undertaken with such a population, largely because of the lack of an appropriate thermometer.

3M launched the SpotOn Temperature monitoring system a few years ago. This has been validated against significantly more invasive methods and has been shown to be in agreement with them. The major advantage of the system is that it is non-invasive and records a core patient temperature through innovative zero-heat flux technology. Although commercially available, it has not been adopted widely within the NHS.

Analysis & Approach

The intention of the study was to evaluate the ease of use of the 3M SpotOn system for patient temperature monitoring and to study current temperature management practice. The intention was to complete a full audit cycle with implementation of remedial remedies.

The SpotOn temperature monitor was applied to a mixed trauma population and recordings of core body temperature made every 30 minutes, according to NICE recommendation. Temperature monitoring was continued in the recovery room using the same device.

Comment was made by the nursing staff on the reason for any significantly long recovery stay duration.

Goals & Targets

The aim of the project was to evaluate the SpotOn technology for ease of use but largely to identify if and where we had a problem in the peri-operative temperature management of trauma patients. The aim was to recruit 200 patients into the study to facilitate sub-group analysis of specific target patient groups.

Future State

The project documented patient temperature data on 156 patients who underwent trauma surgery at the University Hospital of Wales. The results of our project clearly demonstrate areas where current peri-operative practice deviates from NICE recommendation. Although only 4% of our patients start hypothermic, over 20% of all patients arrive in the recovery room clinically cold (<36 ºC). Invariably, active patient warming is initiated intra-operatively, but for various reasons this may be ineffective or inadequate. Warming of intravenous fluids administered happened in only 3 of the patients studied, whereas NICE advises all patients should receive warmed hydration.

Focusing on a sub-group of patients receiving surgical treatment for a hip fracture, a third of them were clinically hypothermic upon arrival to the recovery room. The hip fracture patients also amounted to over 70% of the patients who stayed

3M SpotOn Core Temperature Monitoring System

Bevan Commission

a significantly long time in the recovery room due to temperature issues.

Ultimate patient outcome correlation with peri-operative hypothermia is impossible as eventual patient progress is multi-factorial and it is extremely difficult to tease out one element.

Interventions & Actions

Although efforts must be made to comply with NICE guidance to reduce the overall 20% post-operative hypothermia rate, particular attention must be applied to addressing the unacceptably high peri-operative hypothermia rate in patients who undergo surgical fixation of femoral fractures. It is in this latter cohort where invariably a regional anaesthetic is utilised and in whom invasive temperature measurement is impossible.

The intention of the project was to complete a full audit cycle following implementation of corrective measures but lack of initial data and the timescale concerned restricted completion.

The plan is to link with trauma nursing staff to highlight the importance of achieving patient normothermia pre-operatively in high-risk populations. There is certainly a place for the targeted peri-operative implementation of the SpotOn core temperature measurement system in the trauma management of femoral fracture patients. This supports the principles of Prudent practice by focusing on specific patients in who benefit can result from the intervention.

Outcomes

We have demonstrated that the use of the 3M SpotOn technology can easily and accurately monitor the core temperature of a patient throughout the course of a surgical procedure. The SpotOn Temperature Monitoring system is easy to use, well tolerated by patients, provides dynamic non-invasive temperature measurement and can be used to accurately direct peri-operative patient thermal care.

NICE published guidance over 7 years ago on optimal patient management to minimise potential peri-operative hypothermia. This audit project has identified significant variance from this guidance and deficiencies in the care afforded to our patients. Most notably, the process has highlighted particular areas of concern when considering patients with hip fracture, and these require future multi-disciplinary attention. Adoption of specific targeted use of the SpotOn technology can help direct healthcare personnel to deliver optimal evidence-based care for vulnerable high-risk patients and to direct patient improvement interventions.

Fit with Prudent Healthcare

The SpotOn technology is clearly innovative and acts to provide the clinician with accurate patient data to act upon. This project has demonstrated the effectiveness of the technology and illustrated both where clinicians can improve globally and more specifically apply this technology in a targeted high-risk patient group. In this trauma-related project, a sub-group has been identified where there is perceived patient benefit through adoption of this technology.

The Team:

Dr Richard Hughes
Dr Shahood Ali

Industry Partners:

Kevin Robinson
3M Ltd

Contact Details:

Dr Richard Hughes
Richard.hughes3@wales.nhs.uk

Bevan Commission

Complexity Thinking in Healthcare Associated infections (HCAI)

Hywel Dda University Health Board (HDUHB) acknowledged that infection in our elderly population arriving from primary to secondary care is a major concern with exponential numbers of *Escherichia coli (E. coli)* bacteraemia by the end of 2013.

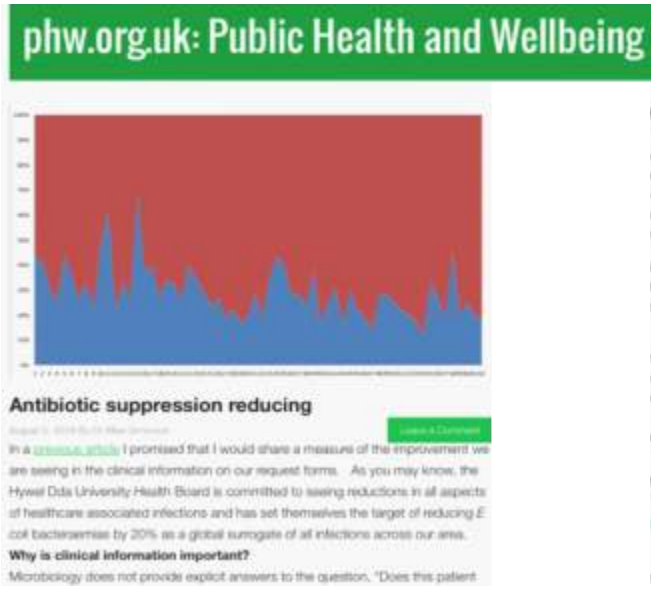
They agreed to take a complexity approach to solving and set a target of reducing *E. coli* bacteraemia as a common patient focused endpoint.

Initiatives to be tested by two competing rules:

- First do no harm; and
- Second, seek and take the positive action.

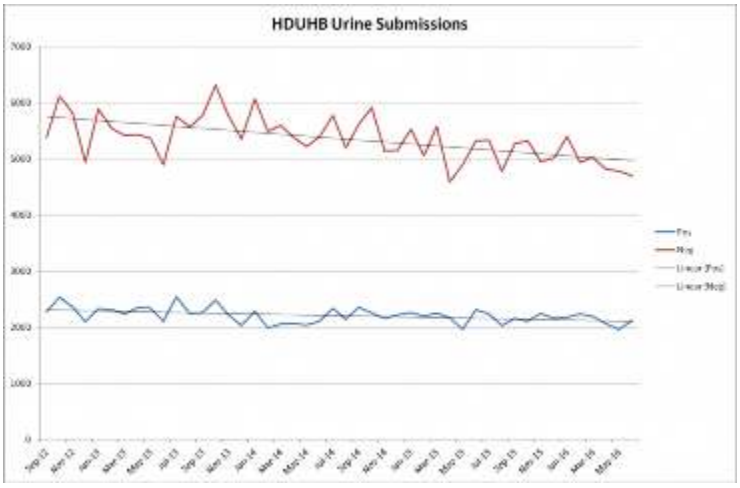
Quality Interventions Introduced

- Enhanced laboratory reporting: educating to "nudge" requesting clinicians towards evidence based infection management.
- End user engagement in education sessions for GPs, secondary care, nursing and residential homes, frailty, diabetic, incontinence and other specialist services.
- Social media engagement as well as more direct targeted work with local population.

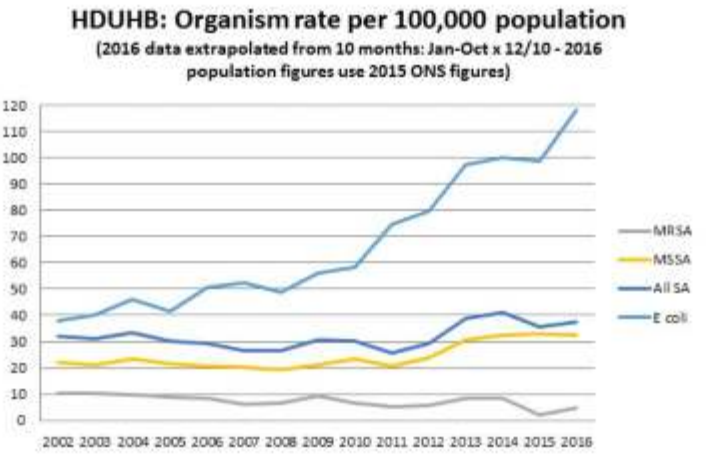


Outputs Observed

Fall in urine submissions (approx 12,000 per year) across HDUHB but primary loss is in negative samples: quality improvement through education of service users in when it is appropriate to send urine samples – positive samples continue at similar number per month:



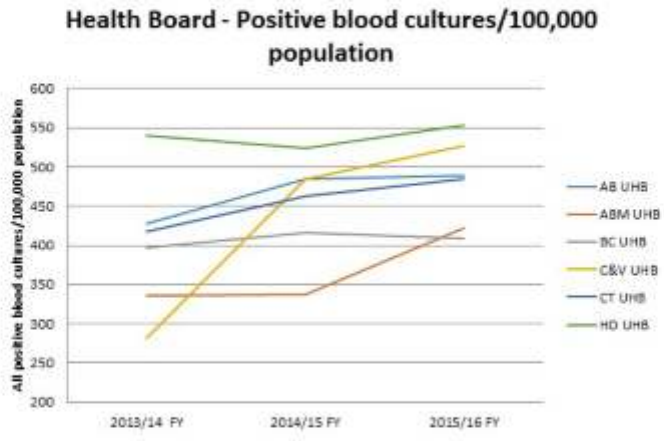
E. coli bacteraemia rate plateau by end of 2015 and was maintained to end April 2016 but more recently has seen a further increase:



Complexity Thinking in Healthcare Associated infections (HCAI)

Bevan Commission

However, review of positive blood cultures across Wales shows a possible plateau now developing in the Hywel Dda population while other health board areas may be approaching the levels formerly only seen in Hywel Dda.



