

CATALOGUE OF POTENTIAL INNOVATIONS



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PLEASE NOTE: This catalogue lists a collection of ideas gathered as part of ongoing horizon scanning, aimed at identifying emerging innovative thinking in healthcare that may have the potential to form future programmes of work. They are at differing stages of development and none are officially sanctioned by the NHS Commissioning Board for use.

The purpose of this catalogue is not to instruct or sanction specific use of any of the ideas listed, but rather to provide a means by which those in the system can explore innovative ideas and, where appropriate, adopt them and adapt them to deliver high impact improvements in a sustainable way.

Appropriate steps should be taken by those engaging with them to ensure that relevant safety and quality issues are suitably addressed prior to implementation.

INTRODUCTION

The NHS Chief Executive's report, 'Innovation Health and Wealth', published in December 2011, committed the NHS to spread at pace and scale the use of a number of existing technologies and innovations, with the potential to transform both quality and value across the NHS. Our aspiration is for an NHS defined by its commitment to innovation, demonstrated both in its support for research and its success in the rapid adoption and diffusion of the finest, transformative, most inventive ideas, products, services and clinical practice.

As part of this commitment we undertook to continuously search amongst the many brilliant examples of pioneering work, great ideas and first class improvements in service, to tease out those examples which have the real potential to be taken forward in future programmes of work, as opposed to letting such innovation exist in isolated pockets.

Working with the NHS Institute for Innovation and Improvement, Innovation and Wealth launched a High Impact Innovation implementation support website in August 2012. In the autumn of 2012, following an open call for new innovations across the system and wider, 349 ideas were submitted from a wide range of stakeholders and, following a rigorous assessment process, 108 were identified as having the potential to make a real difference.

This catalogue lists those 108 which, it can be seen, are at varying degrees of development and have been mapped against the five domains of the NHS Outcomes Framework. These submissions demonstrate some very practical examples of innovative thinking that will be developed further and adopted and adapted, where appropriate, to deliver innovations and improvements in a sustainable way. We would encourage service improvement leaders, and clinical leaders alike, to explore the catalogue with a view to engaging with, and supporting, the continued development of those innovations most appropriate to their organisation, with the ultimate purpose of ensuring all our patients achieve the best clinical outcomes as well as a positive experience of care.

DOMAIN 1:

PREVENTING PEOPLE FROM DYING PREMATURELY

AMBULATORY ECG MONITOR

The C.Net5000 ambulatory ECG monitor provides 24 or 48 hour 'Holter' ECG arrhythmia analysis quickly and efficiently in Primary Care. This is a 'Holter' monitor with built-in algorithms (artificial intelligence based on neural networks), to analyse and classify ECG on a beat-by-beat basis and produce an EPRS-compatible report. Arrhythmia classified includes ventricular and atrial beats, bigeminy, trigeminy, runs and AF.

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SUPPORTS DOMAINS] 2 4 5



ANTIMICROBIAL DRESSING - BIOPATCH®

It is suggested by NICE that 300,000 patients per year acquire Healthcare Acquired Infections (HAI) of which 18% (or 54,000) are attributed to CRBSI's. This is an Antimicrobial Dressing with Chlorhexidine Gluconate (CHG) which is intended for use as a hydrophilic wound dressing used to absorb, exudate and to cover a wound caused by the use of vascular and non-vascular percutaneous medical devices. The device acts by releasing its antimicrobial and antifungal constituent, CHG, gradually from the hydrophilic foam matrix and is proven to reduce the risk of catheter related bloodstream infections (CRBSI) by 76%.

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SUPPORTS DOMAINS] 3 4 5



BRACHIAL RHYTHM STRIP DEVICE

The Brachial Rhythm Strip device allows detection of arrhythmia during standard upper arm blood pressure measurement, using a medical device that records a brachial rhythm strip for visual or automated detection of arrhythmia. This will allow widespread national screening for Atrial Fibrillation without training for manual palpation. The device provides an objective record of the testing by electronically storing the measurement in the patient record.

The measurement is efficient as brachial BP and AF screening is performed in the same measurement. Measurements are quick, typically around 30 seconds, and easily performed by anyone familiar with using a standard automatic BP device. The measurement does not require any alteration to clinical practice.

