Comisiwn
Bevan
Commission

TRANSFORMATION FROM WITHIN

Bevan Exemplar Projects 2017-18

CONTENTS

WELCOME

Established in 2008, the Bevan Commission is synonymous with independent, authoritative health and care expertise. Our concept of prudent healthcare is a cornerstone of Welsh Government policy, and our influence stretches beyond Wales to health and care systems across the world.

We are much more than just a think tank. We believe in translating expert thinking into radical action to make a health and care system fit for the future, and our Bevan Exemplars are the living embodiment of this mission.

The Bevan Exemplars scheme was established in 2015 to help us translate prudent healthcare thinking into practice. Since then we have supported over 140 successful projects to improve health outcomes, patient experiences and resource efficiency in NHS Wales.

Our Bevan Exemplars are big thinkers from every part of the NHS: surgeons, physiotherapists, nurses, GPs, carers, planning managers and porters. They all have something crucial in common: they have an innovative and prudent idea that they want to trial and test out in their own communities, hospitals, GP surgeries and care homes.

All of our Bevan Exemplars are committed to driving transformational change in their Health Boards and Trusts, and demonstrate personal commitment and courage to deliver their projects in the face of a range of barriers and the pressures of their day-to-day work.

Their tenacity is paying off, and the Bevan Exemplars scheme is rapidly gaining widespread recognition across the UK as an excellent model of healthcare innovation, as well as making a significant and positive difference to the lives of patients in Wales.

The Bevan Exemplar scheme provides a unique combination of protected time and space, peer-to-peer networking, credibility of Bevan Commission support and expert mentoring from the Bevan Commissioners. This year's cohort have used this platform to produce some truly inspirational outcomes, such as:

- Making it quicker and easier for cancer patients to access radiotherapy treatment;
- Saving a struggling GP surgery through upskilling staff and transforming patient engagement;
- And using community paramedics to treat people at home and avoid hospital admissions.

Many of these Bevan Exemplar projects have gone on to gain national acclaim, winning commendations such as NHS Wales Awards and RCGP Bright Ideas Awards. They are honouring the origins of the NHS in Wales and making tomorrow's innovations a reality today.

I hope you enjoy exploring their projects and meeting the future of NHS leadership in Wales. Remember: improvement improves, innovation transforms!

Professor Sir Mansel Aylward
Chair, Bevan Commission

A TRANSFORMATIONAL APPROACH

It has been clear to the Bevan Commission for some time that the major challenges faced by the NHS call for thinking, planning and doing things differently. We believe in revolution, not evolution, and our Exemplars are the living embodiment of this radical position.

When we began this work in 2015, we truly did not know where it might all lead, but consistent with innovation we believed we needed to try out and test something different and learn from doing. The odds were stacked against us: in NHS England, a study found that 70% of equivalent innovation or change projects fail (Ham and Berwick, 2016).

Confounding expectations, our Bevan Exemplar programme has demonstrated consistent success, with a 79% success rate, a return on investment of 5:1 and over 30% of projects ready for adoption or scale-up.

We are delighted to share their success with you and we hope you find their projects inspiring.

However, this is only part of the story – these innovators need to be working within supportive environments which encourage transformational change. If not, they risk not being able to properly realise their potential or sustain and scale-up their ideas beyond the initial stages.

We are working with Health Boards and Trusts across Wales so that they can identify and support change agents, such as our Bevan Exemplars. We want to see staff and patients involved in designing solution for better health products and services and taking the lead and responsibility for delivering these.

Now more than ever, it is vital that NHS Wales embraces managed risk and develops an open, collaborative culture. We know how stretched the health service is, but resource limitations cannot be used as a barrier or an excuse – instead they should be seen as an opportunity to think creatively and radically to find better solutions.

This is not the time for tinkering around the edges of the NHS. What we need now are big thinkers and people with the courage to put their heads above the parapet – in other words, health need leaders in transformational change to ensure we have a health and care system that is fit for the future.

Our Exemplars are helping to drive change from within and are leading the way for Wales. We hope that you will enjoy hearing about their remarkable journeys and over time, observing the real difference they make to more prudent health and care.

Helen Howson
Director,
Bevan Commission

CREATING A NATION OF HEALTH INNOVATORS

Participants in the Bevan Exemplars programme have described the experience as "immensely empowering", "a whirlwind experience not to be missed" and, my personal favourite, "top banana!"

The 12-month Bevan Exemplar experience enables NHS professionals to learn vital new skills (change, leadership, communications, evaluation etc) and develops a unique network of peers who continue to learn from each other and collaborate long after the year-long cycle ends.

Through the course of the Bevan Exemplar programme, our NHS professionals are frequently challenged to leave their comfort zones and take risks in a safe space. One of the most valuable aspects of being a Bevan Exemplar is protected time and space, coupled with the credibility of the Bevan Commission, to take a step back and develop a fresh perspective on a challenge or solution.

Many who join the programme leave with an entirely different outcome to the one they may have anticipated 12 months earlier. Some leave with a new job or responsibilities, others spin out companies, and many return to the day job with a renewed sense of purpose and motivation.

There are many things that contribute to the Exemplars' success.

Exemplars' report the reputational value of being associated with an organisation such as the Bevan Commission, which provides the kudos and credibility to their project. The organisations the Exemplars represent provide executive sponsorship and support from their innovation teams.

The Bevan Commission team and Commissioners provide coaching, mentorship, hands on support, and development workshops. Our collaborators (Swansea University, NWIS, Finance Academy, Health Technology Wales, Accelerate, AgorIP, Bangor University, 1000 Lives Impovement, Life Sciences Hub Wales, and Welsh Government) provide expert guidance and support.

The Exemplars themselves are passionate about their projects and committed to making them work. Participation in networking events with like-minded, passionate and dynamic people challenging and supporting each other is creative and empowering.

Each component contributes to a potent and powerful formula that consistently delivers on its mission to support transformational change.

Here's to the future of healthcare innovation in Wales!

Siôn Charles
Deputy Director,
Bevan Commission

GIG CYMRU NHS WALES

Bwrdd Iechyd Prifysgol
Abertawe Bro Morgannwg
University Health Board

ABERTAWE BRO MORGANNWG

UNIVERSITY HEALTH BOARD

Comisiwn Bevan Commission

Developing a new NHS role to better manage nutrition in nursing homes

Abertawe Bro Morgannwg University Health Board

Project lead: Jo Gamba, Lead Community Dietitian (Nursing Homes)
Participants: Rhiannon Edwards, Rhiannon Parker, Rhian Wilyeo
Dietetic Assistant Practitioners

This Bevan Exemplar project developed Dietetic Assistant Practitioners to help to improve malnutrition outcomes in nursing homes.

Background

It was identified that there were unnecessary steps in the referral process for malnutrition risk in nursing homes. Vague referrals were being received by the Health Board due to inaccurate or no screening for malnutrition.

Oral nutritional supplements were prescribed when a 'food first' approach (nourishing homemade fortified foods and drinks) had not yet been tried. Individuals who had been prescribed oral nutritional supplements by another professional were often not followed up and were not known to the Dietetics service, therefore supplements may no longer have been required in some cases, but were still prescribed.

Aims

The main aim of the project was to improve nutrition outcomes in nursing homes. This was delivered through the development of a Dietetic Assistant Practitioner role to engage, deliver training and support implementation of the new referral pathway.

The project aligns with the principles of prudent healthcare in the following ways:

1. Managers identified their priorities and helped the team to understand processes. Feedback was sought from attendees and further training was developed based on their requests.
2. Upskilling nursing home staff to accurately recognise malnutrition and refer directly to the dietetic department reduces reliance on GP time and resources.
3. The 'food first' approach reduces the need for prescribed oral nutritional supplements. Identification of inappropriate prescribed oral nutritional supplements, by reviewing relevant charts, allowed them to be discontinued.
4. Consistent use of the tool for malnutrition screening will lead to standardisation.

Challenges

Challenges included that training was cancelled by the home or minimal staff attended. Therefore the project team produced learning contracts, which encouraged managers to keep in touch. They organised regular meetings for mutual feedback and to improve relationships. They also produced posters to inform staff about training rather than just booking dates in the manager's diary.

The team is developing nutrition-related criteria for homes to achieve an award as an incentive. The team also plans to recruit Nursing Home staff as nutrition champions to embed good practice. Some homes were slower to adopt changes – the team undertook further shadowing to understand their processes and support them.

Outcomes

The simplified referral pathway removes the need for GP involvement, which an opportunity costing exercise estimated would save £7.40 per referral. This equates to £1191.40 (161 referrals) so far. When all homes can directly refer, there is a potential saving of approx. £3566.80 a year (based on 482 referrals in 12 months).

There is an additional cost saving of approx. £250,000 achieved by optimising oral nutritional supplement prescriptions – cancelling those not required and swapping others to first line options.

In terms of the impact on nursing home staff, following specialist training the team saw:

- An increase in staff knowledge of malnutrition screening leading to improved accuracy.
- Improved confidence about provision of appropriate nutrition for those at medium or high risk of malnutrition.
- Improved knowledge of appropriate nutrition for those at medium or high risk of malnutrition.

Next steps

The team has engaged 30 of the 48 Nursing Homes across ABMU, aiming to roll out training and referral pathway to all homes. The team is mindful of the anticipated health board area boundary change and the impact on the service. The team plans to introduce a nutrition champion role for Nursing Home staff in 2019. Evaluation is being undertaken to measure the implementation of the 'food first' approach.

A pilot project recording patient related nutrition outcomes is beginning in Winter 2018/2019. The team will also be supporting nursing homes with nutrition events and developing new training related to jointly identified needs.

> A reassuring and inspiring experience, providing a fresh perspective and a wealth of experience to tap into and share.
>
> **Jo Gamba, Lead Community Dietitian (Nursing Homes)**

> The support we have received from the dietetic team within our home has been fantastic. The training sessions provided are very well attended and very interesting and interactive which makes them more enjoyable.
>
> **Fiona Murray, Clinical Nurse Manager, Brocastle Nursing Home, Bridgend**

Comisiwn Bevan Commission

Improving access to palliative radiotherapy for cancer patients through a new specialist role

Abertawe Bro Morgannwg University Health Board

Christine Sillman, Therapeutic Radiographer

This Bevan Exemplar project introduced a new role as a specialist Palliative Radiographer, to enable quicker and easier access to radiotherapy.

Background

Patients with a diagnosis of metastatic (secondary) cancer may need palliative radiotherapy treatment to alleviate painful symptoms. These symptoms can be so severe that they affect quality of life, and a cancer patient may need emergency radiotherapy for very urgent conditions such as spinal cord compression.

The Royal College of Radiologists recommends that for urgent radiotherapy, good practice is to start treatment within 24 hours following agreement between clinician and patient, with 48 hours being the maximum acceptable delay. For palliative radiotherapy, good practice is recommended to be 2 days with a maximum delay of 14 days.

Patients waiting for palliative radiotherapy are often in considerable pain and if you can improve the pathway to treatment for them and hence improve symptoms more quickly, this could have a significant impact on their quality of life - every day counts when faced with an incurable illness. The team carried out an audit (April 2016 – March 2017) to reduce time to access palliative radiotherapy. The most common reasons for delay included machine capacity, machine breakdowns and a delay in planning and approval.

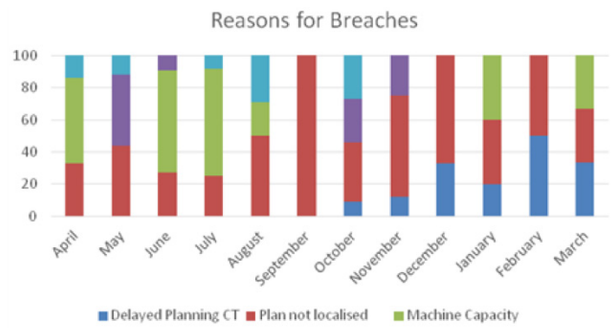
As a result of this study, 'Reducing Time to Palliative Radiotherapy' (Higgins, Banner, Sillman et al 2017), some improvement has already been achieved by enabling staff to use electronic planning, approval and prescribing systems remotely, however there were still delays due to the availability of already very busy clinicians to plan and approve palliative treatments on time.

Aims

It was decided that there was scope to improve this service by better utilising the skills of highly trained and experienced radiographers, who have completed postgraduate-level study in relevant areas of practice.

The aim of the Bevan Exemplar project was to develop an advanced practice role as a specialist palliative radiographer, following completion of a mentorship programme working closely with Consultant Clinical Oncologists, in addition to having completed relevant Masters-level modules leading to an MSc in Professional Practice. Relevant modules included:

- Palliative radiotherapy planning;
- Informed consent;
- Cross sectional anatomy;
- Evidencing work based learning.



Reducing Time to Palliative Radiotherapy (2017) Higgins, E; Banner, R; Capparos, E; Sillman, C; Foyle, S; Thomas, P. (Abstracts/Clinical Oncology (2017) e205)

Challenges

To achieve this aim, collaboration was key: the team worked with colleagues in other Cancer Centres who have Consultant or Advanced Practice Palliative radiographers already in post, or who are developing a similar role. A business plan was developed, with included protected time to spend shadowing Consultant Oncologist/ Mentor in regular clinics, and for project work.

The new specialist Palliative Radiographer will be required to keep records of developing competencies, complete learning modules, attend specialist training sessions and secure both local and academic mentors to ensure they met the required standards for the role.

A radiographer- led clinic for palliative radiotherapy will run alongside a clinician- led clinic, and appropriate referrals will be diverted to the palliative radiographer for consultation, consent, planning, prescribing and approval of radiotherapy treatment.

Outcomes

A major outcome of this project is that it will ensure quicker and easier access to palliative radiotherapy, by reducing the time taken for treatment planning and therefore reducing the delay for patients awaiting urgent treatment. It also enables busy clinicians to spend more time in planning radical treatments and therefore will have a 'knock-on effect' in reducing waiting times for all radiotherapy patients.

Next steps

The foundations of the idea to set up this role have been ongoing for a number of years with obstacles delaying it - mainly staffing shortages. However, it is slowly being realised that this will ultimately result in a more efficient service and improved patient experience, and it is now progressing with awareness and support increasing all the time. It is the project lead's aim to have the role up and running fully within the next six months.

> The link with the Bevan Commission has helped to promote this project and bring it to people's attention.
>
> **Christine Sillman, Therapeutic Radiographer**

Comisiwn Bevan Commission

Using mathematical modelling to schedule dialysis treatment effectively

Abertawe Bro Morgannwg University Health Board

Dafydd James, Senior Pharmacy Technician, Debbie Hopkins and Dialysis Unit Staff
Partner: Dr Daniel Gartner- Aneurin Bevan Lecturer of Operational Research School of Mathematics, Cardiff University

This Bevan Exemplar project applies innovative modelling to improve dialysis treatment scheduling.

Background

Hospital-based dialysis usually requires patients to attend three times per week for 3-4 hours at a time. Most patients also require transport services to convey them to and from treatment.

The 'Dialysis reMix' project emerged during the inaugural Welsh Health Hack in 2017. An intriguing presentation by Dr Daniel Gartner demonstrated how LEGO and a mathematical modelling programme, can be the answer to many of the challenges in which we face in the health service.

The number of people with renal disease is increasing year-on-year and there is an expectation to meet the demand for treatment, which is becoming difficult to manage with limited resource and capacity. Applying mathematical modelling to dialysis treatment scheduling seemed like an obvious solution that potentially could benefit all involved.

Aims

In this project, the goal is to more effectively schedule dialysis sessions by planning patient treatment based on their individual session pattern.

The team models the problem using mathematical programming to implement a Decision Support System (DSS), that allows them to consider a variety of different constraints such as patient demand, dialysis resource including staffing, as well as transport requirements and availability.

Using the Decision Support System, demand forecasts will be extracted from Vital Data (consolidated electronic record) in order to aid decision making to maximise resources more effectively.

Challenges

Engaging with stakeholders has been the most significant challenge, as there were so many professionals involved and this project entailed making changes to a number of in-house practices which have been in place for many years.

It was important to listen and learn from each other's experiences and perspectives in a way which has not been done before. The opportunity to share a grand vision with key decision makers has been key to the progress of the project and co-production will be pivotal to its ongoing success.

Outcomes

The ultimate goal is for patients to experience a seamless treatment schedule. This would include a number of elements such as:

- Routine bespoke appointment times, which will reduce unnecessary waiting times before and after treatment, leading to an overall better experience for each patient.
- Collaborative approach by all stakeholders, to communicate and co-ordinate effectively by using the most appropriate technology and data available.
- Transparency and ability to view an 'Alive' view of activity, which can be co-ordinated centrally.
- Staff embracing technology and data to help manage their workload efficiently leading to more time spent with patients.