Data source: Welsh Healthcare Associated Infection Team, Public Health Wales

This Project Supports Prudent Healthcare

- Goal one is, "First do no harm," which is fundamental to Prudent principles.
- We have engaged in public with focus groups, readers panel, monthly public facing publication, blogging (http://phw.org.uk) and Twitter.
- We are seeking to educate the use of nationally agreed approaches through education of teams in primary and secondary to ensure a consistent, quality based approach to infection management.

Anticipated Benefits

- Increased understanding of the infection management needs of patients in primary care.
- An increasingly knowledgeable patient population.
- Reduction in all aspects of infection through better management and reduction in *E. coli* bacteraemia as a surrogate marker of all infection but also seeing other infections decline. However, other markers are being reviewed as discussed and may prove a better marker of "all infections"
- Empowerment of all staff in the understanding and management of all aspects of infection.
- Reduction in waste of NHS resources through more appropriate sampling practices and reduction in antimicrobial prescribing

The Team:

Dr Mike Simmons
Mrs Sharon Daniel

Commissioner Mentor:

John Wyn Owen

Contact Details:

Dr Mike Simmons
Public Health Wales Microbiology, Hywel Dda UHB
mike.simmons@wales.nhs.uk

Mrs Sharon Daniel
Infection Prevention and Control Service, Hywel Dda UHB
sharon.daniel5@wales.nhs.uk

Bevan Commission

Integrated Health & Social Care Support Worker Project

This project seeks to transfer healthcare related tasks to social care workers in care homes for older people which historically has been acknowledged to challenge organisational governance and legislation.

The project recognises that its success will be dependent on incremental delivery of small changes to traditional care management in order to ensure prudent health principles such as 'do no harm' and 'only do what only you can do' are adhered to.

The project seeks to deliver quality assured, competency based training to the Health & Social Care workforce in Carmarthenshire. The project has utilised Hywel Dda's EAGLE (Excellence, Assurance and Governance in a Learning Environment) to provide clinical governance assurance, ensuring the project was developed in a safe and effective way.

The EAGLE Framework provides assurance to all staff, clients/patients and their families that the care is delivered by competent and confident staff. Agored Cymru have accredited the training which has resulted in improved staff morale and team working and critically, client focussed care and improved outcomes.

Project Scope:

The scope of the project has not been limited. The Project Board will consider any proposals that meet the overarching aim of this project. Each agreed proposal will be developed into a work stream with appropriate individuals allocated to develop and implement. Each Work stream will have its own Risk Log and Progress Plan.

The first phase of the project was to develop transfer of skills around Non-complex wound care management. This was successfully delivered in one of the residential care homes in Llanelli and evaluated.

This project demonstrated a 50% reduction in community nursing interventions in relation to non-complex wound care at that residential care home.

The project now has two operational workstreams:

- Rolling out Non-complex wound care management to residential care homes across Carmarthenshire.
- Home Enteral Tube Feeding (HETF) via Gastrostomy at three disability daycare and respite settings within Carmarthenshire.

Further workstreams have been agreed for 2016/17 in addition to the two above. These are Continence Care & Care to Move training across our Health & Social Care workforce in residential care.

This Project Supports Prudent Healthcare

In terms of Prudent Healthcare, the project embodies all the prudent health care principles by its very nature.

- **Achieve health and wellbeing through co-production:** Professionals actively participated in the development of workbooks for the training and family and carers were also involved in terms of capturing their wishes in co-producing the individualised training package.
- **Care for those with greatest need first with effective use of resources:** A rapid evaluation of the initial Non-complex wound care pilot at Llys y Bryn Care Home demonstrated a 50% reduction in District Nursing interventions within the home. This would also mean a cost saving but better patient outcomes at the same time.
- **Do only what is needed, no more, no less and do no harm:** In terms of Non-complex wound care management, being done in a safe environment and at a time that suits the resident as opposed to when the District Nurse was calling
- **Reduce inappropriate variation through evidence based practice:** Competency based care plans are followed and through carers having had training, the carer is able to make a decision as to whether a wound is deteriorating.

Integrated Health & Social Care Support Worker Project

Bevan Commission

Anticipated Benefits

Patient Safety:
Patients are identified by a Health clinician as appropriate. Delegated tasks that are involved within the project continue to be the responsibility of the clinician in line with the 3rd party delegation guidance from the Welsh Health Circular via WG.

Patient Experience:
The training was well received by everyone and has led to improved quality of life for the residents in the home which has led to an overall much better experience for the individuals within the Care Home.

Care is incorporated into the residents personal care which avoids unnecessary dressing and undressing.

Other benefits include improved record keeping, more confidence among staff and better working relationships between Llys y Bryn staff with District Nurses.

Patient Outcomes:

- There are no new non complex wounds at the Care Home (September) – improved clinical outcomes.
- Care is planned around the client and not on the availability of professional staff – patient focused care.

Staff Morale:

- Appetite to undertake further training as its developed.
- Senior Carers feel empowered and supported in the development of their skills and knowledge – improved staff morale.
- Senior Carers are not having to constantly contact Community Nurses releasing their capacity to plan care.
- Good team working between Health and Social Care staff.

Efficiency:

- Reduction in District Nursing interventions.
- Reduction in GP visits.
- Reduction of hospital admission.

Regulatory/Accuracy:

- Governance for the project is back to the Integrated H&SC Support Worker Project Board that is accountable to the Carmarthenshire Integrated Services Board in terms of the training.
- The training was well received by everyone and has led to improved quality of life for the residents and ultimately, a better experience for all individuals involved.
- The project utilises the Welsh Health Circular - 3rd Party delegation guidance as a framework for governance for this project.

Motivation for the project - Why this project?

- It offers an opportunity to start the process of Integration in a clinical setting.
- Our commitment as organisations and clinical / professional staff to supporting the Integration Agenda.
- It makes sense.

The Team:

Rhian Dawson
(Head of Integrated Services – Project Lead & Bevan Exemplar)

Linda Williams
(County Director & Commissioner for Carmarthenshire)

Victoria Prendiville
(Service Lead Nutrition Support (Dietetics) & Home Enteral Tube Feeding (HETF) Workstream Lead)

Sian Fox
(Clinical Lead Nurse for Llanelli & Non-Complex Wound Care Workstream Lead)

Sarah Cameron
(Community & Primary Care Nurse Manager)

Gail Jones
(Senior Manager – Provider Services)

Teresa Williams
(Provider Services Manager)

Linda Morgan
(Lead Clinical Nurse Specialist Nutrition)

Terri Larkin
(Carmarthenshire County Council Learning & Development)

Trish Mathias-Lloyd
(Hywel Dda University Health Board Learning & Development)

Organisations Involved:

Carmarthenshire County Council
Hywel Dda University Health Board
Carmarthenshire Carers Forum

Commissioner Mentor:

Chris Martin

Contact Details:

Rhian Dawson
Head of Integrated Services for Older Adults,
Carmarthenshire County Council & Hywel Dda UHB

Bevan Commission

Advancing Healthcare: Patient Pathway Transformation (Carpal Tunnel)

A Therapy-led Carpal Tunnel Clinic in a primary care setting, supporting the government's modernisation agenda for the shifting of boundaries between different professional groups to meet changes in healthcare delivery. Providing a patient focused service, reducing waiting times, and improving cost effectiveness.

The unique setting of the Powys LHB, as well as the freedom to develop innovative service provision to a rural community resulted in a service that meets the strategy set by the Welsh Government (*Setting the Direction*).

In response to growing concerns about the size of orthopaedic waiting lists, and waiting times, Welsh Government announced a multi service strategy to deliver an innovative Orthopaedic Service. (Delivering Orthopaedics through Muscularskeletal (MSK) Transformation) the Clinic aimed to reduce the pressures on secondary care orthopaedic out–patients, providing patients with early access to specialist opinion in a community location. With all District General Hospital provision in Powys commissioned from neighbouring providers, the Clinic has enabled repatriation of orthopaedic services releasing funds back into the health board.