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SUPPORTS DOMAINS] 2 4 5



CARE BUNDLE TO REDUCE MORTALITY RATES

This innovative approach has seen the implementation of the use of clinical pathways utilising a care bundle approach to reduce mortality rates for Sepsis, Community Acquired Pneumonia, Chronic Obstructive Pulmonary Disease, and Heart Failure. Pathways have also been implemented to reduce infection for D&V, Central Line Catheters and Urinary Catheters, and to reduce the risk from Harm from Falls. A simple innovative design was developed by clinical teams which incorporates patient and ward details, an information sticker with the care bundle interventions and an audit check list to ensure compliance. The design has allowed clinical teams to monitor compliance and outcome measures to ensure improvement in patient care.



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SUPPORTS DOMAINS } 2 3 4 5

CERVICAL SCREENING PROCESS - DYSIS

An innovative colposcope that is used as part of the cervical screening process, DySIS is used in the standard way to evaluate the patient's cervix, but during the examination the instrument collects and analyses the spectral content of light reflected from the cervical epithelium. DySIS uses this information to create an intuitive 'map' of the cervix, which can be used by the colposcopist to select biopsy locations with a much greater accuracy than traditional methods. DySIS was reviewed by NICE who in August 2012 published a recommendation stating that DySIS is not only highly clinically effective but also cost effective.



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SUPPORTS DOMAINS } 2 4 5

DIGITAL PATHOLOGY

Digital Pathology involves scanning stained tissue sections present on glass slides; these images are viewed by pathologists to aid diagnosis. Digital pathology systems comprise whole slide scanners, image management systems and viewer software; allowing images to be viewed, stored and analysed for years to come.

Advances in technology have allowed this digital solution to emerge from educational, QA and translational research applications. Digital pathology systems offer the capability of acquiring, communicating and storing annotated images across significant portions of clinical workload. They allow the development of highly centralized laboratory operations, with pathologists being able to remain in local care settings, resulting in less travel time, less moving of glass and more rapid turnaround of work.



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SUPPORTS
DOMAINS]

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EARLY PRESENTATION OF CANCER SYMPTOMS COLLABORATIVE PROGRAMME

This is a community-led social marketing intervention to raise awareness of the signs and symptoms of cancer, encouraging people towards earlier presentation at GP surgeries. The programme uses a deliberate blend of social marketing, community involvement and community action. It draws upon the local experiences and knowledge of communities and practitioners to identify a range of solutions that will work locally and this included working, where appropriate, with community volunteers.



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SUPPORTS
DOMAINS]

2

WINNER



Encourage, recognise and reward...

EMERGENCY GENERAL SURGERY UNIT – AINTREE UNIVERSITY HOSPITAL

Appointment of an Emergency General Surgery Consultant working weekdays in support of the duty team, enabled the 33 bed Aintree Emergency Surgery Unit to increase the percentage of admissions managed entirely in the emergency facility from 45% to 85%. Mean length of stay has reduced by one day. Freeing elective beds supports the right patient, right bed agenda and avoids cancellation of elective surgery due to bed shortages. Quality of care is improved through consultant led handover, close support of junior doctors to facilitate decision making and adoption of flexible patient centred discharge planning.

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SUPPORTS DOMAINS } 4 5



ENDOMETRIAL ABLATION – THERMACHOICE 3 - TREATMENT FOR HEAVY MENSTRUAL BLEEDING

Endometrial Ablation is globally recognised as the gold standard treatment for Heavy Menstrual Bleeding in the absence of uterine pathology. NICE Clinical Guideline #44 recommends Endometrial Ablation as an efficacious, safe and cost effective treatment modality and specifies the requirement to offer Endometrial Ablation prior to considering any form of Hysterectomy in the absence of pathology.

While Hysterectomy rates have been falling in the last decade a significant proportion of patients, conservatively estimated to be in excess of 5000, are still offered unnecessary hysterectomy, an invasive procedure linked to increased morbidity and high costs, as a first line treatment option. Variation in current practice is significant; this is often observed even within a single trust.

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SUPPORTS DOMAINS } 2 3 4 5



ENHANCED GENETIC SERVICE PROJECT

The enhanced genetic services project was initiated to provide a focussed approach in reducing infant mortality and morbidity caused by autosomal recessive disorders. The project is a comprehensive package with the following three strands.

1. To identify families who would benefit from individual risk information to help couples make informed reproductive choices via the Clinical Genetics Unit at Birmingham Women's Hospital.
2. To raise genetic literacy in the community where consanguinity is a major element – this education strand is developed by the National Genetics Education Centre in Birmingham.
3. The development of molecular tests for autosomal recessive conditions. This third strand has been developed in the WMRGL.