Next steps

Successful implementation of the project within our units would likely see adoption of the system across the other dialysis units across the region initially, then nationally. Adoption at national level would allow for centralised co-ordination of services and open the door for future enhanced services as well as a reduction in inappropriate variation across the nation.

This project is a small yet important element of a wider transformation programme for Renal Services, which is pushing boundaries and questioning the status quo.

> "The Bevan Exemplar programme is a whirlwind experience not to be missed. Embrace the opportunity and don't look back!"
>
> **Dafydd James**

LEGO + Optimisation Model

+

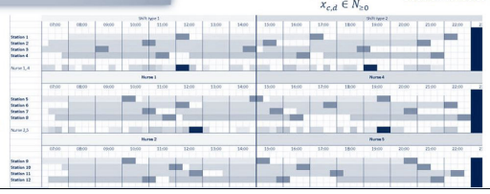
$$minimise\ \ z = \sum_{r=1}^{R}\sum_{t=1}^{T}\left(V_{r,d,1} + V_{r,d,2}\right)$$ Balance utilisation across the week

$$\sum_{d=1}^{T} x_{c,d} = TPT_c \quad \forall c \in C$$ Assign all patients to schedule patte

$$U_{r,d} - V_{r,d,2} \le \sum_{c=1}^{|C|}\left(d_{c,t,r} \cdot x_{c,d}\right) \le U_{r,d} - V_{r,d,1} \forall r, t$$ Utilisation targets

$$V_{r,d,k} \ge 0\ \forall r, d, k$$
$$x_{c,d} \in N_{\ge 0}$$ Decision variables

=



Gartner, D., & Padman, R. (2018, January). E-HOSPITAL–A Digital Workbench for Hospital Operations and Services Planning using Information Technology and Algebraic Languages. In MEDINFO 2017: Precision Healthcare Through Informatics: Proceedings of the 16th World Congress on Medical and Health Informatics (Vol. 245, p. 84). IOS Press.

GIG CYMRU NHS WALES

Bwrdd Iechyd Prifysgol Aneurin Bevan University Health Board

ANEURIN BEVAN

UNIVERSITY HEALTH BOARD

Comisiwn Bevan Commission

The big difference of small weight losses: creating a digital solution for patients with obesity

Aneurin Bevan University Health Board

Dr Doris Behrens, Innovation Lead at ABCi
Partners: Dr Enzo Di Battista, Research Fellow and Dietitian at Adult Weight Management Service, Aneurin Bevan University Health Board
Dr Daniel Gartner, Aneurin Bevan Lecturer of Operations Research, Cardiff University, School of Mathematics

This Bevan Exemplar project aims to tackle obesity and obesity-related illnesses by explaining the health benefits of small weight loss through a digital app.

Background

Aneurin Bevan University Health Board (ABUHB) established the Adult Weight Management Service (AWMS) in 2014 in Gwent, an area that has some of the highest obesity rates in Wales (approx. 29%). The service aimed to support people to achieve clinically meaningful weight-loss (i.e. above 5%). However many patients have more immediate weight-loss expectations, and these unrealistic expectations often hinder motivation because patients do not achieve the weight-loss they desire, become frustrated and drop-out from the service.

A key challenge is keeping patients engaged and motivated. The focus towards health gains as opposed to aesthetic weight loss has been reported to enhance 'intrinsic motivation' (i.e. acting for the inherent satisfaction of the activity itself) which is associated with weight-loss maintenance.

Aims

The main objective of this project was to bring together dietitians, mathematicians, hospital staff and patients to, step by step, develop a mobile phone application that can demonstrate the health gains that people achieve from relatively small amounts of weight loss. The app is built to be deployed on Android, iOS or Windows-based mobile devices and can also sit alone on a Windows or Mac computer.

Challenges

Initially, the team had no funding to compensate an external industry partner for converting their mathematical model from an Excel Spreadsheet tool into an application for smart phones and no time to do the translation in house. Other issues arose around the storage of user data but was resolved for patient interventions within the ABUHB Adult Weight Management Service.

Outcomes

The patients involved in the creation of the smart phone application reported that the app had improved their understanding of how small amounts of weight loss (i.e. 1-5kg) can improve their health. Larger-scale evaluation will have to analyse how the enhanced motivation reduces early 'drop-out' or missed appointments in the ABUHB Adult Weight Management Service and thus generates the weight-loss related health benefits. As a side-benefit, the app also computes the cost savings associated with the acquired health benefits. For any pre-diabetes patients losing 2 kg over two years without instantaneously regaining it, we save at least £5,000 treatment cost over the next 25 years.

Next steps

The team's next steps will be to carry out a wider analysis with more patients and follow a Quality Improvement approach to evaluate the motivational effect of the app. The team will publish the tool on the App Store and on Google Play so that people with smartphones around the world can access it.

To enable clinicians to monitor the patients' motivation and health outcomes, future work will include the development of an integrated information system with the app. The longer-term aim for wider app implementation across the weight management service is to lead an evaluation of the effect on patients' weight loss related health improvements and appointment needs.

> "The experience with our patients was worth the effort; the support given by the Bevan Commission team was brilliant."
>
> **Dr Doris Behrens**

> "I would have never believed that such a tiny weight loss has such a huge impact on my health!"
>
> **Patient**

Comisiwn Bevan Commission

COOK® MEDICAL

Using a 'Stonebreaker' to tackle salivary stones for the first time in Wales

Aneurin Bevan University Health Board

Project Lead: Simon D. Jones, Consultant Oral and Maxillofacial Surgery
Industry Partner: Miles Williams – Cook Medical

This Bevan Exemplar project used a new medical tool to remove larger salivary stones so that patients could avoid major surgery.

Background

Salivary stones are a significant problem causing facial pain, swelling and recurrent infections which, when severe, can require hospital admission.

Currently, at most units, surgical removal of the affected salivary gland under general anaesthetic remains the only treatment option available – implicating the well-documented surgical risks of anaesthesia. There are also the extra financial costs of general anaesthesia to consider, such as overnight stays and indirect costs to the individual, who has to take time off work, and to society in terms of a loss of productivity.

At the Royal Gwent Hospital, they have endeavoured to improve the management of these patients by purchasing a 'Stonebreaker', which can remove larger stones with minimally invasive techniques.

This is currently the only unit in Wales which is treating patients with small salivary stones using minimally invasive techniques, called sialendoscopy. Performed under local anaesthetic, small stones (less than 5mm) are visualised with tiny 1mm endoscopes and retrieved with baskets under direct vision. Larger stones greater than 5mm, however, cannot be easily managed with this technique alone.

Aims

The aim of this project was to purchase a revolutionary intraductal salivary stone Lithotriptor 'Stonebreaker', which was previously trialled to facilitate the removal of larger stones. It was hoped that this equipment would allow more patients to be treated endoscopically with minimally invasive techniques and, therefore, avoid the need for major surgery.

Challenges

The main challenge was securing the capital funding for the equipment. This was, however, eventually achieved following funding from the Bevan Commission and numerous discussions with the Finance and the Surgical Directorates at Aneurin Bevan University Health Board.

Once the equipment was purchased, training staff in its set-up, use and sterilisation was initially difficult. These barriers were overcome with excellent support from the industry partner (Cook Medical), who provided (and continue to provide) advice and training sessions for the surgeons and nursing staff.

> "With the support of the Bevan Commission I have been able to successfully treat more patients with the 'Stonebreaker'. This has helped hugely in setting up the South Wales Sialendoscopy Unit based at the Royal Gwent Hospital, Newport."
>
> **Simon D. Jones**

Outcomes

Using the 'Stonebreaker' for these cases has indeed proved revolutionary. It now allows patients and surgeons to consider a more conservative approach for all salivary stones.

The 'Stonebreaker' fragments the larger stones to aid removal using pneumatic lithotripsy under direct vision. It is performed under local anaesthetic with the mini endoscopes as previously described.

The obvious benefits are:

- A one hour procedure under local anaesthetic.
- Minimal complications with patients able to return to work the next day.
- General anaesthetic lists and ward beds are made available for other surgical procedures with obvious cost benefits.

The results have shown a 90% complete resolution of symptoms. The treatment has also been well tolerated under local anaesthetic, confirmed through a patient satisfaction questionnaire.

The project team has presented these early results at a national conference, and has found they are comparative with much larger studies in London and Germany.

Next steps

The next steps for the project are to continue to promote the service throughout Wales:

- Advertise the procedure on the Health Board website and national maxillofacial website.
- Establishing in-house courses for surgeons both locally and nationally.
- Establishing a national database of surgeons carrying out this procedure in the UK.

The team is currently in the process of employing a further consultant in maxillofacial surgery with an interest in this field. This will help with the extra numbers of patients now being referred to the service from across South Wales to the newly titled 'South Wales Sialendoscopy Unit' based at the Royal Gwent Hospital, Newport.

Comisiwn Bevan Commission

Tackling the medical workforce recruitment crisis by engaging with local communities

Aneurin Bevan University Health Board

Project lead: Professor Paul Edwards, Consultant Surgeon/Assistant Medical Director/Honorary Senior Lecturer
Participants: Mrs Beverly Davies – Aneurin Bevan University Health Board, Mr Guy Lacey – Coleg Gwent

This Bevan Exemplar project is creating a pipeline of local doctors to improve recruitment and retention.

Background

There will be only half the required general practitioner workforce in Aneurin Bevan University Health Board (ABUHB) in 10 years. Surgeries are already closing. Most medical students are from relatively affluent backgrounds and will not choose to spend their careers in regions of relative social deprivation in Wales.

Wales has the least number of home-grown doctors of any of the UK nations. Due to doctor shortages in 2015-2016, locum costs in Wales were valued at approximately £50 million. In response to medical workforce shortages, 5 new medical schools are creating 1500 extra medical school places in England (about 1 new doctor per 37000 population).

Further medical schools are planned. In Wales, 40 new medical school places have been created (about 1 new doctor per 75000 population) drawn from the same traditional pool of applicants to medical school.

Aims

This project identified reasons why local students are unsuccessful in becoming doctors, including difficulties with engagement in education, confidence, financial reasons and lack of mentorship.

The project aimed to tackle these problems and to enable local students to enter medical school and return to their local communities once qualified.

These plans challenge traditional thinking but are of paramount important to sustain our medical workforce.

Challenges

There is an inherent challenge in developing a career in Medicine, as it requires a demanding academic record.

Many students from communities in Wales might not obtain the traditional educational requirements for admission to medical school in a Russell Group Medical School.

Independent information from the A level information service (ALIS) in Durham University provides evidence that despite the lack of raw A level grades in Welsh students they are very capable and will benefit from a structured approach to succeed in medical school to become our future medical workforce.

This project aims to provide a capable and sustainable medical workforce in Wales.

Outcomes

Key outcomes of the project include:

- Provision of resource by ABUHB in terms of medi-prep courses and training videos commissioned to coach students for success in medical school interviews.
- A strengthened partnership between Coleg Gwent (part of the Careers College Trust) and the health board. The college named ABUHB as a major vocational training partner in health and social care.
- Partnership working between Coleg Gwent, Cardiff University Medical School and ABUHB to develop an Access to Medicine further education course to increase success of local students gaining access to medical school.
- Joint working with University of South Wales to establish a pipeline of local doctors through a Medical Sciences degree feeder course and other initiatives.
- Development of a joint workforce strategy for health and social care.
- Personal coaching and provision of a bursary to the first successful student in this programme.
- Engagement with Cardiff University Medical School Admissions Group to widen access.
- Provision of bursaries from funds provided by Welsh business benefactors.

Next steps

The next steps for the project is to continue engagement with partnership working between Aneurin Bevan University Health Board, Coleg Gwent, Cardiff University Medical School, University of South Wales and Social Services to further strengthen the collaboration and develop new initiatives and activities. Future plans also include developing a streamlined pathway to identify and support able local students to provide a sustainable future medical workforce from our talented local population.

> "The Bevan Exemplar scheme provided an opportunity to innovate and improve the health of Wales."
>
> **Professor Paul Edwards,**
> **Aneurin Bevan University Health Board**

> "Without your support and guidance, I don't believe I would have been able to secure a place in medicine... you have allowed me to access my dream and I am truly grateful for that."
>
> **Student**

Comisiwn
Bevan
Commission

Using a smartphone application to check blood pressure at home

Aneurin Bevan University Health Board

Nathan Riddell, Junior Clinical Fellow and Osian Smith
Partner: Swansea University

This Bevan Exemplar project enables people to take their own blood pressure readings at home and produce an average reading over 7 days

Background

500,000 people in Wales have a diagnosis of high blood pressure (hypertension) and research from British Heart Foundation Cymru suggests another 350,000 have undiagnosed hypertension. GPs are responsible for diagnosing, monitoring and treating hypertension; a disease which significantly increases the risk of stroke and heart attack.

Six-monthly or annual check-ups offer only a tiny snapshot of a patient's true blood pressure and may be inaccurate based on factors such as the white coat effect, exercise or stress resulting in wrong diagnoses of hypertension, inadequate (or over-zealous) treatment and associated side effects.

Hypertension is a silent killer with patients experiencing minimal symptoms until strokes or heart attacks occur, which reduces patient compliance with treatment.

Aims

The aim of this project is to develop a smartphone application that allows patients to take their own blood pressure readings at home and produce an average reading over 7 days, which is compliant with National Institute for Health and Care guidance for home blood pressure monitoring. It also produces more accurate readings that GPs can use.

The team's initial aim was to send this blood pressure reading directly to the GP record. However, further product research meant that they revised this aim.

The project embodies prudent healthcare principles by encouraging collaboration between patients and GPs; using existing resources (blood pressure monitoring appointments with GPs) and equipment (smartphones) to best effect; applying evidence-based principles in technology-enabled monitoring to improve accuracy; and (through discussion with GPs, patients and healthcare professionals) providing a local app both meets current needs and fits resource requirements.

Challenges

Initial work with GPs and a telemonitoring researcher uncovered a concerning issue with the core aim of sending readings into the GP record remotely. The issue was that there was a lack of governance over who would take responsibility for those readings, and where would they be hosted.

Instead, through extensive discussion, we found that a local-only app which records readings and provides the patient with a completed PDF form of their readings at the end of the monitoring period would be sufficient and would still meet the core aims of the project. This form could then still be shown to their GP during an appointment.

Over the project period, the team had some difficulty accessing available funding due to the structure of the project being independent of NHS bodies. Given these issues, the development was completed solely by the project team without external professional software development support. This, in combination with both project team members being in full-time positions outside the project, created a challenge in terms of time commitment and delayed the project timeline - eventually finishing the final release in December 2018.

Outcomes

This app aims to engage patients in their own health management by giving them the power to contribute to their own wellbeing. It introduces visual feedback and a collaborative element to the interactions between GPs and patients.

The team envisages this will also create a more motivated patient who can take control in other areas of life - to override the apparent absence of physical symptoms in hypertension.

The introduction of robust averages over a week rather than at single point of testing will also provide GPs with more accurate information to make informed decisions. GPs can then work collaboratively with patients to control their blood pressure and ensures this remains at healthy levels (i.e. reduce over- or under- treatment and the associated side effects).

Next steps

Having created a viable application which addresses the core aims of the project, the next step is to trial this with a small group of patients across 1-2 GP surgeries to gain feedback on the app itself and its implementation on a wider scale.

The team has also begun the process of creating an online portal so that patients to see their own results, and they plan to trial this with GPs once appropriate security compliance is secured.

The team also aims to produce a similar application for the monitoring of blood sugar in diabetes and peak flow diurnal variation in asthmatics to provide better information to GPs and improve communications between GPs and patients who have chronic conditions.

> The Bevan Exemplar programme was a brilliant foray into medical innovation and a true experience of the nuances of NHS finance, management and administration.
>
> **Nathan Riddell**

GIG CYMRU NHS WALES

Bwrdd Iechyd Prifysgol
Betsi Cadwaladr
University Health Board

BETSI CADWALADR

UNIVERSITY HEALTH BOARD

Comisiwn Bevan Commission

Delivering vital eye care out-of-hours through telecommunications technology

Betsi Cadwaladr University Health Board

Lead: Claire Morton, Consultant Ophthalmologist
Participants: Tony David, Andy Stott, Divya Mathews, Alexander Chiu, Conor Lyons, Adonis El Salloukh
Industry partners: Spectra {UK} Ltd, Grafton Optical Company Ltd

This Bevan Exemplar project is providing better and fairer eye care for patients in North Wales by using cutting-edge technology

Background

If you live in North Wales and have an urgent eye problem during the day, you will probably see your optometrist or GP first and then be referred to an eye clinic.