A review identified Powys patients who presented with carpal tunnel were waiting in excess of 20 weeks to see the Consultant, and in excess of eight weeks for a nerve conduction test (NCT). This led to pressures on referral to treatment (RTT) and long waits for patients.

The patient journey and feedback was mapped to experience "referral to surgery". The distance travelled for the NCT, prolonged waiting times, and lack of clarity regarding a lead clinician, were key factors highlighted.

The data suggested a significant number were travelling out of county for treatment. The finance department were included in the project as there was recognition of a cost to new pathway whilst emphasis on quality would need to have a cost neutral or cost benefit. We applied the methodology using five quality domains resulting in a pathway transformation that met the demands placed upon it, not just from a patient's perspective but also to comply with NICE guidelines and the prudent healthcare agenda.

This Project Supports Prudent Healthcare

Effective: NICE systematic review does not recommend electrodiagnostic testing if symptoms were well defined some patients may be referred unnecessarily for tests when clinically their presentation would lead to an outcome of surgery.

We provide information and advice by a specialist clinician to improve self management strategies and quality of life whether surgical treatment is indicated or not. The NCT if relevant is explained, as are the treatment choices for the patient.

Timely: Reduction of waiting times for listing of surgery to a maximum of 8 weeks. Proven to shorten and streamline the journey to symptom resolution for the patients. Providing early access to specialist opinion in a community location.

Avoid waste and variation in the patient's journey.

Efficient: Direct referral from GP / senior physiotherapist to the clinic, an appointment no later than 8 weeks after that, NCT, clinical assessment and pre-op happen on the same day. Improved the capacity of orthopaedic consultants to manage complex patients.

Equitable: All patients receive the same level of assessment and treatment with time from referral to assessment being equal for all referrals. There is no longer a dual access pathway for this condition.

Safety: Clinical governance comes from our upper limb specialist, training was received by the company providing the equipment, as well as linking with special interest groups within the profession.

Acknowledging the standard needed in the clinician, we utilise an evidence based approach to assessment and treatment.

We still have a referral path to the NCT service at Hereford, and their Orthopaedic team.

Advancing Healthcare: Patient Pathway Transformation (Carpal Tunnel)

Bevan Commission

Anticipated Benefits

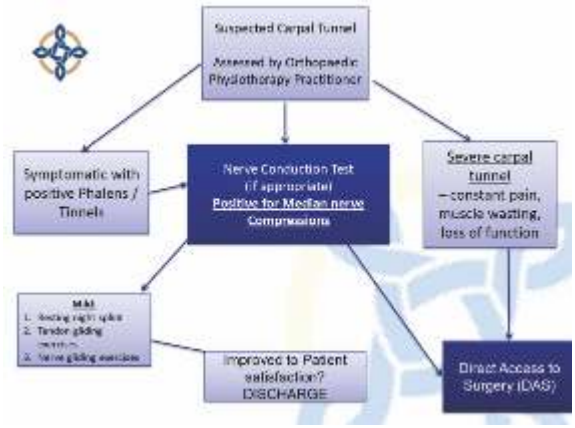
Our aim was to provide a community based service for the assessment and treatment of carpal tunnel where a streamlined approach is required to achieve optimum outcomes for patients.

With:

- An emphasis on therapeutic management and supported self care.
- Improve patient experience, health outcomes and general well being.
- To improve Consultant capacity by reducing new patient and follow up attendances for this condition.
- To reduce the waiting times at WVT - Orthopaedics nationally is high volume / long waits and this is particularly evident in Mid-Powys.
- To improve the management of clinical pathways to ensure patients receive the most appropriate assessment and intervention in a timely way.
- From a patients perspective their previous pathway was disjointed, using multiple clinicians, departments and localities. This resulted in long delays for assessment and decisions regarding the outcome of their assessment.

In comparison From 4 steps, in up to 3 different hospitals before outcome treatment was decided, over a maximum of 36 weeks until surgery.

The new pathway resulted in 3 steps in one hospital, on one day, lasting a maximum of 20 weeks until surgery.



Patient Outcomes

- Treatment closer to patients home;
- Reduced travel costs - approximately £100 per patient;
- Reduced travel time - max one hour;
- Referral to Consultant - 16-20 weeks;
- Referral to CMATS carpal tunnel service - four weeks;
- Patients receives improved information;
- Improved wait for clinical diagnosis;
- We now accept patients from Machynlleth.

Commissioner Mentor:

Mary Cowern

(Director of Arthritis Care Wales)

Contact Details:

Catrin Hawthorn

(Advanced Physiotherapist Practitioner)

Catrin.hawthorn@wales.nhs.uk

Bevan Commission

Doing Great Work by Loving What You Do: Using Appreciative Inquiry to Make a Real Difference to the Experience of Care

This project tested the principles of Appreciative Inquiry (AI) at the front line of healthcare.

This was a short intervention, at the ward level, using the leadership of a clinical psychologist that explored how AI could be used to develop nurses' understanding of what enhances compassionate care. AI holds at its core the principle that something works well in every system. Using the 7Cs of caring conversations (Dewar, 2013) as the model, the things that worked ie good practice was observed and reflected on with nursing staff.

What makes this approach different?

Unlike the typical approach of 'finding the problem and fixing it', AI offers an alternative where the focus is placed on the things that work well. By creating a better balance, can we improve care?

Our project has shown that this is possible, but also that a lot more work is needed. We see this as the start of a journey, one that includes better balance in feedback that recognises and celebrates the things that we do well and encourages more of the same.

This Project Supports Prudent Healthcare

By improving

- Dignity and respect for patients as equal partners in care.
- The expectation of a positive experience of care.
- The memory of what happens in hospital.
- Staff awareness of the impact of how we do what we do, improve the connectivity between tasks and outcome, and consistency for the patient experience.

Early Outcomes

By being involved in this project, staff have developed increased:

- Awareness of how the small things that they see as part of their normal work make a big and positive difference to patient experience.
- Opportunity to reflect upon what they can do to enhance and build compassionate behaviour. Understanding in how challenging it can be for qualified staff to reflect and celebrate compassionate care.

Examples of findings using the 7Cs model

Being courageous: courage to ask questions and try things out

- Going out of your way to change someone's meal because they'd 'lost their appetite' following their operation.
- Asking 'are you ok' and stopping their task to listen to the response.

Connecting emotionally: noticing how we are feeling

- Noticing a lady with dementia was reassured through affectionate touch and making sure that they spent time tucking in her blanket.
- Stopping and asking other staff how they feel at the start of a shift.

Being curious: suspending certainty and looking for the sense of what is said

- Finding out more about a patient and what they used to do when they were working.
- Admiring a patient's book selection and sharing their interest.

Collaborating: talking together, looking for the good in others

- Asking others for help and expertise in understanding a situation.
- Checking with each other and helping each other out when we can.

Considering other perspectives: creating space to hear differences

- Engaging in banter and humour with patients.
- Reflecting that beliefs may be different from patients.

Compromising: working hard to suspend judgement and talking together

- Delay washing patients until the afternoon after patient asked.
- Supporting patients to eat their lunch.
- Celebrating - making a point of noticing what works well.
- Sharing appreciation to the morning shift for their hard work.
- Praising others and calling them a 'superstar'.
- Giving each other a hug.

The Team:

Dr Beca Stilwell (Clinical Psychologist)
Anna Tee (Patient Experience Manager)
Dr Bethan Lloyd (Consultant Clinical Psychologist)

Contact Details:

Anna Tee
anna.tee@wales.nhs.uk

Using Health Psychology to Improve Adherence with Medicines

Bevan Commission

'Increasing the effectiveness of adherence interventions may have a far greater impact on the health of the population than any improvement in specific medical treatments' [1]

In 2005, as part of a new contractual framework for community pharmacy, the Medicines Use Review (MUR) service was introduced. The service involves an accredited pharmacist undertaking a structured adherence-centred review with a patient and each pharmacy can offer up to 400 MURs per year. Usually the community pharmacist initiates a MUR by asking a patient if they would like one; research suggests that the majority of patients believe having a MUR is more for the benefit of the pharmacist then themselves.[2]

In developing this project we considered that if a patient requested the MUR him/herself (s)he would be more likely to benefit from it. Theoretically, patients can self-refer for a MUR but in practice very few MURs are initiated by patients. Applying behavioural insights to the design of the interventions, we propose to test three approaches which encourage patients to self-refer for a MUR (poster, leaflet, and personal invitation).

The interventions will be trialled in pharmacies in Rhondda Cynon Taf between September and November 2016 and the impact of the three interventions analysed. The project has been submitted to a Public Health Wales Research and Development Group. Ethical approval is not required.

This Project Supports Prudent Healthcare

Prescribing a medicine is one of most common interventions in NHS Wales with around £600 million per annum being spent on prescribed medicines in primary care. However, an estimated 30-50 per cent of medicines for long-term conditions are not taken as prescribed.[3] Poor adherence with medicines results not only in medicines waste but also a potential loss of health benefits. Reducing non-adherence would lead to more effective use of healthcare resources as well as benefiting patients.