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FAMILIAL HYPERCHOLESTEROLAEMIA CASCADE TESTING SERVICE-WALES

Familial Hypercholesterolaemia (FH) is an inherited genetic condition causing high cholesterol from birth, resulting in pre-mature heart disease. Using the All Wales FH testing service, patients and their families who are at risk of developing premature coronary heart disease can be identified, supported and treated. BHF FH Specialist nurses are developing multidisciplinary links to improve the identification of FH patients from within secondary, and more importantly, primary care. This service continues to evolve and is developing into primary care, where the FH team are influencing and implementing changes to benefit patients and their families.

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SUPPORTS
DOMAINS] 4

FAMILIAL HYPERCHOLESTEROLAEMIA (FH)

In 2012, HEART UK published a report *'Saving lives, saving families: The health, social and economic advantages of treating and detecting familial hypercholesterolaemia (FH)'*. This report recommended the implementation of the NICE Guidelines on FH (2008) in England. The report includes new economic modelling that demonstrates the health and cost savings that can be made through improved identification and treatment of FH. It advocates a national programme for FH in England, a UK-wide national patient register and database for FH, improved capacity of lipid clinics to manage patients with possible or definite FH, and increased education and training.

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SUPPORTS
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GENOMIC CLINICAL WORK-BENCH (GCW)

GCW is an innovation that will transform access to, and the effectiveness of, genomic tests, thereby directly improving the care of hundreds of thousands of NHS patients whilst offering people an opportunity to contribute to research. This informatic project addresses the complete life-cycle of genomic diagnostics.

This data will be shared within the central bioinformatic resource of the proposed national genomic intelligence capability improving the knowledge base for health-care and stimulating research. After a pilot phase the innovation will be implemented into routine service, driven through commissioning by inclusion in service specifications, as a quality incentive (CQUINS) and as a key performance indicator.

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SUPPORTS
DOMAINS }

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GENOMIC PROFILING AT DIAGNOSIS OF ACUTE MYELOID LEUKAEMIA (AML)

This is a strategy to streamline genetic testing at diagnosis of acute myeloid leukaemia. There is a need for change in laboratory testing for AML and it is anticipated that the application of next generation sequencing technologies (NGS), to detect many different genetic changes on a single platform, will become commonplace in the diagnostic workup of patients with leukaemia and other cancers. Following a feasibility study carried out using a panel of eighteen candidate genes reported to have prognostic relevance in AML, a strategy was developed utilising a wider range of 54 genetic targets, including variants associated with cancer susceptibility. NGS sequencing of DNA enriched using droplet PCR technology, together with the Illumina MiSeq platform, is considered likely to offer superior results.

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SUPPORTS
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HEADSMART - BE BRAIN TUMOUR AWARE

This delivers an awareness and education campaign that aims to reduce delays in diagnosis experienced by children and young people newly diagnosed with a brain tumour in the UK. The campaign was developed in response to concerns raised by patients, parents and healthcare professionals about the delays in diagnosis experienced by children and young people with brain tumours and the resulting prolonged morbidity, potential increased mortality and long-term disability they experience. The project:

- employs multiple methods to raise awareness and support clinical decision-making, supports parents, carers and young people to work in partnership with healthcare professionals to reach a diagnosis, and
- uses contemporaneous national symptom interval data to drive service change.

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SUPPORTS
DOMAINS]

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WINNER



Encourage, recognise and reward...

IMPROVED RISK STRATIFICATION OF B-CELL PRECURSOR ACUTE LYMPHOBLASTIC LEUKAEMIA - B-ALL

Treatment of B-cell precursor Acute Lymphoblastic Leukaemia (B-ALL) in children is considered one of the major success stories of recent years, with overall survival figures now exceeding 80%. Clinical trials evaluating treatment based on fixed prognostic variables at diagnosis refined through the measurement of dynamic variables have been largely responsible for these advances, leading to novel treatment regimens for children considered high-risk. The innovation described here is the development of a next generation sequencing (NGS) strategy for screening candidate genes with potential prognostic relevance in paediatric B-ALL used in a single analysis, together with an interrogation of the immunoglobulin and T cell receptor repertoire loci, to identify patient specific biomarkers for monitoring treatment response.