However, if your eye problem occurs after 5pm you will be assessed in your local Emergency department initially and then referred to an on-call ophthalmologist. Currently, this will be a local on-call ophthalmologist until 10pm and afterwards it is an on-call ophthalmologist based in Glan Clwyd Hospital.

This means that if you live closest to Bangor or Wrexham you may have to travel an hour's journey to be seen, unless the on-call ophthalmologist feels the problem can be safely diagnosed by discussion and treatment carried out locally. Assessment of an eye problem prior to phoning for advice is difficult for the Emergency Doctor as most doctors spend just 1 week studying ophthalmology during Medical School.

If the on-call ophthalmologist could both receive the history and see the front of the eye and the retina they could make a more confident diagnosis. Sending external eye and retinal photographs from the spoke unit to the hub is the basis of this project, which aligns with prudent healthcare by reducing variation in the standard of care for patients.

Aims

The project's main aim is to provide better and fairer acute eye care for patients living in North Wales.

Challenges

Initially the team wanted to use Paxos DigiSight, an adapted iPhone with a macro lens for the front of the eye and an attachable arm with a convex lens for the retina. However, on trialling the kit, they encountered two major problems:

- Firstly, it was difficult for a specialist ophthalmologist to obtain good quality retinal photos so therefore it was unrealistic to expect an Emergency doctor to do this.
- Secondly, although acceptable in the USA, the temporary storage of images on a web cloud was unacceptable in terms of security for our IT department.

The solution to both problems lay in an automated high-quality retinal camera and a macro adapted Canon camera. Both can use an interface to send images direct to the existing hospital Ibex image store, avoiding a cloud system.

Outcomes

A teleophthalmology service should reduce the number of patients who have to travel at night to have their eye condition diagnosed. Treatment can be started promptly in the Emergency department and continued the next day in the local eye clinic. Photographs will educate emergency staff and provide comparison in follow up care.

Currently the number of patients who may benefit from this is small, but in future there will be fewer staff grade ophthalmologists available for out of hours cover and so greater use of a hub and spoke system of ophthalmic advice is planned.

Next steps

The team has submitted a funding application for the equipment and hope to trial the system in two or three of the emergency departments within the Health Board.

A period of training will be required for the emergency staff involved, and in addition to the taking of photographs, they will be asked to complete a standard history and will be trained on the taking of eye pressures using a portable contact eye pressure measurer (Tonopen).

Over the next 12 months, the team hopes to be able to record the outcomes of acute out-of-hours eye care management with regard to diagnostic quality of images, number of patient transfers avoided, and the satisfaction of patients and staff with the system.

> "It's inspirational to be involved in this scheme, which is encouraging people with imaginative projects and a real desire to deliver good compassionate care."
>
> **Claire Morton**

Comisiwn Bevan Commission

Improving capacity and patient access in primary care

Betsi Cadwaladr University Health Board

Dr Arfon Williams, GP and team
Ty Doctor, Nefyn

This Bevan Exemplar project increased capacity and improved patient satisfaction at a struggling GP surgery.

Background

Dr Arfon Williams was left as the 'last man standing' at a primary care practice in Nefyn, caring for 4,500 patients over two sites. The GP surgery was topping the charts for all the wrong reasons: named as "most likely to fail in North Wales" by a senior Health Board member.

Dr Williams had a choice: calling it a day, handing back the keys to the Health Board, risking bankruptcy and the job security of his staff; or finding a new way to provide a safe, comprehensive service to patients. He chose the latter.

Aims

The team decided to change their way of working by triaging and signposting all phone calls and upskilling their staff. They communicated these changes to their patients, emphasising that they were being made with the sole intention of improving capacity in primary care.

The project aimed to put existing staff to better use and changing the skill mix of the practice to enable a sustainable workload.

Challenges

The challenges facing the project were immense: the team needed to fundamentally change the way it worked, from answering the phone to liaising with patients. Team members explained to patients the rationale behind implementing these changes, and asked them to be understanding in this new mode of working. Other issues included loneliness and lack of wider support in having to face these challenges.

Outcomes

A key outcome of the project is that patients are very happy with the service they receive. They are able to pre-book appointments and the surgery also allows on-the-day appointments.

Other benefits include happier staff with better morale, in that there is always a solution to offer the patient. Patients are also satisfied that they get their problems dealt with by a suitably qualified clinician in a prompt manner (usually within 24 hours).

Next steps

The next steps for the project are to scale-up and try and spread the message of how it has changed working practice.

The project team has received offers from the RCGP to facilitate workshops both in Wales and England, and is working closely with the Bevan Commission and the Welsh Assembly Government to try and scale this up more locally.

> Being a Bevan Exemplar has been an immensely empowering experience. Top banana!
>
> **Dr Arfon Williams**

This project won a RCGP Bright Ideas Award

Did you know?

Following the Bevan Exemplar scheme, on average the Ty Doctor practice has about **15%** spare capacity on a daily basis.

Comisiwn
Bevan
Commission

Total knee replacement through day admission surgery

Betsi Cadwaladr University Health Board

Project lead: Mr Balasundaram Ramesh, Consultant Orthopaedic Surgeon and Clinical Lead
Participant: Dr S Shenoy, Consultant anaesthetist and lead arthroplasty anaesthetist
Executive Sponsor: Dr Evan Moore, Executive Medical Director, Betsi Cadwaladr University Health Board
Industry partner: B Braun Medical Ltd, Sheffield, UK

This Bevan Exemplar project aims to improve patient experience and free up vital resources by completing knee replacement surgery and discharging patients within a single day

Background

Knee replacement is one of the most common orthopaedic procedures. There are around 900,000 of these procedures performed in England and Wales annually.

The technique and the technology are constantly improving to improve health outcomes for patients. The size of the incision is getting smaller almost by 50% and blood loss has also decreased to around 200 ml per case from 1200 ml. This is primarily due to anaesthetic and perioperative infiltrations of medications, in line with enhanced recovery guidelines.

As a result patients feel less pain, less sickness and are able to move their knee immediately following the surgery. Generally, the patients are relatively fitter for their age. Therefore there is a natural instinct to get them up and about following the surgery, and to arrange for them to be discharged on the same day with adequate support.

Aims

The aim of this project is to enable patients to have total knee replacement surgery and be discharged within a single day. This approach improves patient experience primarily, but a decrease in length of stay is a helpful by-product.

The project team wants to harness technology to overcome barriers, such as using a pain modifier (like Cryo cuff) and state-of-the-art telemonitoring devices to monitor physiotherapy progress. The project also requires the patient to have a buddy (such as a family member) to support them during the first 48 hours following surgery.

Challenges

There are many barriers to the success of this project. The most important of these is overcoming a traditional mindset and approach. It is difficult to persuade staff to mobilise the patient following surgery. This due to a traditional approach to patient discharge, along with staff shortages, for example physiotherapists.

The project lead had to demonstrate the steps to mobilise the patients himself at times, in order to show the effect of enhanced recovery.

Although this project was successful in getting selected by Bevan Commission and it has their seal of approval, getting the financial support for a therapist to support the project was very difficult. Finally, however, the project lead has managed to get some limited support to prove that this approach will work.

Outcomes

As NHS is under tremendous strain, everyone needs to think differently. Looking at the process carefully, the total knee replacement procedure itself is getting simpler and the patient's experience is also positive. The short hospital stay following the surgery is the natural progression. The project team developed a partnership with patients and their families, so they can identify a buddy who can support the patient immediately following surgery with basic nursing skills.

The current stay post-surgery is 4-5 days, and therefore this approach will save 4 days of inpatient stay per patient. If this approach is implemented in 40% of cases in this hospital, the expected economic saving for the Health Board is £350,000 per year.

Next steps

The project lead has visited various hospitals to study the technique, including in France, Newcastle and York. The team now has the method and protocol ready. As part of the trial, 2-3 patients were trialled on a short-stay basis (overnight) and were discharged within 24 hours. The feedback from these trial patients was very good. Therefore the project lead will extend the trial shortly once a therapist is identified, and it is hoped that many more knee replacement patients will benefit from the same-day discharge approach.

> This has changed my approach to my profession. I follow prudent principles meticulously and I take immense pride in being associated with the Bevan Commission. Think different, act different and be Bevan.
>
> **Balasundaram Ramesh**

Comisiwn Bevan Commission

Linking Mental, Physical and Social Health to care for 'Nobody's Patient'

Betsi Cadwaladr University Health Board

Quay to Well-Being (Q2W) Co-operative:
A Proposed GP- Practice (GMS) 'Plus' Service
'Not for Profit' company that operates on Co-operative principals

Chair: Dr Tony Downes, Extended Role GP
Board Members:
Jennifer Ward, Lived Experience
David Williams, Carer
Daniel Phillips, Psychological Trauma Therapist
Paula Curtis, Senior Practitioner Occupational Therapist
Rebecca Bertram, Finance/Yoga Teacher
Deborah Jones, Secretary
Kevin Meyrick, Practice Manager
Alan Owens, Information & Technology
Adrian Johnson, Advanced Nurse Practitioner, Company Secretary

This Bevan Exemplar project is designed to provide high quality, prudent GP services AND high-quality innovative care for people whose problems fall between the gaps of health and social care services in Wales.

Background

Despite the enormous benefits of modern disease management, the culture and organisation of modern medicine has excluded a substantial number of people, worsening their symptoms and experiencing considerable, unnecessary costs.

- Up to 50% of hospital outpatient appointments
- Up to 10% of hospital admissions
- Up to 40% of GP appointments

The overall cost has been estimated at £3 Billion to the NHS, 10% of the NHS Budget and £14 Billion to the UK economy.

There is a considerable body of research (including the Adverse Childhood Events study), which has demonstrated the need for a psychological and social-trauma-informed approach to care, which links mental, physical, social and spiritual health to the quality of relationships.

The Q2W co-operative has been co-produced in partnership with community members to care for 'Nobody's Patient'; those people whose problems fall between mental and physical health services, between primary and secondary care services, between health and social care services and between various third sector services. Q2W is integrative, innovative, transformational and scalable; a model of care fit for the 21st century.

> A short explanation of how my mental and physical symptoms were connected and linked to my life experiences was like a light bulb coming on. Nobody has ever explained things like this, which really helps.
>
> **'Nobody's' Patient' (Anonymous)**

Aims

The primary aim of the project is for health and social care professionals to take the lived experiences and personal histories into account when engaging with people and patients. Q2W builds on the origins of the NHS as a miners' co-operative to be a modern-day co-operative with the additional benefit of 21st century science & technology.

The work of Q2W includes:

- Putting the lived experience at the forefront of health and social care by encouraging community engagement and participative democracy.
- In addition to chronic disease management, assisting people suffering the effects of psychological/social trauma and a range of debilitating persisting physical symptoms such as chronic pain, fibromyalgia, chronic fatigue and stomach and bowel symptoms.
- Creating an intermediary well-being hub that encourages collaborative working and co-production for prudent healthcare.
- Providing education and training as well as treatments, therapies and social interventions, across boundaries and at scale.
- To be carbon neutral and utilise evolving high-tech healthcare technologies: integrated data and technology to improve the delivery of effective health and care services with improved communication to the patient and health professional.
- Business intelligence, analytical services and effective communication technologies designed around Q2W's evolving healthcare.

Challenges

A major barrier to successful implementation of Q2W is the hospital, secondary care model, which dominates in governance and funding compared to primary care/GP practice. Against this background, Q2W was created and implemented despite minimal resources due to the altruistic nature of the Q2W Board members and collaborators. In order to transform the NHS and social care, there is a need for leadership, resources and funding to be directed to support innovations such as Q2W.

Outcomes

Although the Q2W concept has been developed and refined over the past 20 years, during the past year it has been incorporated and implemented with positive outcomes for patients and services. Our work has been presented at 5 UK national forums on MUPS and psychological trauma, and we will be presenting our work to an all-Powys, primary care training event in 2019. A proposal to move a GP practice under the Q2W Co-operative is currently underway. The GP is also involved with research into traumatic stress and medically unexplained physical symptoms and represents general practice in the development of the All-Wales Post Traumatic Stress/Complex Post-Traumatic Stress Disorder service.

Next steps

In order for Q2W to meet its objectives and scale up, Welsh Government, the Public Service Board and health board need to invest and support the Q2W Co-operative as a matter of urgency.

The Q2W Co-operative is to replace a GP partnership and provide GP services (GMS) as well as services for persisting unexplained physical symptoms and other problems that arise from psychological/social trauma and adversity (Plus).

Q2W intends to scale-up locally and nationally through training and technology, and to continue to work with Public Health Wales, Glyndŵr University and a range of collaborators, including secondary care mental and physical health services, and social care.

www.QuayToWellBeing.com


Dr Tony Downes

GIG CYMRU NHS WALES | Bwrdd Iechyd Prifysgol Caerdydd a'r Fro | Cardiff and Vale University Health Board

CARDIFF AND VALE

UNIVERSITY HEALTH BOARD

Comisiwn Bevan Commission

A cluster-based toolkit to recruit and retain GPs

Cardiff and Vale UHB

Culturvate
Dr Chris Bryant, General Practitioner, Cardiff South West Cluster

This Bevan Exemplar project brought together a cluster of GP practices in Cardiff to promote recruitment and retention

Background

Primary care is the bedrock of the NHS, and the key to providing prudent healthcare in the form of cost effective preventative medicine to the population of Wales. However, the sustainability of primary care is threatened by difficulty in recruiting and retaining GPs.

Aims

The aim of this project was to explore whether creating a culture of positivity and working together as a cluster of 11 GP practices could help boost recruitment and retention.

To do this, the cluster partnered with Culturvate to use its employee engagement software, Teamphoria. This enabled the cluster to recognise and reward all employees and communicate more effectively.

The cluster created a 'First5' education and peer support group for newly qualified GPs working within the area, and held a recruitment event showcasing the benefits of other innovative projects in the cluster and working with third sector partners.

This project demonstrates prudence by working at scale to get the most out of the resources that the cluster already has to improve efficiency.

> My Bevan Exemplar experience has had its ups and downs, but overall it has been a fantastic springboard for a whole host of other opportunities.
>
> **Dr Chris Bryant, General Practitioner, Cardiff South West Cluster**

Challenges

The major challenge for this project, and an on-going challenge for Wales in general, is the increasing divide between GPs in locum roles and those in substantive posts. There is growing resentment from GP partners about rising locum rates and perceived drop in quality of care provided.

GP trainees that were surveyed as part of this project mostly intended to become locum GPs, with the majority citing better work life balance, lower risk and less responsibility as their reasons for this.

Outcomes

During this project, the cluster tried to engage with trainees and locum GPs and spread a message of the positives of working in the same area for a longer period.

As a result, the cluster was successful in recruiting two new GPs to one of its practices. This has enabled improved patient access to primary care, and less pressure on appointment time. It has also greatly reduced spending on locum GPs, improved continuity of care, and has enabled GP surgeries to provide more timely access to treatments such as minor surgery and joint injection.

The recruitment event has raised the profile of the cluster and was well attended by health board members, improving links and hopefully leading to further collaboration.

Next steps

Cardiff South West has recently been awarded a transformation fund bid to become a legal entity and expand the use of social prescribing schemes to reduce social isolation. The cluster intends to take Teamphoria forward and to use it to engage with the new members of its expanding multidisciplinary team.

Following the success of the recruitment event, this will become an annual event to attract trainees and newly qualified GPs and reinforce the cluster's positive message.

Did you know?

The formation of a First5 group has resulted in improved peer support and ongoing education for GPs in the most challenging part of their career. It is hoped that this will improve retention.

Comisiwn Bevan Commission

Sharing best practice across the UK for health-based youth work

Cardiff and Vale University Health Board

Shaun Thomas, Renal Youth Worker

This Bevan Exemplar project is developing an online hub so that health-based youth workers across the UK can share ideas and experiences to develop this emerging healthcare role.

Background

Health-based youth workers support the social and personal development of young people with a range of conditions across various healthcare settings and specialities. The variety of patient needs supported by a health-based youth worker make it a critical role for the effective, efficient and prudent care of young patients. Professor Nick Rich (Swansea University) confirmed 828 potential pathway combinations for this patient group, managed by health-based youth workers.

Over the last three years, the project lead has demonstrated the value of having a Youth Worker as part of the multidisciplinary team within Nephrology Services in South Wales, and shown how it can be a crucial role in supporting young kidney patients.

Having grown the service based entirely on the needs of the young people who use it, the initiative is now seeing empowered young people who are happier, have better control over their health conditions, are more equipped to cope with adversity and are more active. Many have been able to return to work or training, have started new careers and are experiencing improved health outcomes.