Non-adherence with medication can be intentional or non-intentional. Some patient's can't take their medicines e.g. unable to read instructions, failure to use an inhaler effectively; others don't want to take their medicines, often because they have concerns about them or don't fully appreciate their need for the medication. To identify and address non-adherence clinicians must involve their patients effectively in consultations, adopting the principle of co-production.

Anticipated Benefits

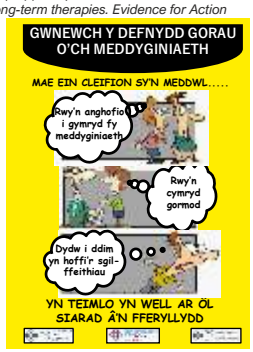
We anticipate patient satisfaction with MURs will be increased as pharmacists and patients work together to identify and overcome those medicines related problems that lead to the patient not taking their medicines. Other potential outcomes include reduced medicines waste by minimising medicines that are not taken and greater health benefits by maximising the effect of the medication prescribed, although the project is not designed to measure these outcomes.

The project will result in posters and leaflets being designed and published. If shown to be effective these will be shared with other Health Boards in Wales, avoiding duplication of effort. The learning from the project will be disseminated to colleagues within NHS Wales and form the basis for future developments.

Furthermore, a network of pharmacists and academics interested in health psychology and medicines use is developing in Wales, which will progress further activity in this area. The leads for this project are well connected with that network.

References

1. Hayes R, McDonald H, Garg A, Montague P. (2002). Interventions for helping people to follow prescriptions for medications. The Cochrane Database of Systematic Reviews, 2, CD00011
2. Krska J, Corlett SA, Gammie S, Loo RL, Rodgers RM. Medicines-related services: do pharmacists see things the same way as the public? IJPP (2015); 23 (Suppl S1.):25
3. World Health Organisation (2003) Adherence to Long-term therapies. Evidence for Action



The Team:

Anne Hinchliffe (Public Health Wales NHS Trust)
Martin Davies (Cwm Taf UHB)
Emma Williams (Cwm Taf UHB)

Partnership:

Dr Delyth H James (Cardiff Metropolitan University)

Commissioner Mentor:

Prof Phil Routledge

Contact Details:

Anne.Hinchliffe@wales.nhs.uk
029 2040 2459

The technology is a combination of remote healthcare monitoring and supported intervention. It enables the local management of patients presenting with Obstructive Sleep Apnoea (OSA).

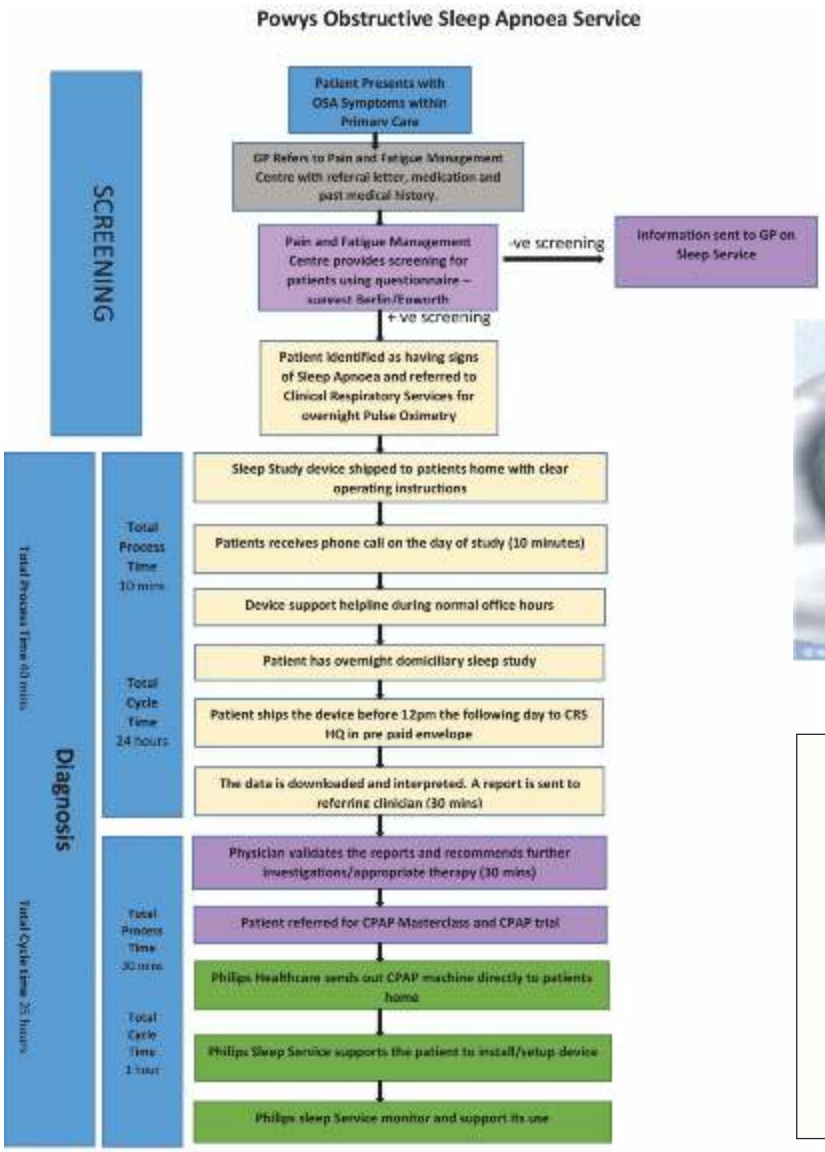
Within most sleep services, there exists a lack of visibility of patient performance until device data can be interrogated. This inevitably results in unnecessary face to face review if the patient is already compliant.

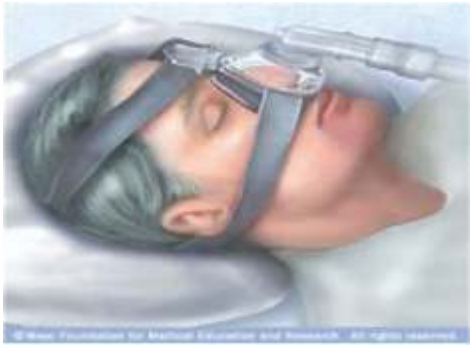
More significantly the majority of compliance issues can easily be resolved over the telephone, provided therapy data is readily available to direct the clinician.

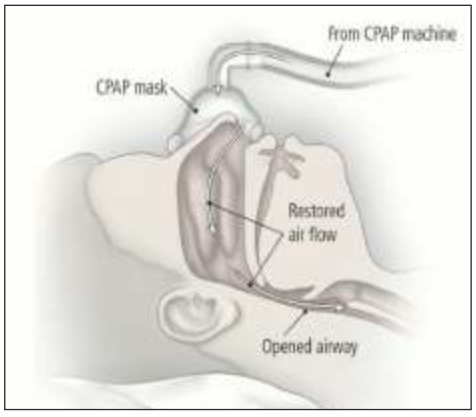
By combining technology that makes this data remotely available to the care giver, together with a resource that can manage day to day patient needs, we have developed a care pathway that utilises our resources only when the patient needs it. This is particularly important in the rural communities of Powys, where patients will have to travel a significant distance, often at their own expense, to receive the same level of healthcare in more populated areas.

The care pathway that incorporates this technology sits in line with Prudent Healthcare.

The association of OSA with cardiovascular disease and diabetes, has ensured that managing Sleep Apnoea is high on the agenda for respiratory service across the NHS. This is particularly significant for Powys, where the British Lung Foundation has identified Powys' population to exhibit the highest prevalence of risk factors for this disease.







Sleep Apnoea Project

Bevan Commission

Anticipated Benefits

The implementation of this technology in Powys will help us to meet the key actions identified in the Respiratory Health Delivery Plan and ensure that Powys patients are treated closer to home, in a timely fashion and in a way which improves their quality of life (all of which will be monitored during the pilot).

It is anticipated that this will also be a more efficient way of treating people in the community rather than relying on expensive secondary care based services and may serve as a model which could be implemented in neighbouring Health Boards.

Patients will be diagnosed and treated a lot quicker resulting in reduced admissions, Philips healthcare will also provide a 5 day per week Clinical Support Service to the patients. These reasons being the key motivation points and drive behind the project.

Increase in workforce as additional resources has been secured for the project to include a Project Manager and Consultant Physician, Additional external training has been sourced to aid our Clinical Nurse Specialists' successful delivery of the Master Class. The opportunity to work with external contractors will also strengthen the team.

Philips Sleep and Clinical Respiratory Services is the Industry partner. Philips is a multinational company with Global Head quarters in Amsterdam and UK offices in based in Guildford.

We will enter into a contractual agreement with each to support a pilot of 50 patients over the course of a year. At the end of one year, a separate agreement will be entered to ensure that patients are appropriately supported depending upon the outcomes of the Pilot.