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SUPPORTS
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INTRAOPERATIVE FLUID MANAGEMENT (IOFM) TECHNOLOGY AID

This innovation provides technology to aid in fluid management in intraoperative (IOFM) and intensive care settings. It allows completely non-invasive, intermittent measurement of parameters related to cardiac performance and vascular state, using pulse wave analysis through the standard, upper-arm blood pressure cuff. By providing this information, anaesthetists can make more informed decisions regarding fluid or vasopressor interventions to optimise patient recovery. As the innovation utilises the existing non-invasive blood pressure cuff, no additional training or skill is required. This means that IOFM can be made much more widely available across many kinds of surgical procedures, and also in the intensive care environment, where other IOFM methodologies such as oesophageal echo are not suitable.

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SUPPORTS
DOMAINS }

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MANAGED THEATRE SERVICES

Aesculap RENU is a unique managed service, which delivers significant cost savings whilst ensuring clinical excellence. It provides state of the art surgical instruments and equipment with a full preventative maintenance programme, ensuring full functionality at all times. It enables achievement of greater budgetary control, optimisation of the use of theatre time and improved patient outcomes. The service covers many theatre based products and can be made bespoke to the needs of any NHS Trust.

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SUPPORTS] 2 3 4 5
 DOMAINS]

Aesculap RENU

MOLECULAR DIAGNOSTIC TEST FOR CHILDHOOD LIVER DISEASE

Childhood liver disease due to rare inherited metabolic disorders is a clinically important condition requiring accurate diagnosis to enable early intervention and treatment. Birmingham Women's NHS Foundation Trust has a partnership with one of the national centres for treatment of these conditions at the Liver Unit and the Inherited Metabolic Disease Unit at Birmingham Children's Hospital, which seeks to identify children with these conditions through development of a comprehensive molecular diagnostic test. This has been designed to enable accurate and rapid diagnosis compared to existing relatively low throughput tests.

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SUPPORTS] 2 4
 DOMAINS]



NEXT GENERATION SEQUENCING (NGS)

The majority of conditions screened for in Newborn Screening (NBS) are genetic and rare but have to be amenable to detection by existing methodologies. NGS could potentially be used as an additional technology to expand the range of diseases tested for at six days and improve the understanding of the prognosis in others. This project will assess the capability of NGS systems in NBS to provide the necessary positive predictive value, and turnaround time using dried blood spots (DBS) as a source material. The first stage will be establishing the feasibility of producing a sequencing output of sufficient quality/coverage using DBS. The second stage will be to determine the requirements to achieve the necessary throughput (approximately 1,500 per week) and turnaround time for NBS.

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SUPPORTS
DOMAINS }

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NEXT GENERATION SEQUENCING (NGS) – MISSING HERITABILITY WITHIN NON-CODING GENOMIC REGIONS

Approximately 5-10% of all cancers are considered to be hereditary, caused by an alteration within a single gene. It is important to identify the underlying genetic aberration causing cancer within a family to facilitate the most appropriate clinical management. Conventional testing is limited to only coding exonic regions, missing up to 10% of all disease-causing mutations. However, NGS overcomes this limitation making possible the simultaneous analysis of both coding and non-coding targets. This innovation will utilise the massively parallel power of NGS technology to maximise detection of a wider spread of mutations within cancer-causing genes.

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SUPPORTS
DOMAINS }

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NEXT GENERATION SEQUENCING (NGS) – MULTI-GENE PANELS FOR INHERITED CANCER

Approximately 5-10% of all cancers are considered to be hereditary. Individuals with a gene mutation have up to a 100% risk of developing cancer. Detection of gene mutations is essential to provide the most appropriate clinical management. Many inherited cancers are caused by a mutation in any one of a number of genes. Conventional testing is complex, limited to a “one-at-a-time” strategy, reducing overall diagnoses. NGS makes possible the simultaneous testing of hundreds of genes per patient. The development of multi-gene panels is an innovation that utilises the power of NGS and will lead to the improved diagnosis of inherited cancer syndromes.