Aims

The project originally aimed to design and test a model of best practice for health-based youth workers across Wales.

After being encouraged and challenged by the Bevan Commission to think big and upscale the idea, the project lead sought the opportunity to present the project at a national health-based youth work conference. From this, the idea developed into an online Health-Based Youth Work Hub, with the conference shaping the initiative and guiding it in a different direction.

The aim now is to create a practical and usable online platform from which health-based youth workers can develop a community of support: share best practice, share how they evidence their work and develop research opportunities.

The online platform aims to enable health-based youth workers to work together more effectively and fast track the development of a new and emerging professional role within healthcare.

Challenges

Having received such positive and constructive feedback at the Health Based Youth Work conference, the project changed direction entirely and the project lead was tasked with developing an online hub.

This was almost an entirely different project, meaning several unanticipated challenges to overcome, such as:

- Building a website
- Securing funding
- Ensuring the hub could function UK-wide
- Establishing how the hub would be monitored
- Planning hub content

The only way to overcome these challenges was to start, then learn, make mistakes, learn and keep developing the project. The project lead had great support from the Bevan Commission team, who were able to signpost to people who could help with funding, web design and various other elements.

Outcomes

This project has so far:

- Strengthened partnerships with health-based youth workers across the UK
- Worked with the health-based youth work community to design and co-create content for an online hub
- Developed a template design for the online platform
- Explored avenues for funding a web developer

By sharing best practice and being able to emulate excellent examples of care at a UK-wide level, it is anticipated that there will be a positive impact on services for young people.

By developing the Health-Based Youth Work Hub, it is hoped that these benefits can be extended to patients UK-wide, ensuring best-practice is shared and work is evidence-based.

This comprehensive resource (developed and coproduced by and with the community) will improve, develop and push forward the emerging professional practice of health-based youth workers.

Next steps

Secure final funding, so that a web developer can make the online hub a reality and launch the site for health-based youth workers UK-wide to use. Following this launch, it is hoped that health-based youth workers will be enthusiastic and will increase its usefulness by uploading and downloading tips and lessons learned.

> I have not only developed my project over this past year, I have developed myself as a professional
>
> **Shaun Thomas, Renal Youth Worker**

Comisiwn Bevan Commission

A novel device invented in the NHS to improve management of tracheostomy tubes

Cardiff and Vale University Health Board

John Maisey, Chief Clinical Technologist
Industry Partner: Brodwaith (HGR) Ltd

This Bevan Exemplar project aims to bring an NHS invention to market to improve the care of tracheostomy patients.

Background

When a patient requires a tracheostomy, which is an opening created at the front of the neck so a tube can be inserted to help them breathe, it is vital that they receive ventilation quickly and efficiently.

Effective management of tracheostomy tubes is key to this procedure and to patient care.

Aims

A device was developed by three NHS staff to help manage the tracheostomy tubes associated with the ventilation of patients. This device has been iteratively developed in partnership with a Welsh Small-Medium Enterprise (SME), and the device was close to market when presented to the Bevan Commission assessment panel.

The aim of the Bevan Exemplar project has been to investigate the process required to bring an NHS invention to market.

Challenges

The main challenge has been understanding and finding an innovation pathway for NHS inventions, and communicating with the correct people to assess the device and its impact on patient care if introduced as a novel device.

Outcomes

Early indications are that the introduction of this device would save nursing and clinical time and improve patient care. A clinical trial / product evaluation is required to fully understand the impact the introduction of this device would have on patient care, which would further inform decisions in relation to its market potential.

The device has the potential to improve patient care whilst also reducing the nursing and clinical time currently associated with the management of patients with a tracheostomy.

Next steps

The next steps are to get the device accepted onto a research and development-led clinical trial, designed to fully understand the impact this device would have on patient care and how this would align with the prudent healthcare model.

> My experience as a Bevan Exemplar has been positive and it has been very worthwhile.
>
> **John Maisey**

GIG CYMRU NHS WALES | Bwrdd Iechyd Prifysgol Cwm Taf University Health Board

CWM TAF

UNIVERSITY HEALTH BOARD

Comisiwn Bevan Commission

Using Excel technology to rapidly calculate nutritional requirements and create a feeding plan

Cwm Taf University Health Board

Emma Jenkins, Paediatric Dietitian

This Bevan Exemplar project has enabled a pre-existing tool to be used by other healthcare staff, in the absence of a dietitian, to calculate adult nutritional requirements.

Background

Paediatric dietitians in Cwm Taf University Health Board (UHB) use an Excel tool (that was developed in-house) to calculate nutritional requirements and devise tube feeding plans.

The tool was initially devised to improve accuracy and to reduce time spent calculating individual nutritional requirements and feeding plans, for tube-fed patients.

Dietitians are skilled in this process and can produce individual personalised feeding plans. However, these calculations can be time-consuming, impractical to complete at patients' bedsides or in outpatient settings, and therefore additional appointments are often needed to discuss proposed feeding plans, once requirements are calculated. This method does not facilitate co-production, doesn't utilise resources effectively and can lead to inappropriate variation.

7 day dietetic cover is not available in Cwm Taf UHB. If tube feeding plans are required, when dietitians are unavailable, generic emergency feeding plans are used. These plans are not individualised, and therefore don't allow healthcare staff to provide only nutrition that is needed, no more or less.

Aims

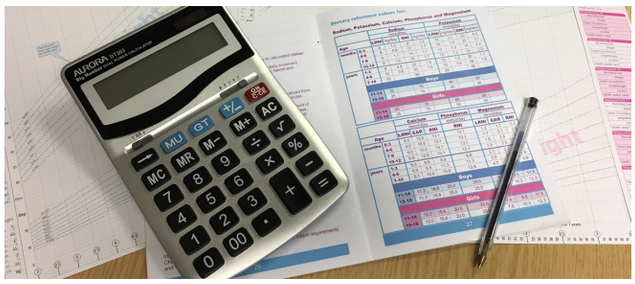
This project aimed to test whether the existing Excel tool could be:

- amended for calculation of adult nutritional requirements.
- used by other healthcare staff, in the extended absence of a dietitian, to achieve individualised, target feeding plans, in a more prudent way.

Challenges

Challenges included limited use in community settings as the tool is stored on internal IT systems. A mobile device is being sought to enable an initial trial in community settings and improve the efficiency of community dietetic care. Other challenges included potential changes in the way that nutritional requirements are calculated. Therefore planned updates to the tool have been halted, but when these changes are incorporated, the tool can be used to ensure accurate calculations with reduced variation while a new practice is established.

The tool does not consider the risk of refeeding syndrome – a serious condition that can be overlooked when initiating tube feeding. An update is being added to highlight patients at risk, further reducing human error and improving safety of patient care.



Outcomes

Using the Excel tool enables dietitians to calculate nutritional requirements accurately and devise a tube feeding plan in minutes. This allows for improved co-production with patients and carers; with feeding plans easily being discussed, modified and agreed at the point of assessment.

Introduction of the tool for use by other healthcare staff could reduce the time taken to fully meet nutritional requirements, with potential to reduce the length of patient stays.

Reducing time spent calculating requirements and feeding plans allows dietitians to direct their resources more efficiently, to those with the greatest health need. This equates to potential savings of around £2500 per annum for paediatric caseloads alone.

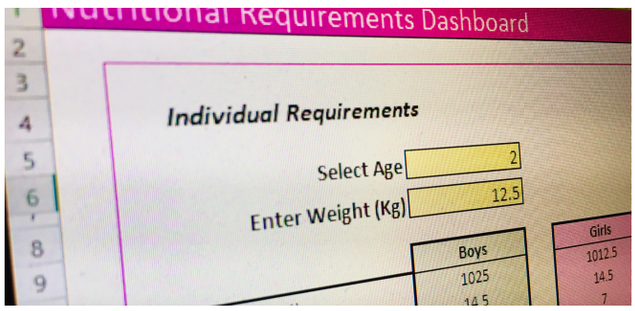
Next steps

The Excel tool will be updated, to reflect the needs of those using it, by incorporating:

- the changes in the way nutritional requirements are calculated
- a prompt system to highlight the potential of refeeding syndrome
- the nutritional content of powdered feeds that are made at non-standard concentrations

This updated tool will be trialled with dietitians and other healthcare staff working in a range of settings.

Alternative methods of sharing and storing the tool will be researched in order to make the tool more portable and accessible, particularly to those staff working in community settings.



> A truly valuable experience that changes mind-sets, creates networks and opportunities, and ultimately provokes innovative thinking to challenge and improve!
>
> **Emma Jenkins, Paediatric Dietitian**

> It's great – I'll be using it!
>
> **Dietetic staff member**

Comisiwn Bevan Commission

Using technology to remind vulnerable people to drink enough water in hospital

Cwm Taf University Health Board

Lead: Rebecca Thomas. Rebecca is senior nurse for professional standards and quality improvement

Participants: Karen Morgan and Sarah Davies
Industry partner: Spearmark

This Bevan Exemplar project introduced innovative talking mugs to wards and care homes to remind vulnerable people to drink water in a Wales-first trial

Background

Extensive evidence demonstrates the health benefits of good hydration. Dehydration, secondary to inadequate fluid intake, contributes to significant ill health and deaths among patients and is therefore a major safety concern.

Mild dehydration can contribute to confusion, falls, pressure ulcers and urine infections. Serious dehydrations can cause a person's condition to deteriorate rapidly, and can lead to acute kidney injury and even result in death. In addition, you cannot underestimate the human cost caused by such harm for patients and carers.

Through the power of social media, the project lead discovered that a smart hydration system – Droplet – was being tested in Musgrove Park Hospital, Taunton and that this trial had demonstrated that patients drank more with the use of the Droplet mug or tumbler.

Droplet is the world's first talking hydration aid – a programmable tool consisting of a base and mug (or tumbler) that will talk to patients if they are not drinking enough, and will also alert health and care professionals. The Droplet mug or tumbler is also designed to help people who are coping with tremors or swallowing problems.

Aims

The aim of the project was to undertake a trial using the Droplet Hydration System on 4 wards in Cwm Taf University Health Board and in one care home. Cwm Taf would be the first Health Board or Trust in Wales to trial this system and would be at the forefront of further developing this innovative idea with the area for the benefit of local communities.

Challenges

The key challenges were securing money to purchase the product and protecting staff time to undertake the testing. The project lead was fortunate enough to discover that there was an opportunity for some funding through the Health Board's Innovation Fund, so they applied and the project was successful. The lead was so excited by the product and was very keen to do the testing for herself. However it soon became apparent that it would never happen unless she engaged her team in the whole process!

Outcomes

Initial testing of the Droplet Hydration System has demonstrated an increase of 1000mls in oral fluid intake on average. This equates to approximately 4 glasses of water/fluid.

Improved hydration has been linked to a demonstrable decrease in average length of stay for patients and a decrease in hospital-acquired infections, such as wound and urinary tract infections.

Next steps

The next steps for this project is to engage with a care home and test the Droplet product there. In addition, the project lead presented the product to a group of individuals looking for a research opportunity linked to frailty, and they collaboratively developed a research bid for a study testing the product with a district nursing team and patients in their own homes. The team applied for funding from the Burdette Foundation and are very pleased to say that they have been awarded £97,000 to take forward the PARCHED study.

> "The Bevan Exemplar experience has been enabling and engaging. It has opened doors as well as opening my thinking. You realise that you are not alone and there are common challenges that we can face collaboratively across NHS Wales."
>
> **Rebecca Thomas**

GIG CYMRU NHS WALES

Bwrdd Iechyd Prifysgol
Hywel Dda
University Health Board

HYWEL DDA

UNIVERSITY HEALTH BOARD

Comisiwn Bevan Commission

Turning stories into numbers: Gathering data to inform and transform health and social care systems across Wales

Hywel Dda University Health Board

Lead Physiotherapists: Sue Griffith, Vic Ellis, Amanda Rutter, Jason Ellis

This Bevan Exemplar project developed a common language and scoring system to aid decision making and provide the most effective health and care intervention for patients.

Background

Healthcare in Wales is a complex system, incorporating social care, housing, and the community voluntary sector. Conventional means of measurement don't assist in understanding and navigating the current system as a whole. A different way of measuring the complexity is required. This needs to be based around the human story so that patterns and themes can be explored.

ANGEL (Activities, Needs, Goals, Escalation, Location) was developed through '1000 Lives Improvement' and is underpinned by complexity theory. It is an abstract summary of an individual's needs, capturing individual presentations as data. The ANGEL scoring system starts with a measure of an individual's need. Qualitative stories, as told by patients, become Quantitative Data which can be used to track, evaluate and inform decisions. Then, when data from multiple patients is collected, several layers of data enable patterns to emerge and trends to be analysed.

There are five pieces of information, presented as columns, which give a summary of an individual's needs and situation at that moment in time. For each of the five columns, there are five levels used to describe the severity and urgency of the person's situation. The quantitative data collected is scalable to whole systems and populations. With several data items, numerous opportunities emerge from the patterns and intelligence. Physiotherapists work across the whole system of health and social care services, combining knowledge and skills of physical, medical, social and psychological aspects of care, to deliver Public health prevention, self-management, rehabilitation, acute episodes and crisis management. Physiotherapists are an ideal group of professionals to see complex problems and to strive towards possible solutions.

Aims

This project wanted to explore whether a strategy could be used in health and social care in Wales to reduce needs and spend, and use resources in line with the principles of Prudent Healthcare. It examined the use of the standardised scoring template, ANGEL, as a common language across all services, to capture stories in real time.

The project aimed to equip professionals with the knowledge and skills to use ANGEL to capture patient stories and input into the system. The aim was to 'drill down' on the data in order to identify, for example, delayed discharges and show which part of the system could be deployed and where in a more timely way to speed up discharges.

The project wanted to use ANGEL in action. Wherever there was a Physiotherapist from the project team, across numerous settings, they collected ANGEL scores from patients and engaged other members of the team, where possible.

> "The Bevan Commission created a space for innovation without criticism or judgement, but the ability to influence and transform is not balanced in the current system."
>
> **Sue Griffith, Vic Ellis, Amanda Rutter and Jason Ellis**

Challenges

Key challenges included:

- Balancing time between clinical practice and undertaking innovation.
- The need for a discussion at national level to show the potential of ANGEL as the basis for whole systems transformation across Wales.
- As Sense-making is the ability to make sense of a situation in context, it is a skill based on a combination of expertise and intuition and is not as widespread as might be assumed in clinical practice. There is a need for it to be recognised as an emerging skill-set and to create specific 'Sense-maker' clinical roles in the system.
- Learning from the ANGEL data in an emergent way, will offer greater intelligence to shift the system. However, emergent learning can be uncomfortable as it is entirely different to the traditional approaches of the health service.
- The project requires big-picture thinking and the ability to be fully immersed in the project to be able to see its' potential

Outcomes

- 24 Physiotherapy staff members were trained in the use of the ANGEL scoring system.
- Over 4500 data items were collected in this time.
- Multiple data entries for each patient enabled data to be layered and patterns in the data to be analysed.
- Colleagues working in the social care system were able to look at ways in which ANGEL could be used to improve safe and effective discharges from hospitals into the community.
- The team worked with acute hospital ward nurses to collect ANGEL scores every day, to gather data which was able to help reduce length of stay, form part of discharge plans and inform handover.
- Met with data analysts who could see how this data could be used to transform the health and social care system – working with the team to put into practice.
- Uncovering the potential to use resources across the whole system more efficiently, unlocking these from individual teams, services, buildings and budgets.
- Standardising how services assess and communicate need in the context of a person's life.
- Using predictive modelling to recognise which patients are approaching crisis and deploying effective resources to turn that around.
- Improved health outcomes for patients and resource efficiency for the NHS.

Next steps

- To progress and support staff to talk to service users in hospital and input family stories on the system which will automatically track scores.
- It is hoped that this project will scale-up to a Wales-wide level, and investment will be made in the appropriate IT support to enable more health and social care professionals to use and access the scoring system in real-time.