Clinical Respiratory Service will be contracted by Powys Health Board to provide and maintain equipment and consumables that are associated with delivering Continuous Positive Airway Pressure (CPAP) therapy. Philips will supply the network infrastructure to allow remote monitoring of patients' performance as, well as supplying a database to securely record all interactions with the clinical team while on therapy. This Database is called Encore Anywhere.

Any face to face review of patients will be at Bronllys Hospital. We anticipate this will amount to a maximum of 200 hrs. for 50 patients over the course of a year. We expect the cost of the pilot will be in the region of £15k, some of which will be met from existing resources.

This Project Supports Prudent Healthcare

The care pathway that incorporates this technology sits in line with Prudent Healthcare.

This project allows patients to receive first class care in their own home, working together with healthcare specialists.

This project is aimed to reduce the current waiting list in Powys and get patients the treatment they require quicker and more efficiently.

The Team:

Owen Hughes
(Head of Pain & Fatigue Management)

Valmai Davies
(Clinical Nurse Specialist)

Kara Price
(Project Manager)

Industry Partners:

Phillips Healthcare

Clinical Respiratory Services

Contact Details:

Owen Hughes

Head of Pain and Fatigue Centre
Bronllys Hospital
Brecon

07711 198 123

Talking openly and knowledgeably about Do Not Attempt Cardiopulmonary Resuscitation Decisions in Palliative Illness.

The aim of this project is to improve communication and dialogue between patients with palliative and terminal illness and their healthcare professionals about Do Not Attempt Cardiopulmonary Resuscitation (DNACPR) decisions.

Four videos hosted on a website aim to describe some of the main areas to consider when discussing this important topic. Videos were co-directed by patients, in order for them to help explain relevant issues surrounding this sensitive subject. In addition, videos for healthcare professionals with guidance and tips on how to start these conversations sensitively and professionally are also available on the http://TalkCPR.wales website.

We also aimed to clarify some of the common misconceptions surrounding CPR, allowing natural death and DNACPR towards the end of life in a news article. This project is referenced in this Guardian article and can be found here www.gu.com/p/4g5pv/stw.

This Project Supports Prudent Healthcare

- Public and professionals are equal partners through co-production: DNACPR discussions are some of the most sensitive and delicate in healthcare today. Many palliative care workers have experienced that patients want to be involved in these decisions and are not usually offended by their healthcare professional bringing this up. The TalkCPR videos and website encourage this dialogue, try to inform about the challenges of CPR and encourage open communication. They were made, produced and reviewed by patients and carers in Wales, and are all the more powerful for it.
- Care for those with the greatest health needs first: The videos are aimed at patients with palliative and life-limiting illness, as well as their carers and their healthcare professionals. There are tips on how to frame these conversations within the wider care that will be provided.
- Do only what is needed and do no harm: More should be done to prevent modern medicine from automatically defaulting to cardiopulmonary resuscitation in palliative care patients. Admission to hospitals and ITU in situations where a prior, honest and candid discussion with a seriously ill patient may have elicited that they would rather remain at home, are a missed opportunity. DNACPR forms do not preclude patients from very active treatment and the treatment ladder approach in the Top Tips video makes sure that only those procedures are considered that patients would feel appropriate, no more, no less. We checked carefully with our user groups that these videos were not insensitive or harmful, and in fact some responses felt that they could have been more explicit and blunt. But overall view was that we got the balance right.
- Reduce inappropriate variation through evidence-based approaches: Videos are being rolled out via the DNACPR implementation group to each Health Board and Trust in Wales and are also available on Howis. Two English Trusts have approached Public Health Wales and asked whether they could use the videos in their own setting, and Pulse magazine have written a feature for GPs in the UK, on this novel video and website approach to get patients and carers to take a lead on DNACPR. Videos are available in English and welsh and provisions have also been made for blind, partially sighted and deaf patients.

TalkCPR Project

Bevan Commission

Anticipated Benefits

Communicating the concept of DNACPR in a sensitive way requires skill and once it has been discussed it should be documented very clearly, for other healthcare team members to know what discussion has been held. There is a need to explain this procedure better within society, and also to create reproducible ways of giving clinicians opportunities to gain confidence in talking about this topic more.

Measures

- Use of the new All Wales DNACPR form, which came into effect during 2015. This form is used to document communications between healthcare professionals, patients and carers.
- Acceptability and readiness of patients and healthcare professionals to use communication videos on this topic, to help understand what CPR actually is.

Intervention

- Roll-out of the All Wales DNACPR Form across Wales, and its uptake and use as a communication tool between healthcare professionals, patients and carers.
- Roll-out of TalkCPR videos, four videos (all aimed at patients, carers and healthcare professionals) co-produced and co-directed by Dr Mark Taubert and stakeholders including patients and carers.

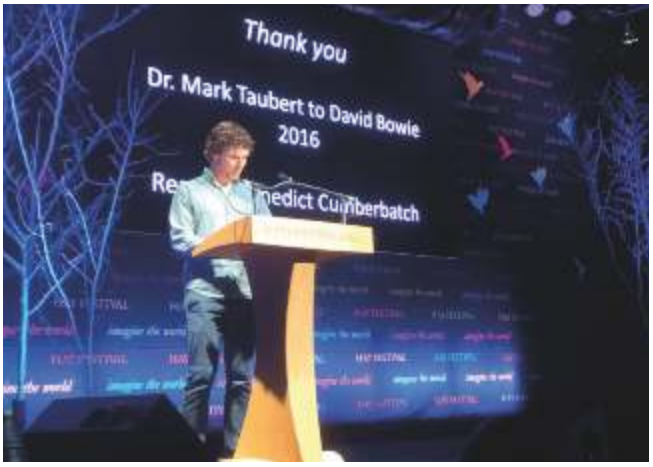
Outcomes

- DNACPR forms obtained from notes in late 2015 and early 2016 contained more information on communication between healthcare professionals, patients and carers than previous DNACPR forms.
- There was a significant increase in DNACPR forms that were demonstrably discussed with patients and/or proxy compared to previous years.
- TalkCPR videos were acceptable to both patients/proxy, nurses, and doctors and pre-and post-video surveys as well as focus-group results showed a high level of readiness to engage in DNACPR discussions, readiness to show information videos to patients and carers and a better level of understanding about what CPR actually means.

Conclusion

These short films have been made available in each health board and trust in Wales. Three English Trusts have asked permission to use the videos in their own setting, and Pulse magazine have written a feature for GPs in the UK, on this novel video and website approach. A media campaign has made the TalkCPR project very prominent in the public domain, with Benedict Cumberbatch reading out a letter at Hay Festival mentioning this NHS Wales project and a Guardian article on CPR which went viral. Both NICE and the GMC have published the TalkCPR website resource.

It is hoped that the use of video and website information for patients around difficult areas such as CPR wishes can inform part of a more sharing approach, allowing patients and their proxy to be involved in key decisions and providing good quality information.



- Benedict Cumberbatch reading Dr Mark Taubert's letter to Bowie at Hay Literary Festival – the letter references the TalkCPR project in Wales

The Team:

Mark Taubert, Paul Buss, Steve Ham, Veronica Snow, James Norris, Ben Smith, Angela Jones, Rachel Lewis, Alan Buckle, Lesley Radley, Gwenllian Edwards, Mererid Evans, James Powell, Siwan Seaman, Velindre NHS Trust Patient Liaison Group and DNACPR Policy Implementation Group Wales

Commissioner Mentor:

Fran Targett OBE

Contact Details:

Dr Mark Taubert
Clinical Director for Palliative Medicine
Velindre NHS Trust

Bevan Commission

Pilot of the Pharmacy Software Program BD Cato at Velindre Cancer Centre

The manufacture of cytotoxic drugs and Systemic Anti Cancer Treatments (SACT) is a high risk process. Within the NHS, drugs are prepared in pharmacy aseptic units to rigorous and highly regulated quality standards, described below. Currently ensuring compliance with Good Manufacturing Practice (GMP) is predominately a manual process, thus subject to the risk human error and potential risk of significant harm to patients.

GMP is the quality system for ensuring that drug products are consistently produced. It is designed to minimize the risks involved in any pharmaceutical production that cannot be eliminated through testing the final product, and covers all aspects of production from the starting materials, premises and equipment to the training and personal hygiene of staff. There must be systems to provide documented proof that correct procedures are consistently followed at each step in the manufacturing process - every time a product is made.

BD Cato is a software program developed by Becton Dickinson, which supports pharmacy manufacturing of SACT drugs whilst maintaining quality standards. It allows the removal of the risks associated with human error; it has been designed to reduce medication errors, waste reduction and automate some of the in-process QA (Quality Assurance) manual checks. It is proposed to pilot BD Cato at the pharmacy department Velindre Cancer Centre.

Interventions & Actions

Preparing for Pilot:

- Pulling together project team including: (Velindre) IT, Pharmacy. (BD) Account Manager, Solutions Manager, Project Manager.
- Building Database, Drug File and liasing with pharmaceutical companies to get drug information.
- Validation of Data and Systems
- Working with Isolator manufacturer to get equipment ready for pilot

Change management, including:

- Risk analysis
- In depth workflow mapping to ensure safety and a smooth transition to the new 'to be process'.
- In depth training of team to ensure smooth transition and positive uptake.