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SUPPORTS
DOMAINS]

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NEXT GENERATION SEQUENCING (NGS) – SUDDEN CARDIAC DEATH

The causes of sudden cardiac death (SCD) are diverse and, in the absence of coronary artery disease, difficult to investigate, especially if genetic. Accurate identification of a genetic cause, not definitive using clinical investigations alone, is a critical step for subsequent therapeutic management of at risk surviving relatives. NGS allows the simultaneous cost-effective analysis of multi-gene panels and is, therefore, ideally suited to the diagnosis of inherited cardiac disease. The development of a NGS molecular autopsy would improve both the diagnostic yield and clinical management of sudden death families. The new test would simultaneously analyse all possible genes implicated in SCD and would be compatible with DNA extracted from multiple sources to accommodate all possible referral routes including post mortem derived tissues.

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SUPPORTS
DOMAINS]

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NHS COPY NUMBER VARIATION (CNV) CONSORTIUM DATABASE

The detection by microarray of copy number variation (CNV) associated with developmental disorders, is becoming increasingly widespread in the UK and has been recommended as the frontline diagnostic assay of choice. A recent survey showed that UK Regional Genetics Laboratories are generating >25,000 patient microarray results per year.

Although international databases for such data-sharing exist (e.g. ISCA and DECIPHER), submission from NHS centres is low, largely because of time and complexity of consent. A consensus exists that NHS centres could benefit from a national consortium database to share data; both for daily interpretative clinical purposes and as a halfway-house to submission to international databases. WMRGL is leading a pilot of such a consortium approach with two partner Regional centres together with the leading genomic software company, Cartagenia.

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SUPPORTS
DOMAINS]



NON-MEDICAL PRESCRIBER (NMP) LED HER2 PATHWAY

The HER2 pathway is led by a Non-Medical Prescriber. This frees up valuable consultant time allowing them to focus on more complex patients. The electronic prescribing system is pre-populated with all treatment cycles with built in decision points at intervals to coincide with cardiac scans/patient assessment; this ensures patients complete their treatment course.

Telephone assessments replace out-patient appointments which frees up valuable space in outpatients departments and reduces patients' travel time. Cardiac monitoring is managed by the NMP via the telephone assessment, thus ensuring safety checkpoint in place and minimal delays to treatment. Homecare delivery of HER2 treatment means each patient receiving delivery at home releases 16 day unit slots.

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SUPPORTS
DOMAINS]



PRETERM SURVEILLANCE CLINIC

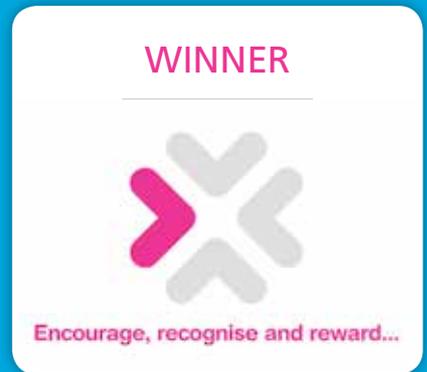
Opened at St Thomas' Hospital, London in 2004 this clinic provides a novel package of care for high risk women, based on best research and clinical evidence. It was introduced to provide a unique and effective screening/management strategy for women at risk of preterm birth. In 2011, 1167 women consented to participate in research with >40 research studies and several national guidelines published.



Each woman's experience, treatment and outcomes are continually audited. 'World first' management includes development and use of quantitative fetal fibronectin, a prediction algorithm, early biomarkers (elafin) and a package of complex interventions. The impact of implementing best practice, innovation and open access to care has seen an associated reduction in preterm birth rates by >14% locally and >12% in Southwark.

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SUPPORTS
DOMAINS]



RENAL DENERVATION WITH THE SYMPPLICITY CATHETER SYSTEM

This innovation is simple and efficient and takes just 38 minutes to complete. It can be performed by interventional radiologists, electrophysiologists and interventional cardiologists. It is a new treatment currently indicated for reduction of blood pressure in patients with treatment-resistant hypertension.



The symplicity catheter is placed in the renal artery and delivers low-power radio-frequency energy to disrupt the surrounding renal nerves. This, in turn, reduces activity of the sympathetic nervous system, which reduces blood pressure. The catheter is then removed at the end of the procedure. The therapy has proven to be clinically effective (response rate of 84% of patients at six months) with RCT clinical data showing substantial (32mm Hg drop in systolic blood pressure) and sustained blood-pressure reduction, without serious adverse events.