ANGEL Score	Activities picture of typical life, activities and social relationships	Needs scale and scope of existing needs and level of support	Goals possible longer term changes and personalised goals	Escalation type of care plan required to align needs and goals	Location a choice of where and when the care will be delivered
5 Save Life	Isolated and vulnerable to immediate harm	Constant professional supervision	Inevitable rapid decline or near end of life	Imminent crisis or failure to progress care	Specialist bed or unusual predicament
4 Serve Needs	Limited social activity or contact beyond ADLs	At least daily professional supervision	Unstable or significant long term decline	Rapid referral or access to a special service	Hospital or other bed based care
3 Support Living	Social support or activities when needed	Scheduled intervention & observation	Some decline but stable over the long term	MDT led care assessment & intervention	Intermediate bed or supported living scheme
2 Share Care	Regular social activities with informal help	Progressing an agreed plan or review process	Predictably close to or as good as before	Planned assessment & intervention	Domestic home with additional services
1 Show How	Socially active range of strong relationships	Self caring minimal support & intervention	Typically better or more stable than before	Routine task oriented day to day support	Domestic home with minimal support

@complexwales

2

Comisiwn Bevan Commission

West Wales Academic Health Collaborative

bond DIGITAL HEALTH SOLUTIONS

Creating a self-management app for patients with chronic obstructive pulmonary disease

Hywel Dda University Health Board

Lead: Dr Rachel Gemine, Grant & Innovation Manager
Participants: Ian Bond, Phil Groom, David Taylor and Prof Keir Lewis
Industry partner: Bond Digital Health

This Bevan Exemplar project aims to improve patient self-management and understanding of COPD using a mobile application.

Background

Chronic obstructive pulmonary disease (COPD) affects over 1 million people in the UK and costs the NHS over £1.8 billion per year. Improving patient self-management and understanding of their own condition will enable a reduction in GP contact and hospitalisation.

Aims

'My COPD Nurse' is a healthcare app that allows patients to track and manage their COPD and alerts them to health changes. Improved self-management in the long term will lead to reduced GP contact, reduced hospital visits and an overall cost saving to the NHS.

Use of the app should also improve quality of life and reduce anxiety and depression by increasing the sense of control. In addition, it will provide health and care professionals with greater and more tailored knowledge when treating patients.

This project brought together Bond Digital Health and Hywel Dda University Health Board to develop and evaluate a COPD self-management app. The aim was to develop the app to produce a working prototype and to assess the feasibility of introducing this app to COPD patients, alongside ensuring they were comfortable with the idea of self-management.

Challenges

Following initial exploratory work, changes were made to the app, which included changes to the technology and app development, along with rebranding. This led to delays, however new staff appointments within Bond Digital Health helped to resolve these. The project was supported by the Health Board's University Partnership Board who have encouraged further development and progression. Despite delays, the changes have meant that the resulting app is more user-friendly and clinically relevant.

Outcomes

The prototype app has been developed and it is hoped a larger trial will commence soon, and funding applications have been submitted.

Use of the app will ultimately lead to improved understanding by a patient of their condition, improved compliance with medication and improved health outcomes. It will also lead to improved clinical care, reduced negative interventions and hospital visits – ultimately leading to a cost saving for the NHS.

Next steps

Following development and clinical input, the team has submitted funding applications to undertake a larger trial. The ethics application is developed and submission is underway. The team proposes to evaluate the app in terms of:

1. Usability - ease of introduction and use of the functionality.
2. Acceptance –continual positive use by COPD patients.
3. Compliance and engagement - do patients use the app daily and consistently?
4. Clinical Impact – how does use of the app affect health outcomes?

> "Being recognised by the Bevan Commission as an exemplar has been a great boost for Bond and the development of our patient self- management App for COPD. Working with Hywel Dda UHB has enabled us to progress the project and ensure it is appropriate for patients and clinically useful for health care professionals"
>
> **Phil Groom, Commercial Director, Bond Digital Health**

Comisiwn Bevan Commission

Using video conferencing to extend the benefits of pulmonary rehabilitation to rural communities

Hywel Dda University Health Board

Project Manager: Michelle Dunning, Senior Primary Care Locality Development Manager (North Ceredigion)
Clinical lead: Professor Keir Lewis
Industry partners: Comcen and Polycom
Participants: Rebekah Mills Bennett - Cardio-respiratory Lead Physiotherapist, Carol-Anne Davies - Clinical Lead Occupational Therapist for Respiratory, Lisa Butler specialist physiotherapist Hywel Dda, Trystan Sion - Technical Instructor physiotherapy, Claire Hurlin – Strategic Head Community and Chronic Conditions, Vicky Stevenson Senior Manager Acute/ Community/ Specialist Physiotherapy, Kerrie Phipps - Occupational Therapy Service Lead: Acute/Community/Specialist, Liam Knox – Research Officer, Kylie Smith - CCM Project Support Officer

This Bevan Exemplar project used technology to enable people with long-term lung conditions in rural areas to take part in an exercise and education programme.

Background

Pulmonary rehabilitation is a programme of exercise and education for COPD (Chronic Obstructive Pulmonary Disease) patients, which traditionally takes place twice a week over a seven-week period. For individuals with a chronic lung condition, Pulmonary Rehabilitation should be an integral part of their care and the Welsh Government has an expectation that all eligible patients are offered rehabilitation.

While pulmonary rehabilitation offers proven health benefits for those living with long-term lung disease, no such service currently exists in rural parts of West Wales. The Pulmonary Rehabilitation service in Hywel Dda does not extend to Ceredigion and the service in Carmarthenshire now has an 8-12 month waiting list due to loss of key staff and increasing demand. This has resulted in Hywel Dda having the lowest referrals of eligible patients in Wales for their pulmonary rehabilitation services at 31% (COPD Primary Care National COPD Audit 2016).

The Virtual Pulmonary Rehabilitation (VIPAR) project aligns with the prudent model of health by ensuring there is consistency across the Health Board and in different parts of Wales, and making the best use of resources by using technology to roll out the service to rural areas.

Aims

This project aims to provide a more efficient and equal pulmonary rehabilitation service, by delivering this to rural areas through video conferencing.

VIPAR tackles the issue of rural access by using video conferencing, in partnership with technology partners Comcen and Polycom, so that patients in places like Tregaron can participate in real-time in the rehab session led from Glangwlli General Hospital.

> VIPAR has transformed my life.
>
> **Granville, patient**

Challenges

There were challenges to solve throughout the whole project, which ranged from procurement issues, to missing equipment and difficulties in securing funding. The project lead overcame each one by not giving up!

Outcomes

VIPAR has saved driving time and miles travelled for all patients, as well as providing improved health outcomes.

The COPD Assessment Test (CAT) showed a decrease in symptoms for patients in both hub and spoke sites, and post-intervention hospital anxiety and depression scores have also decreased. Many patients have also been able to take up former hobbies or lifestyle habits, such as horse riding and shopping, as a result of their renewed health and strength. Those taking part have also reported higher self-confidence and welcomed being part of a support network as a result of the programme. Patients were unfazed by the use of new technology and enjoyed watching their counterparts exercising in different parts of Wales, with one even joking: "We treated it like a competition!"

The project was able to clearly demonstrate (via 3 programmes) that virtual pulmonary rehabilitation:

- is feasible and safe
- is popular with staff and patients
- appears at least as effective as standard pulmonary rehabilitation in the short-term
- saves money and reduces environmental impact.

Next steps

The future plan for the project is to secure funding to continue running virtual pulmonary rehabilitation through the spoke sites, and to add up to another three spoke sites linking simultaneously to the hub site, creating a Virtual Pulmonary Rehabilitation (VIPAR) network.

> It has been an amazing experience. As an Exemplar I have gained confidence and feel empowered to bring about innovation in service delivery to benefit our population.
>
> **Michelle Dunning Senior Primary Care Locality Development Manager (North Ceredigion)**

This project won the 'Improving Health and Wellbeing and Reducing Inequalities' award at the NHS Wales Awards 2018. They were also awarded 'MediWales Innovation NHS Wales Collaboration with Industry' Award 2018. It is a double award winner!

Comisiwn Bevan Commission

Providing 'The Right Care' and reducing care variation

Hywel Dda University Health Board

Phil Kloer, Medical Director
Jessica Svetz, Head of Improvement and Transformation
Christine Davies, Head of Organisational Development

This Bevan Exemplar project aims to improve care by focusing on the needs of the patient

Background

The 'Right Care' approach is driven by what matters to and for patients. The 'Right care' approach is focused on providing the most effective care to those who want and need it. It aligns the standards of care within the available resources, ensuring equity in the delivery of care and maximising the available skills and resources across the pathway.

Aims

The 'Right Care' pilot project is aimed at testing a robust improvement and organisational development methodology focused on reducing variation in one care pathway. At the core of the pilot is testing how the Health Board encourages staff at all levels to engage with patients and develop standards of care focused on value added to the patient's care and experience.
The aim of the project is to test the thinking about how the Health Board as an organisation fosters a 'Right Care' culture by putting into practice key organisational development and improvement approaches within the hip fracture pathway.

Challenges

The main challenge was creating an environment which supported engagement, collaboration and team working from multi-professional teams across a three-hospital system. This collaboration will enable NHS professionals to learn from what works well (and not so well) and be able to develop a shared vision of standard of care.

To overcome the challenge, the team:

- Created and hosted an environment where different voices and perspectives of the system can be heard.
- Used the role of the "credible expert" early in the group process to provide appropriate clinical gravitas and external system challenge.
- Ensured they provided the time and space to have conversations, as people will coalesce around doing the right things if provided with reflective time and the right support to work things through together.

Outcomes

The anticipated benefits from this pilot are:

1. Improved patient experience.
2. Improved staff experience.
3. Timely access to the most appropriate clinician.
4. Reduced de-conditioning.
5. Reduction of average length of stay in hospital.
6. Decreased mortality rate.
7. Reduced cost of care.
8. Improved patient outcomes.
9. Reduction of flow constraints of care in in-patient areas.

Next steps

The multi-professional group has collaboratively developed a standardised pathway of care for patients who suffer a hip fracture. This pathway is being piloted in Winter 2018/2019.

In addition, a frailty orthopaedic standardised pathway of care has also been developed which will be piloted in Winter 2018/2019.

Another workshop is planned in early 2019 to discuss the outcome of pilot and next steps.

> We have found this project has benefited from being a Bevan Exemplar in that it has provided us with recognition, credibility, support and a challenge.
>
> **Jessica Svetz, Head of Improvement and Transformation**

Comisiwn Bevan Commission

Providing holistic care to enable people with dementia to lead fulfilled lives

Carmarthenshire County Council
Debra Llewellyn, Modernisation Programme Manager
Julia Wilkinson, Locality Manager
Alison Watkins, Project Lead, Fulfilled Lives
Industry partner: Delta Wellbeing Limited

This Bevan Exemplar project focuses on providing dementia care that takes the whole person's needs into account, including physical, emotional, social and economic well-being.

Background

Currently, there is a tendency for domiciliary care to focus on providing physical care rather than supporting a person's emotional, social or economic well-being. People with dementia often enter social services at a time of crisis and it is vital that their care reflects their holistic needs.

Aims

The aim of the Fulfilled Lives model of care for people living with dementia is to provide holistic support that will enable people to live their life as their dementia progresses. The focus will be on the individual directing the support that they need to maximise their independence.

The intention of the model is to coordinate support around the individual's network, working alongside the person with dementia and the community to help maintain their independence. The model aims to avoid unnecessary dependency on services and to ensure that people come in to the service at a time in their life when they are able to plan for their future and engage fully in managing their own health and well-being.

Embedding a preventative approach is essential to complement this model, including:

- Development of dementia friendly communities and shopping areas.
- Dementia awareness programmes – over 5000 dementia friends have been trained.
- Maximise opportunities to use Technology Enabled Care.
- Specific dementia element within the "CUSP model" – a third sector preventative community support project.

Challenges

Expectations of the families of those with dementia was an issue at the start of the project, especially as the service was new, but the team us now able to clearly explain the service at the outset.

Identifying the appropriate assistive technology has also been an issue that the team has worked on, particularly using medication dispensers and getting them filled by local pharmacies. The team developed bespoke training to build staff knowledge, and worked with the lead community pharmacist to address pharmacists' concerns regarding medication governance.

Did you know?

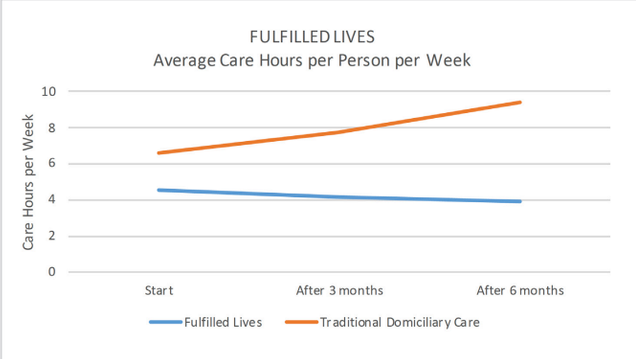
All staff confirmed that they enjoy the role of a key worker and felt that it was different to the role of a Home Carer. When asked to score out of 10 for job satisfaction, all key workers scored 10. When asked to score out of 10, how well the project is achieving what it set out to achieve, the average score was 9.

Reasons that staff felt the Key Worker role was different included: "more flexible"; "more rewarding"; "more structured and person centred"; "feeling part of a team"; "having direct contact with other professionals".

Outcomes

For the pilot group of people with dementia (compared to a cohort receiving traditional domiciliary care):

- The outcomes achieved with people with dementia have been very positive.
- The amount of support required was gradually reduced or maintained, compared to the 60% escalation of care hours in the other cohort.
- 80% of people with dementia remained living at home after 8 months.
- Unscheduled care hospital stays were reduced by an average of 11.5 days over the year
- There were no deaths in the pilot group, compared to 11 deaths in the similar cohort.



Next steps

The plan is to commence rolling out the model of care in Ammanford and Llandeilo early in 2019, followed by Carmarthen later in the year. The team also wants to commission a formal evaluation of the project to share with regional partners.

> I know I am making a difference.
>
> **Key Worker**

> Staff are more independent and flexible in their approach.
>
> **Manager**

> Both Dad and the family are experiencing new experiences and more opportunities.... We are not only learning about the past we are building new memories.
>
> Mum really enjoys going out with the Key Worker. She goes to Knit and Natter, and mostly natters!
>
> My Grandad has a good relationship with the Key Worker and sometimes calls him by my father's name, this reassures us that we know he likes him. I feel like I can breathe again, it has made a big difference for us.

GIG CYMRU NHS WALES | Bwrdd Iechyd Addysgu Powys | Powys Teaching Health Board

POWYS

TEACHING HEALTH BOARD

Comisiwn Bevan Commission

Enabling people with COPD to take control of their condition through a mobile app

Powys Teaching Health Board

Andrew Colwill, Clinical Specialist Physiotherapist
Bethan Williams, Respiratory Clinical Nurse Specialist
Partner: My mHealth Limited

This Bevan Exemplar project introduced an app called myCOPD to patients and healthcare professionals to enable shared decision-making and self-management.

Background

Pulmonary rehabilitation is an education and exercise programme, typically delivered in a group setting, which improves quality of life in people living with Chronic Obstructive Pulmonary Disease (COPD). Powys as an area is large and rural, with a scattered population, posing significant challenges in delivering such a service.

Additionally, some patients are unable to access the service in a group due to other factors such as anxiety, work and family commitments or experience challenges maintaining a self-management approach when completing a Pulmonary Rehabilitation programme, for example due to motivation or exacerbations of their condition.

Aims

The project aimed to implement a web-based digital application called myCOPD into the Pulmonary Rehabilitation Service in Powys Teaching Health Board. This provided a unique opportunity for participants to access an online rehabilitation programme and education package to complement group-based programmes. When registered, the product provides a lifetime licence for the user.

The project aligns with the principles of prudent healthcare in that it reduces variation - providing online access to a programme for those who are unable to attend a group-based rehabilitation programme. This also enables the programme to provide ongoing support following discharge.

This approach gives participants the option to live well with a chronic health condition, without the requirement of a healthcare professional to deliver all the information.

Challenges

Challenges included the information governance of the project, due to the introduction of General Data Protection Regulations, which required registration and consent processes to be rewritten. To do this, the project team worked closely with their industry partner My mHealth.

Introduction of the app posed challenges relating to changes in practice and processes for clinical and administrative staff. This required collaborative working with the team to redesign the clinical pathway, utilising a shared decision-making booklet and supported by training from My mHealth.

Initial sign-up was difficult for participants who had low confidence in using digital technology. This was approached using behavioural change principles, such as making sign-up and use of the product Easy, Accessible, Social and Timely (EAST).

Outcomes

The key benefits realised from the project are evident in terms of resource efficiency. The myCOPD app allows participants to access an online Pulmonary Rehabilitation programme alongside a group programme or as a stand-alone experience. Opportunity costing revealed that delivering a programme with proposed remote support was £352, versus £1781 to place a person through group Pulmonary Rehabilitation.

Of the participants who signed up to the app, two chose to use it without attending the group, reporting equivalent health outcomes to the group programme.