This Project Supports Prudent Healthcare

Impact of people time: The manufacturing of an aseptic product has several Quality Assurance (QA) in-process manual checks to ensure the final product is prepared to GMP;

It is estimated that these manual checks take 2 minutes per item. Totalling up the daily workload and staff time, the system frees up 2 hours daily across multiple staff groups which will support additional capacity within Velindre Cancer Centre across multiple staff groups, enabling additional workload without additional expenditure.

Error reduction: Analysis from UK NHS aseptic units' shows that out of 210,000 aseptic items dispensed, these manual in-process QA checks found 1700 errors. Further analysis of these errors indicated that 64% of these errors could have been prevented using an automated software system.

Cost savings: When a drug vial is part used to prepare a dose of SACT for one patient and later the remainder is used to prepare a dose of SACT for another it is termed a Part Used Vial (PUV). If a PUV cannot be reused it must be discarded, an audit at Velindre estimated that £1,500.00 a week is wasted by discarding PUVs. BD Cato is able to schedule the workload to allow the manufacture of the same products consecutively, reducing the PUV wastage.

Anticipated Benefits

- Continued or improved compliance with GMP
- Provide a standardised aseptic process for NHS Wales
- Reduce the number and time of manual QA steps, potentially increasing the workload capacity of the aseptic unit
- Reduced drug wastage
- Reduction in dispensing errors

Commissioner Mentor:
Professor Phil Routledge

Contact Details:
Martin Rees-Milton

Velindre Cancer Centre,
Cardiff CF14 2TL

Tel: 029 2061 5888 ext 2282

Email: martin.rees-milton@wales.nhs.uk

Bevan Commission Academy Fellows' Projects

Bevan Commission

Proton Pump Inhibitor (PPI) prescribing: Changing the conversation between patients and clinicians

Rhys Howell[1]; Mark Andrews[2]; Leanne Griffin[2]; Timothy Asibey-Berko[2]; Rob Bevan[2]; Gautham Appanna[2 3]; Helen Howson[4]; Tom Powell[4]; Siôn Charles[4]; and Keir Lewis[2 5]
1. ABMU Health Board 2. Hywel Dda UHB 3. Cardiff University 4. Bevan Commission 5. Swansea University

Some patients benefit from a Proton Pump Inhibitor (PPI) either in the short or long term, however for many, PPI use is unnecessary, may cause harm and mask the symptoms of an unhealthy lifestyle. The conversation between patients and clinicians needs to change in line with the following prudent healthcare principles:

Prudent Principle 1
Achieve health and well-being with the public, patients and professionals and as equal partners through co-production.

Initial discussions highlighted a variety of reasons for prescribing. GPs cited the commonest indication as gastro-oesophageal reflux disease, whereas hospital consultant use was related to their speciality e.g. steroid prophylaxis.

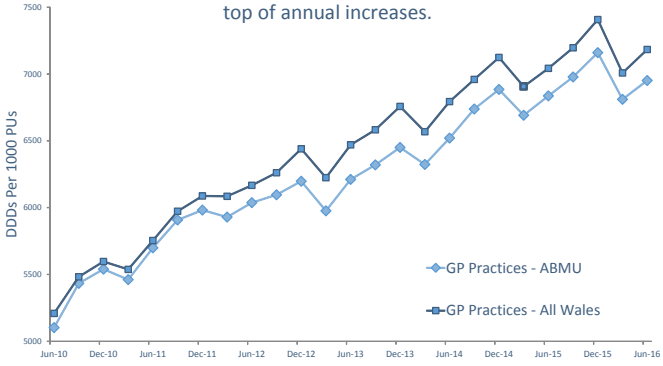
Patients seem largely unaware of potential long term risks or alternative strategies. GPs reported a mixed response in discussions with patients regarding cessation of PPI therapy.

Could changing conversations between clinicians and patients around PPI use result in more prudent prescribing?

Prudent Principle 2
Care for those with the greatest health need first, making most effective use of all skills and resources

More than 10% of people in Wales take a PPI, with use increasing.[1] Suggested reasons for this include unhealthy lifestyle, medication culture and lack of alternative management plans (e.g. step down, use of antacids to manage rebound acid hypersecretion etc).

Figure 1 – Prescription PPIs show 'peaks' during the Christmas season on top of annual increases.



What strategies might be employed to halt or reduce the rise?

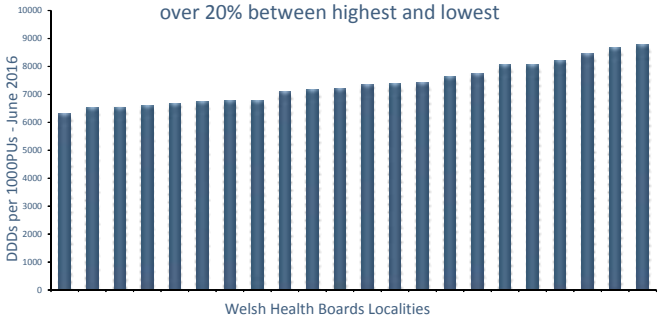
Prudent Principle 3
Do only what is needed, no more, no less and do no harm

Evidence is building regarding adverse effects associated with long term PPI use including potential consequences such as increased risks of enteric infections e.g. *C.difficile*; pneumonia, fractures, hypomagnesaemia and vitamin B_{12} deficiency.[2]

How might we ensure such information is used to support prudent prescribing and reduce harm?

Prudent Principle 4
Reduce inappropriate variation using evidence based practices consistently and transparently.

Figure 2 – PPI prescribing between Welsh Health Board Localities varies over 20% between highest and lowest



How can we use this information and other approaches to reduce variation?

Impacts and future actions

- Explore public and prescriber views to identify reasons behind the continuous increase and local variations in PPI prescribing and opportunities for engagement and intervention.
- Engage with others in developing interventions e.g. to inform patient and prescribers including:
  - Benefit: Risk assessment of PPI therapy for individual patients
  - Prescription review with step down / cessation as appropriate
  - Support to make lifestyle choices to alleviate reflux symptoms

References

All Wales Medicines Strategy Group. National Prescribing Indicators 2016 – 2017. Welsh Medicines Resource Centre. Proton Pump Inhibitors – November 2015.

Navigational Bronchoscopy to Sample Lung Lesions more Safely and with Sparing of Resources

Bevan Commission

Mark Andrews[1]; Leanne Griffin[1]; Timothy Asibey-Berko[1]; Rob Bevan[1]; Rhys Howell[2]; Gautham Appanna[2 3]; Helen Howson[4]; Tom Powell[4]; Siôn Charles[4]; and Keir Lewis[1 5]
1. Hywel Dda UHB2. ABMU Health Board 3. Cardiff University 5. Bevan Commission 6. Swansea University

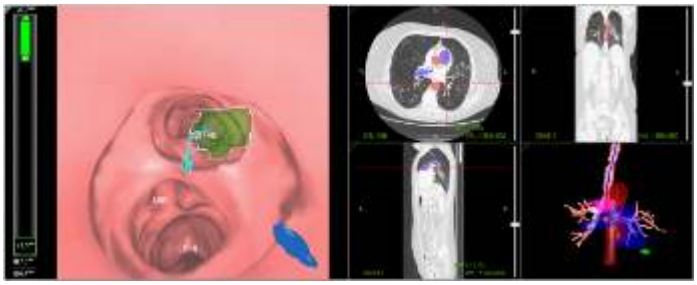
Introduction

LungPoint® Navigational bronchoscopy provides an option to aid sampling of lung lesions not easily or safely reached via current bronchoscopic techniques. However, there is currently a paucity of evidence for its use (Eberhardt et al, 2010). Our study was designed to build upon this and assess its potential to address prudent healthcare principles.

Prudent Principle 1

Achieve health and wellbeing with the public, patients and professionals and as equal partners through co-production.

Patient selection for consideration of navigational bronchoscopy as a method of sampling their lung lesion involves firstly a multidisciplinary decision making process, weighing up this option against alternative strategies. Secondly an open and honest discussion with the patients about the procedure and any possible alternatives to reach a collaborative decision about whether and how to proceed.



Prudent Principle 2

Care for those with the greatest health need first, making most effective use of all skills and resources.

The current standard modality for sampling peripheral lung lesions not directly visible within the airway lumen involves CT-guided percutaneous biopsy. This requires substantial use of valuable radiology resources and time, leading to longer waiting times, limited availability of the procedure and obstruction of the CT services for other tests and procedures. Performing a bronchoscopic procedure instead addresses these issues, freeing up radiology resources to allow faster and better access for those who really need them, and providing a more immediately available option for those who don't. However, this needs to be balanced against additional time and resources required for navigational bronchoscopy, which we are looking at within our study.