The feedback from focus groups with patients was that using the app regularly was difficult without clinician support, however many reported that the benefit could be seen but would require consistent use.

Next steps

The project was trialled with a small number of participants in Powys. The next steps for the programme are to evaluate how patients engage with the product through ongoing focus groups, and learn from this to see whether the wider functions of the application can be introduced to other parts of the Respiratory Service in Powys.

Based on preliminary data, implementation of the product may be suited to primary care at the point of diagnosis to encourage a self-management approach from the outset.

There are opportunities to apply this to other long-term conditions applications provided by My mHealth within Powys.

> "The Exemplar experience is a challenging however unique learning experience to test innovation in delivering prudent healthcare."
>
> **Andrew Colwill, Clinical Specialist Physiotherapist**

> "I can see how this product can change my life and how I manage my condition."
>
> **Patient**

Comisiwn Bevan Commission

Working together to develop a preventative intervention for children at risk of early language and behaviour difficulties

Powys Flying Start/ Powys Teaching Health Board

Catherine Pape, Flying Start Speech and Language Therapist
Becky Webb, Flying Start Family Support Worker
Hannah Wathan, Flying Start Speech and Language Therapy Assistant

This Bevan Exemplar project aims to tackle early language and behaviour problems through enhanced adult-child interaction.

Background

Children with language difficulties at two years old are more vulnerable to a range of negative outcomes including: lower school achievement; higher risk of offending; and increased potential to develop mental health problems (Welsh Government, 2017). The Speech and Language Therapy (SLT) profession promotes the importance of early, preventative intervention in order to build positive interactions as early as possible.

Aims

The project, called Be Here Be Clear ('BHBC'), aimed to develop, pilot and evaluate a new preventative approach to promoting early language and behaviour through positive adult- child interactions.

Inspired by the prudent health principle of involving people and patients as equal partners, families were involved in the whole design of the programme, from the content to the logo; and each session is built around parent-selected targets.

BHBC has been designed to support the families in greatest need, with an aim to roll out training so that the programme can be delivered by a range of early years professionals and ultimately by parents. The evidence base indicates that targeting adult-child interactions using video feedback and coaching is an effective way of changing parents' behaviour and improving outcomes for children.

Challenges

The main challenge was low referral rates: the team hoped to evaluate impact with around 20 families; in practise just 11 were referred, of whom 6 have completed the programme to date, due to staffing issues for referrers that could not be avoided.

Engagement was sometimes challenging: the team found that the most motivated families had older children with Speech, Language and Communication needs ('SLCN') and therefore understood the impact of these difficulties and were keen to avoid them for their younger child.

> "Having the Bevan Commission's support to develop an idea that would otherwise have remained just an idea has been fantastic!"
>
> **Catherine Pape, Flying Start Speech and Language Therapist**

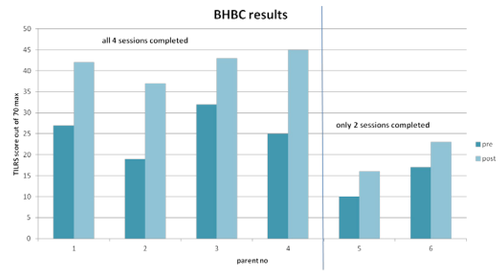
Outcomes

Behaviour change theory has been used to inform some of the methods used; with small 'nudges' used to great effect (e.g. parents selecting and writing down their own targets in their own words).

Families who have engaged with BHBC have given very positive feedback. Their interaction skills have improved and they have seen a change in their child's communication. The team used a rating scale ('TILRS') to look at adult-child interaction pre and post BHBC, and scored each parent in a number of areas, e.g.

- Being face to face with your child
- Waiting to allow the child to take the lead

Every parent who completed BHBC improved in more than one domain; and the more sessions they completed the larger the effect:



Benefits for staff included:

- Increased understanding of working together: the collaboration phase was critical to the direction the project took. Initial ideas were moulded by invaluable input from families and other professionals. Involving Dads was a priority from the outset; and the Fatherhood Institute supported me in this.
- The team involved were upskilled and able to use video feedback effectively.
- 2 members of the team have successfully applied to study at Masters level in this field and used BHBC to support their applications.

Next steps

The wider team and managers have been extremely supportive throughout the project, and the project lead is currently looking with them at how best to take the BHBC project forward.

Ideas include applying for funding to enable a staff member to have protected time to run BHBC and/or applying to do a piece of research to further develop BHBC with families and evaluate efficacy.

The Powys Innovation Hub will be supporting the team to explore these options.

Comisiwn
Bevan
Commission

Providing a local serial casting service for children and young people in Powys

Powys Teaching Health Board

Ellen Thompson,
Community Paediatric Physiotherapist

This Bevan Exemplar project provided treatment locally to improve the calf muscle strength and walking ability of young people who walk on their toes and have tight calf muscles.

Background

Serial casting is a common treatment for children and young people who walk on their toes and have tight calf muscles. The main patient groups are idiopathic toe walkers (where there is no underlying medical reason), and children and young people with cerebral palsy. The main aims of serial casting are to improve calf muscle length, improve walking pattern and efficiency and to reduce pain. There is a strong evidence base showing serial casting is an effective treatment.

Serial casting involves the application of a series of casts, progressively increasing the amount of dorsiflexion (foot upwards movement) to stretch the calf muscles with each cast. Single or bilateral casts may be applied and casts are left in place for a period of several days to 1 week. Clients are able to walk around in their casts, which helps to provide an active stretch.

Aims

Historically, in the large and rural county of Powys, serial casting has been provided by out-of-county hospitals, making access difficult and involving children and their families travelling long distances. This project aimed to provide a local serial casting service, ensuring good access close to home by a local team already known to the young person and their family.

Challenges

The main challenge the project lead and team have faced is time constraints. It has been difficult to fit in doing the project around their regular busy caseloads, often resulting in working late to get things done. In recent months the project lead has had some protected time which has been really helpful and allowed her to audit and evaluate the project outcomes. The support and enthusiasm from clients and their families has motivated the team to keep going "they really wanted this service and have been really positive about the benefits". The project lead has been inspired by fantastic support from some of her colleagues.

Outcomes

21 children, aged from 18 months to 15 years of age, have now received treatment. The team has provided 124 contacts, 48 episodes of care and applied 125 casts.

- The total mileage saving for children and their families (by providing local treatment compared to out of county providers) is 5705 miles, an average of 272 miles per child.
- The total time saved for children and their families is 213 hours, an average of 1.6 school days per child.
- Cost savings were substantial based on NHS England payment-by-results tariffs, the local service has provided a cost saving of £26,552 over 1 year and 9 months.

Next steps

To date, the service has been piloted mainly in north Powys with 2 Physiotherapists and 1 technician specialising in putting the casts on. The team now aims to widen out the service to the whole of Powys and to train other members of the team to specialise in applying the casts. They also aim to further develop expertise in providing removable casts and serial resting splints, in order to bring the advantages of serial casting to a wider range of patients.

> "The Bevan Commission has provided a framework, support and inspiration to enable me to complete this project. Brilliant training events have helped me understand how to engage my team in a process of change and development."
>
> **Ellen Thompson, Community Paediatric Physiotherapist**

> "To have the casting provided locally benefits us as a family, time and flexibility of location.
>
> My child feels more relaxed in the environment he is familiar with. It also allows me not to have to book a whole day from work.
>
> Very helpful due to not having a car and depending on local transport."
>
> **Patient families**

Comisiwn Bevan Commission

Developing a Cerebral Palsy Register for Wales

Powys Teaching Health Board and Bobath Children's Therapy Centre Wales

Rachel Lindoewood, Consultant Paediatrician and Clinical Director and Jenny Carroll Consultant Physiotherapist

This Bevan Fellowship project aims to establish the first Cerebral Palsy Register for Wales, increasing knowledge of the condition and improving the quality of life for individuals and their families

Background

The cerebral palsies are the most common cause of physical disability in early childhood, affecting around three per 1000 births. The 2018 report, Each and Every Need, highlighted deficiencies in care provided to this group of children. The primary recommendation of this report is for improved data collection and national-level datasets to help our understanding and management of services for this population.

Aims

This project aims to address the lack of available data at a national level by developing a Cerebral Palsy Register for Wales.

The nature and extent of the population of people with cerebral palsy in Wales is unknown, only estimated based on data from other countries. This makes planning for this group of people inaccurate.

This register, the first national CP register in Great Britain, will enable planning and delivery of targeted quality services for people who have cerebral palsy. Research has shown that having a comprehensive CP register reduces the number of incidents of contracture, hip dislocation and the need for surgery in children who have cerebral palsy.

The register will give clinicians and academics the research evidence and information they need to design and improve services. The project aims to improve participation and quality of life for individuals with Cerebral Palsy and their families.

Challenges

A key challenge for the success of the Cerebral Palsy Register for Wales is to ensure ownership and integration with current systems in Wales.

To address this, the project steering group consists of 32 individuals, including an individual who has cerebral palsy, 3 parents, professionals from 16 different disciplines, 3 professionals with register experience and membership from each health board in Wales and from the NHS Wales Informatics Service (NWIS).

The size and breadth of the task is also a challenge which has been addressed by dividing tasks between 5 subgroups: Informatics, Dataset, Strategy, Stakeholders and the Powys Pilot subgroup.

Outcomes

The project will provide a population register of people who have Cerebral Palsy in Wales. The standardised data (using the recommended SNOMED-CT coding) will increase our understanding of the extent and nature of the population, informing service planning across the lifespan and during transitions.

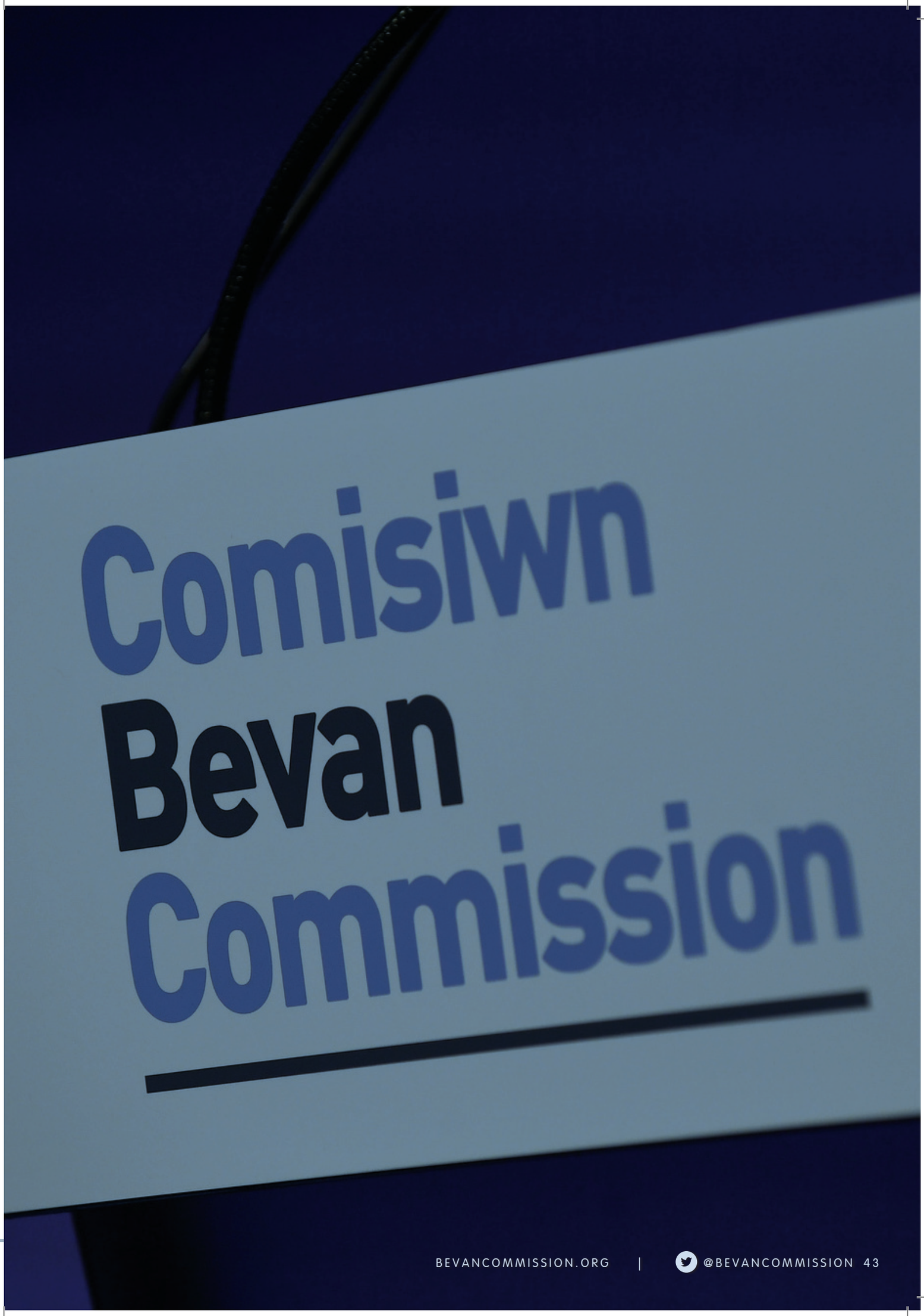
This will improve care and lead to improved health outcomes and quality of life. An important aspect of the register is the involvement and engagement of individuals who have cerebral palsy and their families in its development.

Next steps

The next steps for the project are:

- To develop an information leaflet and online survey to share with families known to Powys Teaching Health Board and Bobath Children's Therapy Centre Wales.
- To hold stakeholder events and focus groups in Powys in February 2019 in the pilot health board. These will then be rolled out across Wales.
- Development of forms to submit data that link with current systems.
- Creation of a data repository held by NWIS
- A launch event at the Senedd in March 2019.

> "The Bevan Fellowship experience has been excellent and has opened doors for us and made connections that have proved vital."
>
> **Rachel Lindoewood**


Comisiwn
Bevan
Commission

GIG CYMRU NHS WALES | Iechyd Cyhoeddus Cymru Public Health Wales

PUBLIC HEALTH WALES

Comisiwn
Bevan
Commission

Making it easier to access sexual health testing and advice in communities

Public Health Wales NHS Trust

Leads: Sally Corden, Head of Molecular Diagnostic Unit and Zoë Couzens, Principal in Public Health/Sexual Health Programme Lead (Health Protection)
Industry partner: Roche

This Bevan Exemplar project enables individuals to get tested for Chlamydia and Gonorrhoea without the need to see a clinician.

Background

GP surgeries and Integrated Sexual Health Services are unable to support the increasing number of individuals seeking sexual health assessment and testing. Many individuals who seek these services are not infected and simply require sexual health education and reassurance.

With the development of non-invasive tests for Chlamydia and Gonorrhoea these patients do not need to see a clinician and could, therefore, access appropriate care without visiting a clinic. This frees up capacity in the specialist services to address the more urgent and complex cases.

Aims

The aim of the project was to make Chlamydia and Gonorrhoea tests easily available to more individuals and provide rapid access to Integrated Sexual Health Services for those who require an urgent appointment, without swamping existing clinical services.

This aligns with the prudent model of health by enabling people to self-sample without attendance at a clinic. Individuals use a dry swab technique to self-test and return by standard pre-paid post. This will improve efficiency and empower users to make appropriate choices about their sexual health using tools for self-management.

By removing the need for attendance for the initial test, there is a reduction in overall cost of patient care and an improvement in efficiency. This efficiency is a result of removing asymptomatic individuals from the clinic queue (approximately 30% of patients currently seen in clinic), at a time when 10% of patients are turned away due to lack of clinic capacity and of this 10% turned away, 25% are symptomatic.

Challenges

The main challenge was ensuring that the swab used to test for penile infection was used effectively. To address the issues of insufficient sampling the team moved to Phase 2 in the clinic where they specified the length of time to swab in the instructions.

The project team also trialled another method based on the fact that the males are usually expected to provide a urine sample. Phase 3 in the clinic was to request that males urinate on the swab.

Outcomes

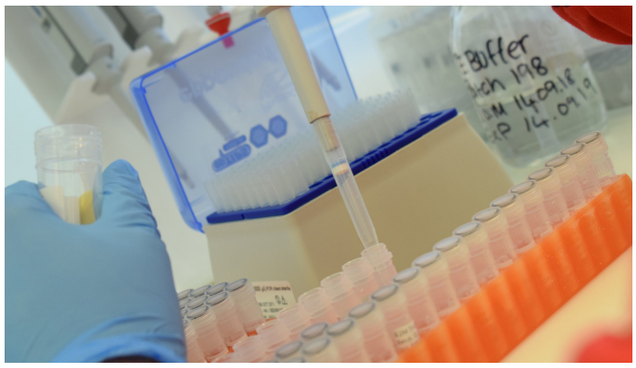
The benefits of the project include:

- Better access to information, risk assessment and sexual health promotion, including those at high risk of sexual ill health and those who find it difficult to access existing services. This places the user at the heart of care with tools for self-management.
- Making the system more efficient by redirecting less complex cases to community testing, which in turn releases capacity in existing specialist services. This allows for more complex case management whilst maintaining direct referral to specialist services for those identified in the community with more complex needs.
- Increasing access to sexual health services has been shown to improve sexual health by reducing the impact of untreated sexually transmitted infection (STI) in Wales. It is hoped that this will lead to a reduction in transmission of STIs as a result of earlier treatment
- Reduced production and disposal of hazardous waste. It is hoped that by developing a testing service that allows samples to be posted safely, transport costs will be reduced and there will be a beneficial impact on the environment.

Next steps

The next steps are to use the sampling approach as part of a pilot providing Chlamydia and Gonorrhoea testing through online access. 1,000 tests will be provided to residents of the Hywel Dda University Health Board area.

The evaluation of the tests will continue and will inform the development of an All Wales community testing service for diagnosis of sexually transmitted infections.



Comisiwn Bevan Commission

Introducing 'Lift the Lip' into health visits to improve early childhood oral health

Public Health Wales

Mary Wilson, Consultant in Dental Public Health

This Bevan Exemplar project aims to introduce a simple oral health assessment into the routine practice of health visitors.

Background

Tooth decay in children is more common in deprived communities and these groups are less likely to visit a dentist. Lift the Lip is a simple oral health assessment tool for pre-school children. It involves visually examining the front upper teeth to identify early signs of tooth decay. In Wales, the process requires the parent or child themselves to Lift the Lip, not the health professional. It is used whilst delivering caries prevention advice, and facilitating attendance to clinical dental services.

Aims

This project aimed to introduce Lift the Lip into the routine practice of health visitors.

Fifteen health visitors received training, and then introduced Lift the Lip during their visits with children aged 15 months to 3.5 years. They were provided with supporting promotional resources to explain the Lift the Lip assessment. After two months, experiences and attitudes were collected via focus groups and interviews, and transcripts were analysed independently by the authors.

Challenges

Urgent priorities during visits can negatively impact on opportunities to cover the full scope of their remit, including 'Lift the Lip'.

"You may intend to do 'Lift the Lip' in a visit, but if they have all sorts of other things going on, you know they're not going to take it on board. But I might have a little log in my head of people that I want to do it with maybe when the time is better."

> We're not asked to diagnose... it's just looking for signs and to signpost on and refer if needed, which is part of health, so it's part of our role anyway.
>
> **Health Visitor**

> I actually found that I had a deeper, more meaningful conversation with parents, particularly if I identified some decay there.
>
> **Health Visitor**

Outcomes

Once trained, health visitors felt confident and capable of using 'Lift the Lip'. Delivery of oral health messages was positively affected, with more personalised conversations and collaborative relationships. The health visitors appreciated that 'Lift the Lip' sits within a wider risk assessment and conversation about oral health behaviours.

Participants felt that using Lift the Lip added value to their role and strengthened their remit in promoting oral health, but wider uptake would rely on:

- confidence that dental services were available to refer to
- confidence that families would attend dental services if advised
- ease of embedding within the Healthy Child Wales Programme

Next steps

This is the first evidence of the value of 'Lift the Lip' in the context of health visiting services in Wales, and demonstrates that it is both feasible and acceptable amongst participating health visitors. There is a need for ongoing monitoring and close working with clinical dental services to ensure it achieves its key objectives. Further work is now required to assess if Lift the Lip has positive effects on oral health and dental service attendance.

Acknowledgements

The project was a collaboration between the Designed to Smile and Healthy Child Wales programmes.

The project was supported by a grant from the Royal College of Surgeons England Faculty of Dental Surgery and British Association for the Study of Community Dentistry, and was initiated following a Travelling Fellowship awarded by the Winston Churchill Memorial Trust.

> I think we are in the right place to do it because we've got access to the children. We are the ideal candidates to be advocating it.
>
> **Health Visitor**


Comisiwn
Bevan
Commission

GIG CYMRU NHS WALES | Ymddiriedolaeth GIG Prifysgol Felindre | Velindre University NHS Trust

VELINDRE

UNIVERSITY NHS TRUST

Comisiwn Bevan Commission

Using Virtual Reality to Improve Patient Cancer Treatment Experience

Velindre University NHS Trust

Mitali Patel, Locum Consultant, Palliative Medicine
Industry partner: Orchard

This Bevan Exemplar project uses virtual reality headsets to support patients undergoing radiotherapy.

Background

I'm wheeled through the corridor and feel only the movement of the elevator ascending coupled with my anxiety. Finally I arrive to the ping of opening doors of an unknown cancer ward. I cannot move my legs. I'm advised to stay still on bed rest to prevent further paralysis. I see only the dim light of the ceiling above and become to know the walls that soon become my only view in this solitary cubicle. I've never been in a hospital bed, I've always been fit and well. This is sudden. This is suddenly debilitating. Even the effort of having a drink whilst lying flat is impossible. I consciously lie without moving, shooting back pain crippling me when I'm rolled for care. To lie in the same position, and fear that will be your fate fills me with dread. I am terrified. Terrified of this new place, this new circumstance, this new diagnosis. They spoke about Radiotherapy to my spine and I know I have to do it to help. But I'm scared. Will it hurt, will it be long, will I be alone. What do they do, what actually is radiotherapy?

I'm panicked, and feel embarrassed to ask-who do I ask? There is no escape-I cannot move and this is all I know, may ever know.

On average, Radiotherapy treatment:
- can take up to 2 hours to plan treatment with the patient lying flat and still
- can take 15-30min for each fraction
- may require breath holding, face mask application, positioning limbs to direct field of radiation more accurately
- may range from a single dose to over 30 doses daily (a total of 15 hours)

The main side effects of treatment are tiredness and pain. When treatment is long, this can be a challenge for patients, and a source of anxiety.
Good quality care and communication of information is at the heart of delivering healthcare that our patients value and can easily access. Improving the resources available to patients allows them greater choice and should aim to improve their overall patient experience. When patient experience is good, there is value held in it.

Simulating the experience of an environment/procedure or allowing immersion into a relaxed setting are techniques already employed by Virtual Reality technology to support pain management, post-traumatic stress and dementia care.

Virtual reality (VR) can guide patients before they undergo their radiotherapy treatment by employing relaxation/distraction as well as simulating their treatment environment and preparing them with the exercises/breathing techniques they need. It allows, even those who are debilitated, the option to have a broader yet supportive experience of their forecasted care and treatment.

The patient may not be able to watch a video upright, they may not be able to hold and read a booklet, they may not be able walk to the Radiotherapy unit and view the facility. They can however apply a VR headset and be guided through the process at their pace with relaxation as an additional aid.
The concept of using Virtual Reality in Healthcare is evolving in an industry where patients seek more choice and want better understanding of their care. Velindre Cancer Centre in Wales leads in developing its use for patient relaxation/distraction therapy, patient information and is now also supporting its use in clinical training.

The intervention should be user-friendly and support the patient needs e.g. information gathering, consent, anxiety, exercise techniques etc. Ideally it should be multi-lingual to honour the diversity of the population that we care for.

Aims

- To introduce VR technology in Velindre Cancer Centre to give patients information about their radiotherapy treatment and provide distraction therapy to help with relaxation and pre-procedure anxiety.
- To add to the current resources available so that patients have more choice, standardised consent, access to broader (immersive) understanding of their treatment and an overall meaningful experience.
- To generate ideas for VR application for various radiotherapy targeted treatments e.g. breast radiotherapy, supporting patients with their breath hold and arm position during and between treatments working with local physiotherapists for guidance.
- To gain feedback from patients about their experience of VR, and measure its qualitative value as a product

Challenges

Introducing new technology within an acute hospital can generate scepticism, fear and a feeling of increased responsibility by health professionals. Although the aims of the project was to introduce VR into the mainstream and get patient feedback, there was reluctance to allow its use with patients (until it had been screened by the local health professionals).

The work over the last year has therefore focussed on gaining healthcare provider appeal, acceptance and engagement. It has involved negotiating meetings with the radiotherapy department, arranging workshops for the VR device and the various programmes (relaxation/patient information) to be trialled (Orchard and local Media team support).

Outcomes

In the last year, the initial aims had to be revised in order to gain local Trust interest at the health professional level before VR could be implemented to obtain patient feedback.

The main outcome this year has been changing healthcare provider opinion and engaging their interest to take the product forward and ultimately sustain its use. It has centred on building confidence and empowering ideas.

The radiotherapy department was invited to several workshops to trial use of the device to enable better understanding of its potential use and benefit.
The device was publicised at conferences, exhibitions and within the hospital to gain informal feedback from a variety of professionals and laypersons.
Most importantly, collaboration with the department has encouraged them to generate ideas for its use for making other programmes. This co-creativity has changed the momentum and captured their imagination.

The Media department in the Trust has now invested in its own videoing kit, thus can work with professionals in-house to create videos that they feel represent what patients are likely to use.

Next steps

The technology is extending to other health boards served by the Cancer Centre and has potential to be developed in other medical specialties as well as management structures e.g. remote communication into meetings without the need to travel to a central location-improving time efficiency.
With more clinical acceptance for the use of VR in practice, the next step would be to review in detail patient feedback and overall cost benefit. The initial focus has been the quality of the product and its value.
Next steps include the need to:
- continue to work with the radiotherapy department in supporting their ideas for collating a video library for patients
- survey feedback from the patients who have completed radiotherapy to gain insight into whether they would have valued VR resource at any point in their treatment
- understand any infection control issues: research in progress; liaise with Manufacturers to devise kit for 'Healthcare' users
- explore whether VR has a cost-effective impact?

Comisiwn Bevan Commission

Welsh Blood Service
Gwasanaeth Gwaed Cymru

Keeping a handle on O- red blood cells

Velindre University NHS Trust: Welsh Blood Service

Alister Jones, Blood Health Adviser

This Bevan Exemplar project optimises use to ensure that O- will always be available for patients in Wales.

Background

O D negative (O-) red cells can be given to patients of any ABO and D blood group, making them versatile and highly valuable. However, their versatility can mean that demand often outstrips supply. This project set out to improve stock management and clinical use of O- red cells to ensure a sustainable supply for patients in Wales.

Aims

The main aim of the project is to ensure that O- will always be available for patients with a genuine clinical need for O- red cells. The Welsh Blood Service Blood Health Team works collaboratively with hospitals in Wales to moderate the demand for O-, and maximise its potential benefits for patients.

The project concentrates on the journey of O- red cells leaving the Welsh Blood Service blood centres, specifically around:

- Stock management and time expired wastage
- Excessive ordering and stockholding
- Inappropriate use

In alignment with prudent healthcare principles, the project seeks to minimise any inappropriate variation of stock management practice amongst hospitals.

Challenges

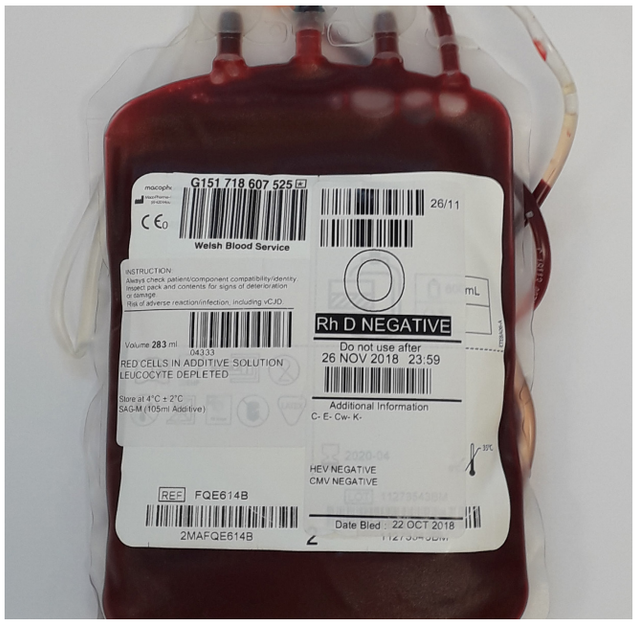
The use of audit and surveys is key to understanding current practices, but this can be very labour-intensive from a Blood Health Team and, more importantly, a hospital perspective: work is ongoing to secure resource to support this in future.

Deciding on appropriate, agreed levels for the issuing and wastage of O- is another challenge, however this will be of use when discussing data with the hospitals.

Changing clinical practice and behaviour around the use of O- is difficult. While there are guidelines, there is a lack of published evidence which can support discussions with clinicians.

Outcomes

The capacity of the Welsh Blood Service Blood Health Team to overcome these challenges has been greatly expanded by the establishment of the O- work-stream, who will continue to work on this project.



Next steps

Future plans for the project include:

- Audit of the use of O- in emergency scenarios
- Develop clinical guidance on when it is appropriate:
  - » to use O- red cells
  - » to use non O- red cells
- Education for
  - » laboratory staff on stock management data systems
  - » clinical staff on appropriate use

> The Bevan Exemplar process has helped to bring clarity and purpose to this project.
>
> **Alister Jones, Welsh Blood Service**

Did you know?

8.2% of the population in Wales is O-, but, over the period October 2016 to September 2018, **15%** of the total issues of O- red cells were from the Welsh Blood Service to hospitals in Wales.

Comisiwn
Bevan
Commission

Educating and Activating Patients for Better Healthcare through Digital Innovation

Velindre University NHS Trust

Lead: Phil Webb
Industry partners: Pfizer Oncology, IBM Watson

This Bevan Exemplar project developed the world's first 'virtual assistant' trained in Oncology.

Background

Supporting patients as they live with cancer is a key requirement for a cancer centre. Over the past 2 years, Velindre Cancer Centre has been having meaningful conversations with patients, carers and their families about how best to support their information needs and support their desire to want to have a measure of control, empowerment and independence as they make their care choices.

A key area of need was the gap in between existing services; the lack of tools to have good quality conversations, anytime place or where; access to relevant quality information for patients to support their choices and decisions about their emotional, psychological and physical wellbeing. A general feeling across cancer patients is that they find it difficult to have good conversations about living with cancer when they want, where they want and at a time convenient to them.

Aims

This project developed the world's first AI (Artificial Intelligence) -enabled virtual assistant trained in oncology to proof of concept. This dialogue agent, RiTTa (Realtime Information Technology Towards Activation), currently is trained to answer a small number of 'intents' to demonstrate capability.

Challenges

A key challenge in the development of this AI is the time, care and resources required to develop and train the machine learning (ML) layers.

Outcomes

RiTTa has been trained to discuss and answer questions on a broad spectrum of areas. RiTTa can have conversations with a huge amount of people at the same time – 24/7, anyplace anywhere to support them taking back control of their lives.

In Oct 2018, Velindre Trust Board agreed to move from 'proof of concept' into the technical development, scaling and deployment of the project.

An evaluation framework has been constructed in conjunction with KESS PhD Swansea Centre for Health Economics to consider key outcomes including:

- improvements in activation and health literacy
- reduction in anxiety
- service efficiencies

Next steps

Technical work will include expanding training sets for 'intents' and ML in:

- business administration
- pharmacy and medicines safety
- general non-complex clinical care: chemotherapy and palliative
- tumour specific care: breast, lung, palliative
- general nursing
- radiotherapy
- clinical trials

PARTNERSHIPS

Comisiwn Bevan Commission

Ymddiriedolaeth GIG Gwasanaethau Ambiwlans Cymru Welsh Ambulance Services NHS Trust

Bwrdd Iechyd Prifysgol Abertawe Bro Morgannwg University Health Board

Integrating services to provide community-based care for 999 calls

Abertawe Bro Morgannwg University Health Board (ABMUHB) and Welsh Ambulance Services NHS Trust (WAST)

Annette Davies, Community Resource Team Integrated Manager
Jeff Morris, WAST Operations Manager, ABMUHB area
Louise Thomas, Interim Acute Clinical Team Lead Nurse Practitioner
Dr Firdaus Adenwalla, Consultant Physician

This Bevan Exemplar project gave a local Acute Clinical Team access to 999 calls, enabling them to provide community-based care instead of sending patients to A&E

Background

Requests for an emergency ambulance to Welsh Ambulance Services NHS Trust (WAST) are triaged through a robust system and are given a call status of either Red, Amber or Green. All calls are registered in a 'Live Stack' system, which are responded to in order of priority.