Prudent Principle 3

Do only what is needed, no more, no less and do no harm

CT-guided biopsy carries a significantly greater complication risk compared with bronchoscopy. A recent study of CT-guided biopsy reported an 80% diagnostic rate but a 27% rate of pneumothorax as a complication (Priola et al, 2010). In comparison the LungPoint® study also reported an 80% diagnostic rate, but only 1 patient (4%) experienced a small pneumothorax which resolved spontaneously without needing intercostal drainage (Eberhardt et al, 2010). We therefore hypothesise that the use of LungPoint® for peripheral lesions will reduce complications while retaining accuracy compared to CT-guided biopsies.

Prudent Principle 4

Reduce inappropriate variation using evidence based practices consistently and transparently

Phase 1 of our study was designed to allow the operators to get familiar with the navigation tool, and to confirm that it correctly navigates to and identifies the intended area. A 100% pass rate was achieved, but the learning curve provided some valuable lessons, and certain issues were identified with the procedure. By reporting and publishing this information, it should allow what we learned to serve others as well as ourselves in using the tool optimally.

Ongoing Study

Phase 2 will assess the diagnostic sensitivity, complication rate and practical use of LungPoint® to guide transbronchial sampling from peripheral lesions not seen endobronchially. We also intend to determine the implications in terms of costs, time requirements and technical difficulties. Early results are promising, with a good diagnostic rate and low complication rate being achieved.

References

Eberhardt R *et al* (2010). LungPoint – a new approach to peripheral lesions. *Journal of Thoracic Oncology*, 5(10):1559-63.

Priola AM *et al* (2010). Diagnostic accuracy and complication rate of CT-guided fine needle aspiration biopsy of lung lesions: A study based on the experience of the cytopathologist. Acta Radiol, 51(5):527–33.

Bevan Commission

Outcomes of Patients Admitted to Critical Care Services with Decompensated Alcohol Liver Disease (ALD)

Gautham Appanna[1 2]; Mark Andrews[2]; Leanne Griffin[2]; Rob Bevan[2]; Timothy Asibey-Berko[2] ; Rhys Howell[3]; Helen Howson[4]; Tom Powell[4]; Siôn Charles[4]; and Kier Lewis[2 5]
1. Cardiff University 2. Hywel Dda UHB 3.ABMU Health Board 4. Bevan Commission 5. Swansea University

Introduction

Alcohol Liver Disease (ALD) is an increasing major cause of preventable death in the United Kingdom, with more patients being referred to Critical Care services with decompensated ALD. In Wales, whilst adult alcohol consumption has fallen slightly since 2008, alcohol consumption in young people remains a concern and is higher than in the rest of the UK. This project aims to record outcomes and through co-production, develop a simple questionnaire to gain more insight from HPs and the public regarding outcomes and compare this to actual data.

Prudent Principle 1
Achieve health and wellbeing with the public, patients and professionals as equal partners through co-production

Identifying the real outcome data of patients admitted to Critical Care with decompensated alcoholic liver disease should facilitate a more informed discussion between different healthcare professionals, and in collaboration with patients themselves, enabling a more open decision as to whether this should be undertaken.

There is some evidence of poor outcomes in patients with decompensated ALD who present to Critical Care with Multi Organ Failure. When discussing outcomes with various health professionals (HPs) and patients, many do not appear to know the success rates of home discharge after admission to Critical Care.

Prudent Principle 2
Care for those with the greatest health need first, making most effective use of all skills and resources

Phase 1: Recording outcomes

Between 2013 and 2015, 52 patients (Mean age: 45.2 years) were admitted to Critical Care services at Aneurin Bevan University Health Board with decompensated ALD. 75% of patients had more than one organ failure.

Using validated clinical scoring tools there was a large variation in outcome despite similar ages:

For example:

Child Pugh A cirrhosis → 83% (5/6 patients) survived

Child Pugh B cirrhosis → 38% (3/8 patients) survived

Child Pugh C cirrhosis → 13% (5/38 patients) survived

Therefore, by not sending patients to a High Dependency Unit (HDU) who may not survive and may be better and more appropriately served with palliative care, would be a more prudent approach to their care.

Prudent Principle 3
Do only what is needed, no more, no less and do no harm

Overall, 28% (15/52) patients were alive at 30 days. By identifying which patients with ALD that survive HDU may indicate the characteristics which suggest which patients are most appropriately moved to HDU as opposed to those for whom palliative care may be more appropriate.

Prudent Principle 4
Reduce inappropriate variation using evidence based practices consistently and transparently

This raises questions regarding patient selection for Critical Care and what treatment approaches (if any) are appropriate. Healthcare Professionals (HCPs) need to have honest discussions with patients and carers, especially those with severe liver disease about mortality and disease course. An approach to this may be earlier involvement of Palliative Care services, to assist with symptom management and Psychological support for both patients and families.

Impacts and future actions

Exploration of HCP and public views on outcomes in those admitted to Critical Care with ALD.

Compare and contrast outcomes in other centres in Wales.

Disseminate findings to patients, HCPs, Service Managers and Policy Makers to inform National Guidelines.

Develop interventions e.g. to inform patients and HCPs including:

- Benefit: risk ratio calculator for each individual.
- Use this evidence to help inform patients to make lifestyle choices.

A Prudent Approach to Managing People with Chronic Obstructive Pulmonary Disease Admitted to the High Dependency Unit

Bevan Commission

Timothy Asibey-Berko[1]; Mark Andrews[1] ; Leanne Griffin[1]; Rob Bevan[1] ;Rhys Howell[2]; Gautham Appanna[1 3]; Helen Howson[4]; Tom Powell[4]; Siôn Charles[4]; and Keir Lewis[1 5]
1. Hywel Dda UHB 2. ABMU Health Board 3. Cardiff University 4. Bevan Commission. 5. Swansea University

Chronic obstructive pulmonary disease (COPD), is the third leading cause of mortality worldwide (1) and is the second commonest cause of admission to hospital. (2) Non-invasive positive pressure ventilation (NPPV) is recommended to treat respiratory failure (2) buts its provision across Wales is inconsistent and where it is delivered within hospitals is variable and imprudent. Although normally delivered on High Dependence Units (HDU) NPPV may be better and safely delivered on medical wards.

Prudent Principle 1
Achieve health and wellbeing with the public, patients and professionals and as equal partners through co-production.

We looked at clinical outcomes and sought the opinions of 14 doctors and 26 nurses caring for people with COPD on the HDU. Opinions of patients who have experienced NPPV will be sought in future stages of the project. The majority of staff felt that while NPPV was beneficial and had short term benefit it was neither cost effective when carried out on the HDU nor should it be restricted to use on the HDU.

Prudent Principle 2:
Care for those with the greatest health need first, making most effective use of all skills and resources.

Our data shows a year on year rise in admissions to HDU for people requiring NPPV for COPD. We therefore considered how we might deal with this most prudently. 85% of professionals agreed that providing NPPV for COPD patients in HDU was beneficial in the short term but 63% felt it was not cost effective and 68% felt that NPPV could be safely done on the wards.

Prudent Principle 3
Do only what is needed, no more, no less and do no harm.

98% of staff agreed that a documented ceiling of treatment should be set prior to admitting patients to HDU but data shows this was done in only 14% of cases. 5% of patients died on HDU but 95% were successfully treated requiring an average of 6.8 days, with 19% requiring intubation. A further 10% died whilst on other wards but over 85% were discharged after spending a further 10 days in hospital. Markedly Staff had a worse impression of the benefits of NPPV on discharge rates than actual data indicated (Figure 1).

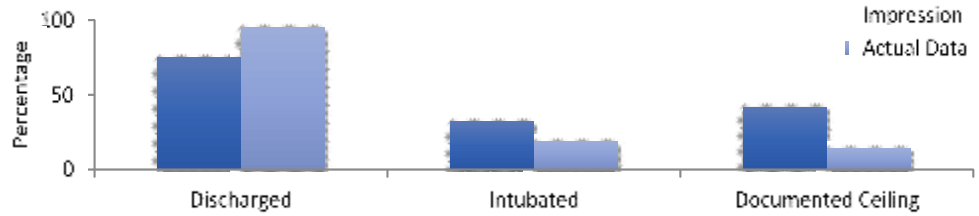
Prudent Principle 4
Reduce inappropriate variation using evidence based practices consistently and transparently.

Despite National and International Guidelines, 98% of the staff interviewed were not aware of an effective scoring system to help determine which patients would benefit most from NPPV. Some were unaware that NPPV is offered on the medical wards in a neighbouring hospital within the same Health Board and overall outcomes have not been compared.

Impacts and future actions

- Compare outcomes for people receiving NPPV in units across Wales to better inform patients and staff as there may be some negativism about the benefits of NPPV.
- Promote discussion of the potential inappropriate use of NPPV resource that could be equally well delivered outside a HDU setting, freeing HDU beds for other patients.
- Identify opportunities to train and educate staff to ensure greater consistency and application of NPPV across Wales.
- Engage patients and carers to identify opportunities to support them in managing their own COPD which best fits their needs.
- Inform National policy and service leads to ensure Prudent NPPV use in Wales.

Figure 1: The impression of HDU staff compared to actual data concerning discharge, intubation and documentation rates.