Although 999 calls are made by people as an emergency, evidence shows that only 4% of these calls are actually of Red status and do need a critical response.

The Acute Clinical Team (ACT) have been providing enhanced care in the community to residents of Neath Port Talbot since 2005, offering a safe alternative to unnecessary hospital admission.

Working collaboratively with WAST they created an innovative model to allow the ACT to access the 'Live Stack', ensuring governance and permissions were adhered to.

Aims

This model has allowed WAST to redirect 999 calls where patient management would be better suited to receiving community-based care from the ACT.

This was done via a two stage process where initially WAST control clinical desk contacted the ACT with suitable calls, which progressed to the ACT monitoring the 'Live Stack' and contacting WAST when they could see suitable calls that could effectively manage in the community.

Challenges

Option 1 of the pilot was for the clinical desk to monitor the 'Stack' and identify suitable calls for ACT, but this was difficult due to the clinical desk capacity issues and the need to monitor the Trust wide 'stack'.

To overcome this, the team moved to option 2 of the project which meant giving ACT access to the Live Stack so that they could identify suitable calls. The main challenge of option 2 was addressing the information governance arrangements between the two organisations.

The pilot project was undertaken with no extra resources for ACT, which resulted in the Stack not being viewed as often as hoped.

Outcomes

The pilot ran for a five-month period (October 2017 to March 2018). During that time 40 patient calls were taken off the stack by ACT.

- Admission to an acute hospital was avoided in 92% (37/40) of the cases taken up by the ACT. None of these were admitted in the 28 days following discharge from the care of ACT.
- Collaborative working between two organisations has resulted in trust and respect, enabling the implementation of truly prudent healthcare.
- There was a significant cost and time saving to WAST by not transporting these 37 patients and needing to wait outside A&E.
- Patient and carer satisfaction was high.

Next steps

1. Complete the evaluation process.
2. Learn from the development process.
3. Continue with the collaborative relationships.
4. Present the evaluation internally to both organisations.
5. Showcase the pilot across Wales and beyond.
6. Lobby strategic bodies for further resources.

> It has been a developmental journey towards implementing prudent healthcare through building collaborative relationships which will improve patient care.
>
> **Jeff Morris, WAST Operations Manager ABM**

> From the minute the acute clinical team walk into my home I know that I'm in safe hands. They are so efficient, professional and very compassionate staff members, I can't thank them enough.
>
> Everyone was brilliant, I wish I had known about this service on previous illnesses, highly recommend the service.
>
> The care and compassion the team gave me was incredible – it made me feel at ease and I knew I was in safe hands with these ladies. Words can't describe how grateful I am that they kept me out of hospital. Thank you from the bottom of my heart.

Did you know?

Staff reported that the whole experience enabled them to work dynamically and differently. They felt that they were able to offer the patient a choice: whether they were happy to be treated at home as a safe alternative to current practice.

Comisiwn Bevan Commission

GIG CYMRU NHS WALES | Ymddiriedolaeth GIG Prifysgol Felindre | Velindre University NHS Trust

GIG CYMRU NHS WALES | Bwrdd Iechyd Prifysgol Caerdydd a'r Fro | Cardiff and Vale University Health Board

Providing palliative care for heart failure patients at home

Cardiff and Vale University Health Board
Velindre University NHS Trust

Lead: Dr Clea Atkinson, Consultant Palliative Care
Participant: Professor Zaheer Yousef & Sian Hughes Clinical Nurse Specialist
In collaboration with Cardiff and Vale Heart Failure nursing team, Cardiff and Vale District Nursing teams, Dr Victor Sim, City Hospice community Palliative Care team and Marie Curie Hospice team.

This Bevan Exemplar project aimed to enable heart failure patients to live out the final stages of their illness at home by introducing the use of subcutaneous Furosemide infusions.

Background

In 2016, the Heart Failure Supportive Care Service was established in Cardiff and Vale to improve the experience of patients with advanced heart failure in their last year of life. The service works with patients to build rapport, provide symptom control, improve understanding and acceptance of the limits of prognosis and progress advance care planning to support choices at the end of life including place of death.

This model of care consists of early referral and an initial overlap between specialities, followed by a gradual transition to a more palliative approach with time.

Most patients with advanced conditions prefer to avoid a prolonged experience of dying and choose to die at home, wishing to avoid recurrent and lengthy hospital admissions in the last year of life. 81% of all patients would choose to die at home but approximately the same percentage of advanced heart failure patients die in hospital.

Aims

This Bevan Exemplar project aimed to introduce the use of subcutaneous Furosemide infusions in caring for patients in their homes. This is an effective means of managing episodes of fluid overload in a palliative way in patient homes, instead of the usual practice of hospital admission for intravenous Furosemide infusion.

Increasingly frequent episodes of fluid overload occur in the last period of these patients' lives and by treating them in this way, the episode that ultimately becomes a patient's last episode can be managed at home. This maximises their time in their preferred place of care and consequently, their preferred place of death can be achieved more often.

Challenges

There were many barriers over the course of the project: some were attitudinal and some practical. One important way in which the team overcame these challenges was by maintaining a totally resolute belief that its model of care was the absolutely right thing for patients.

From a practical point of view, the need for the district nurses to administer infusions, for community palliative care nurses to oversee and for GPs to assess patients before commencing the infusions were key challenges because they were asking professionals to add to their usual workloads.

However, generally, this was overcome by communicating personally with those involved to ensure that all professionals fully understood the important patient-focused aims of the project. They also provided a detailed, individually tailored patient treatment plan, guidance notes and telephone access to the supportive care consultant for clinical support and the heart failure consultant by email for cardiology advice.

The most difficult attitudinal barriers came from a variety of professionals and consisted of a great deal of negativity and a persistent flow of new barriers. The team responded to this by sharing patient stories and feedback as well as explaining the existing evidence base from which they were working. This was coupled with collaboration with colleagues throughout the trust and the palliative care community to build support and share practice.

Once the team had positive outcomes to share, they then advertised them by seizing all opportunities to present the project, especially to key people in the Health Board and at national meetings which raised awareness, support and recognition.

The Bevan Commission was also very helpful in raising the profile of the project, for moral support and in providing an official stamp of approval.

Outcomes

This project has been extremely successful and 12 patients were managed at home with subcutaneous Furosemide over the past 12 months. This amounted to 16 treatment episodes: 10 from which patients recovered and 6 for end-of-life care.

Key outcomes included:

- Time spent in preferred place of care increased by between 20-100%.
- Average patient satisfaction was 8/10 and unsolicited positive feedback was received from 71% of bereaved carers.
- 1 out of 7 patients changed their preferred place of death to the hospice and so overall, 100% of patients managed with subcutaneous Furosemide died in their preferred place of death.
- The Heart Failure Supportive Care Service facilitated 16 admissions to the hospice for advanced heart failure patients over 12 months: totalling 32 hospital admissions avoided, which was equivalent to avoiding 488 inpatient bed days.

Next steps

This project has now secured funding from the End-of-Life board for the next 12 months for dedicated Consultant and CNS clinical sessions.
The Health Board has also agreed to assist with a sustainability plan so that the service can be funded going forward on a more permanent basis. This will enable further embedding and refining of the current service model, and the expansion of this to a greater referral base within Cardiff and Vale University Health Board, including patients under the care of General Medicine teams.

The team will then be able to increase the number of advance heart failure patients being treated with subcutaneous Furosemide at home, and support more of these patients to stay at home for longer and die at home when this is patient preference.

There is support from the Lead for the End-of-Life Board and there has been interest from those delivering care to Advanced Heart Failure patients from other Health Boards in Wales to share experiences, service design, supporting pathway and guidance. The team will also be involved in reviewing the All Wales guidelines for Heart Failure and Cardiac referrals to Palliative Care.

The Health Board asked to meet with the team to understand how they facilitated this transformation in care and the potential for adapting this model to other diseases and specialities, including: adult congenital heart disease, stroke, respiratory and renal.

> "As a Bevan Exemplar I came to see that those of us who think differently will be those who are able to create real and meaningful change in the NHS."
>
> **Dr Clea Atkinson**

Comisiwn Bevan Commission

Ymddiriedolaeth GIG Gwasanaethau Ambiwlans Cymru Welsh Ambulance Services NHS Trust

Bwrdd Iechyd Prifysgol Caerdydd a'r Fro Cardiff and Vale University Health Board

Connecting community paramedics to GPs to reduce hospital admissions

Welsh Ambulance Services NHS Trust (working collaboratively with the Western Vale GP Cluster and Cardiff and Vale University Health Board)

Project lead: Vince Baglole, Clinical Improvement Manager and Paramedic
Grayham Mclean, Head of Clinical Improvement
Kevin Crowther, Locality Manager
Dr Mark Townend, General Practitioner

This Bevan Exemplar project enables community paramedics to work with GPs to avoid unnecessary hospital visits and reduce pressure on emergency services

Background

Calls from healthcare professionals place the biggest demand on the Ambulance Service in Wales, accounting for nearly 90,000 calls per year. Many patients are also often transported to A&E unnecessarily, when they could be safely treated at home – putting a strain on emergency services and the 999 system.

Aims

The aim of this project was to use the assessment skills of a paramedic to undertake home visits to clinically appropriate patients on behalf of the GP, where previously the patient would have been transported to A&E by ambulance.

Following the clinical assessment, the paramedic would conduct a clinician-to-clinician conversation to discuss the findings. Based on the assessment and the GP's knowledge of the patient history, the GP could make an informed decision on the most appropriate episode of care for the patient.

This project proved the concept of a system designed to enable paramedics to work within primary care. The data shows that when dispatched to clinically appropriate patients (i.e. 'Green3' calls), 90% of these patients can be managed at home and avoid admission to hospital by ambulance.

The project promoted collaboration by developing a multi-disciplinary team providing care to those most in need first. This leads to a reduction in unnecessary interventions and admissions to hospital. It also establishes a sustainable system of working, in which GPs can call upon paramedics to undertake home visits and assessments without accessing the 999 system.

> "The Bevan Exemplar scheme has been supportive, encouraging, inclusive and empowering. I feel part of a like-minded network of people."
>
> **Vince Baglole,**
> **Clinical Improvement Manager and Paramedic**

Challenges

Challenges of the project included the need to broker collaboration across many groups of healthcare professionals, and to encourage an entirely new system of working. These challenges were overcome by developing a multi-disciplinary team who understood the aim of the project and worked together to ensure patients were receiving the most appropriate care in the most appropriate setting.

Outcomes

Key outcomes of the project include:

- Patients are triaged as appropriate by the GP.
- Patients receive full clinical assessment in the community without the need for hospital admission.
- Acutely sick patients can be managed at scene within the paramedic scope of practice.
- Clinical decisions are made in consultation with the GP as the senior clinician.
- The GP has access to alternative pathways of care and appropriate clinical interventions as part of a multi-disciplinary collaboration.
- Patients receive the most appropriate care, from the most appropriate clinician, in the most appropriate place at the most appropriate time.
- Patient experience is improved through co-production, in line with the Prudent Healthcare principles.

Next steps

The programme has proved the concept of paramedics working within primary care. This system change has been further developed in other parts of Wales to incorporate Advanced Practice into the multi-disciplinary teams within primary care.

The next steps are to scale and spread this project across Wales in collaboration with various Health Boards and the Primary Care sector. Although the original trial has now ceased, the concept has been taken up by Abertawe Bro Morgannwg University Health Board's Out of Hours service and they are currently using paramedics to undertake home visits on behalf of GPs. This agreement is based on the original Bevan Exemplar Project.

Comisiwn Bevan Commission

Improving serious illness conversations and shared decision-making for paramedics

Velindre NHS Trust and Welsh Ambulance Services NHS Trust
Leads: Dr Nikki Pease, Consultant in Palliative Medicine and Mr Ed O'Brian, End of Life Care Lead, Welsh Ambulance Service
Participants: Dr Jo Hayes, Dr Ed Presswood

This Bevan Exemplar project trained ambulance clinicians in end of life conversations to enable shared decision making.

Background

Patients and relatives are frequently dissatisfied about communication at the end of life (The 2015 Parliamentary Ombudsman report on death and dying). At the heart of this dissatisfaction is a lack of information, such that patients and relatives are ill-informed regarding expectation and choice at the end of life. This mismatch in expectation often results in the ambulance service being called.

Aims

This project aims to improve end-of-life care and communication by providing training on three main aspects:

1. Serious illness conversation/communication skills.
2. Symptom control at the end of life (which includes recognition that a patient is likely to be at the end of life) and administration of medications to improve symptom control.
3. 'Shared decision making', whereby an experienced physician (usually from primary care or palliative medicine) would provide telephone advice / support to paramedics at the patient's home.

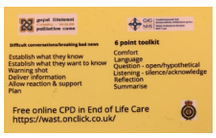
In excess of 500 ambulance staff received face-to-face training. The project had an 'all-Wales' remit and sought to deliver consistent, evidence-based practice across the nation.

Ambulance clinicians were trained according to the same syllabus and by a core group of trainers with support from local palliative care teams, to ensure that there will ultimately be continued local ownership.

Challenges

Challenges identified and where possible, addressed during the project included:

1. Attendance issues: the team liaised with Swansea University to teach paramedic degree students in larger groups within a classroom setting.
2. Maintaining skills: the team produced a bespoke, free interactive eLearning programme to include topics similar to the face-to-face sessions including communication skills, end of life care and symptom control. Since the eLearning launch in early 2018, 443 ambulance staff have accessed the modules, and 296 have completed the 5-module programme. [https://wast.onclick.co.uk/]
3. Scaling up: To better achieve an all-Wales remit the Paramedic 'Serious Illness Conversation Card' was produced and issues to all Paramedics in Wales.



Outcomes

The key outcomes of the project have been:

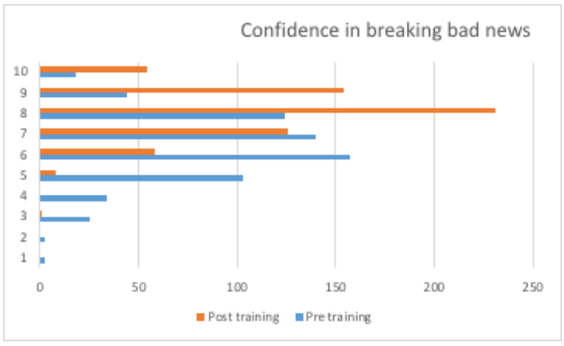
1. There is evidence of significant changes to practice:

- **16% reduction in patients conveyed to the emergency department and therefore remaining at home.**
- **30% increase in shared decision making (usually between paramedic and GP/ Palliative Medicine Physician).**
- **8% increase in End of life medicines being administered by paramedics**

2. Improvements in ambulance staff confidence in communication at the end of life. (Graph 1 and 2)

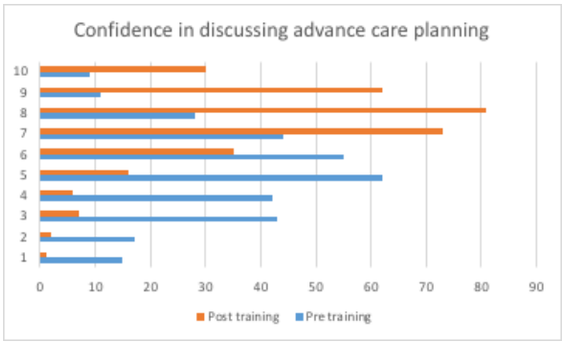
Graph 1 Ambulance staff self-assessment of confidence in breaking bad news pre- and post-teaching

n= 649 pre teaching and 632 post teaching



Graph 2 Ambulance staff self-assessment of confidence in discussing advance care planning pre and post teaching

n= 326 pre teaching and 313 post teaching



- improved patient choice
- improved support for family members and therefore bereavement
- better symptom control and therefore, ultimately, a 'good death'.

The overall outcome is hoped to be Improved patient choice, improved support for family members and therefore their bereavement; better symptom control and ultimately a 'good death'.

Next steps

The project and programme of teaching continues with teaching dates set for 2019. The project team has become involved in Future Care Planning projects throughout Wales to ensure 'joined up' working across care sectors, to ensure future care planning starts earlier in a patient's journey and that a patient's choices are transferred to the community setting e.g. use of 'message in a bottle'. The project and its results have also been shared in a peer-reviewed journal, and the team is also working to ensure UK Ambulance Services Clinical Practice Guidelines are amended to include information on 'Shared decision making and medication at the end of life'.

> "Within a supportive environment we were given an excellent opportunity to learn more, to create and ultimately raise the profile of our project."
>
> **Nikki Pease**


Comisiwn
Bevan
Commission

Comisiwn
Bevan
Commission