References

1. Vestbo J, et al. Global strategy for the diagnosis, management, and prevention of chronic obstructive pulmonary disease GOLD executive summary. American Journal of Respiratory and Critical Care Medicine. 2013. p. 347–65.
2. Lumb AB, Biercamp C. Chronic obstructive pulmonary disease and anaesthesia. Contin Educ Anaesth. 2014

Bevan Commission

STructured Asthma Reviews (STAR) in a Community Pharmacy:

Improving care of patients with asthma using a multi-disciplinary approach

Rob Bevan[1]; Timothy Asibey-Berko[1]; Mark Andrews[1]; Leanne Griffin[1]; Rhys Howell[2]; Gautham Appanna[1 3]; Helen Howson[4]; Tom Powell[4]; Siôn Charles[4]; and Keir Lewis[1 5]

1. Hywel Dda UHB 2. ABMU Health Board 3. Cardiff University 4. Bevan Commission 5. Swansea University

Wales has the highest percentage of patients in the UK being treated for asthma[1]. The National Review of Asthma Deaths recommends that every patient with asthma must have an annual asthma review and a "template should be developed to facilitate a structured thorough asthma review."[2] This was tested in a community pharmacy using a structured consultation protocol.

Prudent Principle 1
Achieve health and wellbeing with the public, patients and professionals and as equal partners through co-production.

A structured consultation protocol was developed in conjunction with HCPs (GPs and specialists nurses) in a single general practice; it was piloted with 2 community pharmacies seeking opinions from 20 patients with asthma. Asthma UK (charity) was also asked to comment. Community pharmacies were chosen because they are easily accessible for patients and asthma medication must be collected regularly.

5,218 Patients with asthma without an asthma review in previous 15 months (2014 **Hywel Dda UHB**)

Prudent Principle 2
Care for those with the greatest health need first, making most effective use of all skills and resources.

Patients with asthma on the GP register without a documented annual review within the last 15 months were prioritised. Patients using more than 12 short acting bronchodilators during 12 months or underusing / irregular use of inhaled corticosteroid (identified by NRAD as providing suboptimal control of asthma) were also targeted. Having undertaken training in Advanced Inhaler Technique, two community pharmacists undertook these asthma reviews using a structured consultation protocol. These reviews did not require any extra resources or incur extra costs since community pharmacists already undertake one to one consultations with patients to assess adherence to medication and check understanding of medication.

Prudent Principle 3
Do only what is needed, no more, no less and do no harm.

The template implements the findings of the National Review of Asthma Deaths (NRAD) and is designed to optimise illness understanding and promote lifestyle changes (e.g. smoking). It encourages prudent prescribing by maximising inhaler technique, which will enable step down in a systematic way (as per BTS guidelines) and reduce risk of asthma exacerbations and deaths.

44,718 Patients with asthma without an asthma review in previous 15 months (2014 **Wales**)

Prudent Principle 4
Reduce inappropriate variation using evidence based practices consistently and transparently.

The consultation protocol is based on best evidence (3 Royal College of Physicians asthma questions, BTS guidelines, asthma.org guidelines and NRAD report). All patient are also issued with a Personal Asthma Action Plan.

To ensure transparency and consistency of process the intention is that HC professionals carrying out asthma reviews in GP surgeries would also use the same innovative protocol thus implementing the findings of NRAD.

Impacts and future actions

To simultaneously record clinical impact, in particular:

1. Patient outcomes: asthma control symptoms (e.g. AQL), patient satisfaction questionnaires, short course oral steroid rescue therapy, peak flow readings and inhaler technique.
2. Pharmacy outcomes: Inhaled Corticosteroid (ICS) dose equivalence, oral steroid rescue medication and associated costs.
3. Healthcare outcomes: frequency of GP contacts, hospital admissions, death rates.

References

1. Together for Health. Respiratory Annual Report 2015. Welsh Government. 2016.
2. Why Asthma Still Kills. National Review of Asthma Deaths. Royal College of Physicians. London. 2014.

Developing a Robust Triage System in a New Acute Medical Assessment Unit

Bevan Commission

Leanne Griffin[1]; Rob Bevan[1]; Timothy Asibey-Berko[1]; Mark Andrews[1] Rhys Howell[2]; Gautham Appanna[1 3]; Helen Howson[4]; Tom Powell[4]; Siôn Charles[4]; and Keir Lewis[1 5]
1. Hywel Dda UHB 2. ABMU Health Board 3. Cardiff University 4. Bevan Commission. 5. Swansea University

Recently, the Front of House in Prince Philip Hospital has undergone significant change. The Accident and Emergency (A&E) department has been changed to a Minor Injuries Unit, and the emergency medical patients that present via 999 ambulance are admitted directly under the acute medical take to the acute medical assessment unit which has been open for 6 months. These patients in addition to the GP referrals, need to be triaged effectively and safely.

Prudent Principle 1
Achieve health and wellbeing with the public, patients and professionals and as equal partners through co-production

The redesign of acute services required many years of planning and included input from the local council, local GPs and patient groups as it was recognised that this significant change would have an impact on the local community. It also meant a new way of working for the clinicians, nursing staff and allied health professionals within the hospital. All of whom agreed on the acute need for a safe method of triage, and therefore a collaborative approach with medical registrars, consultants and nursing staff was sought in the design and implementation

Prudent Principle 2
Care for those with the greatest health need first, making most effective use of all skills and resources

Emergency departments are subject to national targets such as '4 hour wait', and there is some evidence that patients are prioritised according to times rather than greatest need. The new configuration in Prince Philip Hospital is not subject to the same targets, however early experience suggests that the sickest patients aren't necessarily prioritised. The new triage system would aim to empower nurses to categorise patients into one of three categories (red, orange or green) based on their presenting symptoms and early warning scores. The more unwell patients are therefore given priority, seen in a more timely manner and by the most appropriate doctor.

Prudent Principle 3
Do only what is needed, no more, no less and do no harm

Medical triage ensures a safe method of prioritising patients based on clinical need. The system is based on information nursing staff and health care associates would normally obtain when admitting a patient to A&E, for example, early warning scores as per RCP guidelines (RCP, 2012). We are aiming to minimise harm by ensuring that every patient presenting to A&E is assessed according to clinical need, and the more

acutely unwell patients are identified appropriately to trigger earlier review by more senior clinicians. Patients are continually monitored, and therefore nursing staff would change the triage category should the clinical status alter prior to medical review.

Prudent Principle 4
Reduce inappropriate variation using evidence based practices consistently and transparently

In the current system, there may be extreme variation between the method of assessment, which depends on the experience of the admitting nurse and the pressures on and within the department. The introduction of the new triage system would aim to considerably reduce this inconsistency by using one triage proforma. In addition, the new service in Prince Philip Hospital is being monitored both internally and externally, and is being considered as a Future Hospital Model, and therefore comparisons are being drawn with other centres both with and without emergency departments. Developing an optimal model for acute medicine in the 21st century could reduce variation in service delivery across the country

Impacts and future actions

The triage system is currently being implemented within A&E. We are gathering data from nursing staff and medical teams regarding the ease of use and the safety and effectiveness of the system. We will also look to seek information on the patient experience within the department. Using this collaborative approach, we will effect change in order to ultimately develop a safe, robust and reliable method of triage.

References

Royal College of Physicians (2012) National Early Warning Score (NEWS), Standardising the assessment of acute-illness severity in the NHS

Notes

Bevan Commissioners

Professor Sir Mansel Aylward CB (Chair)
Nygaire Bevan
Professor Bim Bhowmick OBE DL
Professor Dame Carol Black DBE
Dr Tony Calland MBE
Sir Ian Carruthers OBE
Mary Cowern
Ruth Dineen
Dr Clare Gerada MBE
Professor Trevor Jones CBE
Lt General Louis Lillywhite CB, MBE, OStJ
Ann Lloyd CBE
Juliet Luporini
Professor Ewan Macdonald OBE
Chris Martin
Professor Sir Michael Marmot
Professor Andrew Morris
Professor Sir Anthony Newman Taylor CBE
Dr Helen Paterson
Professor Elizabeth Robb OBE
Professor Phillip Routledge OBE
Fran Targett OBE
Sir Paul Williams OBE CStJ DL
Professor John Wyn Owen CB

International Commissioners

Professor Donald Berwick (USA)
Professor Gregor Coster (New Zealand)
Dr David Bratt (New Zealand)

Bevan Commission Staff Team

Helen Howson MSc, MPH, MFPH, FRSH, FRSM
(Director, The Bevan Commission & Bevan Academy)
Dr Tom Powell (Research Lead)
Sion Charles (Deputy Director)
Ian Walton

Special Advisers

Professor Marcus Longley
Professor Donna Mead OBE
Professor Marc Clement
Professor Ceri Phillips

This publication can be referenced as:
Bevan Commission (2016) Bevan Commission Academy Innovators

For further information about The Bevan Commission please contact:

The Bevan Commission
School of Management, Swansea University, Fabian Way, Swansea, SA1 8EN

E: bevan-commisison@swansea.ac.uk
www.bevancommission.org
@BevanCommission