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SUPPORTS
DOMAINS]



SPECIALIST PROSTATE CANCER FOLLOW-UP - SERVICE REDESIGN

Prostate cancer (PCa) can require a very long follow up and PSA blood testing forms the corner stone of such follow ups. The result can be a very large cohort of follow-up in urology outpatients. However, a very large proportion of PCa follow-up visits do not result in a change of management. The re-designed service is based on a postal system supported by telephone contact if required. Hospital visits remain available when needed. The system is organised through a simple software program that administers the schedule of follow up which prompts patients to have their PSA test at primary care. The results are acted on, individually, by a CNS working in close cooperation with the consultant urologists.

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SUPPORTS DOMAINS] 2 4



SURGERY FOR TYPE 2 DIABETES MELLITUS IN PATIENTS WITH A BMI OVER 35

Nationwide analysis of outcomes from bariatric surgery supports the assertion that appropriate surgery can impact positively upon tackling type 2 diabetes. An estimated 3.2 million people over the age of 16 who have diabetes in England. People living with diabetes account for approximately 4.5% of the UK population and the costs of diabetes are estimated at 10% of the total NHS budget, rising to 17% in 2035. In April, the first comprehensive, nationwide analysis of outcomes from bariatric surgery was published. It contained data from 84 surgeons in 86 hospitals carrying out a total of 8710 operations up to March 2010. At the time of surgery, 27.5% of patients had type 2 diabetes. Two years after surgery 85.5% of patients with type 2 diabetes returned to a state of no indication of diabetes. In practice they stopped their diabetic medications.

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SUPPORTS DOMAINS] 2 3 4 5



TARGETED GENE PANELS

A number of cancer drug therapies are available that can be administered to patients in a targeted manner based on the individual genetic profile of tumour sample. These drugs are often expensive and are not effective for all patients; the addition of genetic testing of the tumour sample can provide accurate prediction of the likely patient response to therapy and consequently improve treatment outcomes. Currently genetic profiling of tumour samples is limited, relatively time consuming and not completely cost effective. The innovation involves working with the private sector to develop targeted gene panels using the latest available technology that can be applied to a range of tumour samples received for genetic profiling. The aim is not to only increase sensitivity and accuracy, but also reduce the overall cost of testing.

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SUPPORTS
DOMAINS]



TECHNOLOGY TO HELP DETECT JAK2 V617F IN MYELOPROLIFERATIVE NEOPLASMS (MPN)

An acquired mutation within the JAK2 gene forms part of the World Health Organisation criteria for the diagnosis of haematopoietic myeloproliferative neoplasms (MPN). JAK2 V617F leads to dysregulation of pathways which normally serve as 'on-off' switches to generate specific types of blood cells as needed. The JAK2 V617F mutation locks switch in the 'on' position, resulting in the overproduction of white cells, red cells and/or platelets. Molecular genetic analysis for the detection of the JAK2 V617F mutation are part of the routine diagnostic workup for patients showing any indication of MPN. Specific and sensitive detection of JAK2 V617F is challenging as the mutation involves only one nucleotide base change, and a mutation level of as low as 1% is considered clinically relevant. Newly developed droplet digital PCR technology will be employed to meet these stringent specificity and sensitivity requirements.

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SUPPORTS
DOMAINS]



UK GENETIC TESTING NETWORK (UKGTN)

This work seeks to extend coverage of the UKGTN process that evaluates new genetic tests for NHS services that do not meet the NICE topic selection criteria due to the rarity of the conditions. Currently UKGTN evaluates tests for the medical genetics specialty and would like to extend this to genetic tests that will be directly commissioned from the NHS Commissioning Board as part of the specialised services portfolio. The evaluation is independent and includes analytical validity, clinical validity and utility and ethical, legal and social issues.

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SUPPORTS
DOMAINS }

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NHS
UK Genetic Testing Network

WHOLE EXOME SEQUENCING FOR MENDELIAN DISORDERS

Testing is not straightforward for a disorder caused by one of many different genes as the tests currently have to be performed sequentially; each stage of testing taking up to eight weeks. This means the time from blood sampling to obtaining a genetic diagnosis may be a matter of years rather than months. Furthermore, patients with particularly rare conditions have been denied genetic testing as no testing is currently available for many specific disorders. Cost, which varies considerably, is dependent on gene size and makes some tests with current technology unaffordable. Recent developments in technology have resulted in low cost, rapid, high throughput genetic sequencing, which transforms the process of genetic testing, enabling an exome of all human genes to be sequenced simultaneously and at a very competitive price compared to current sequencing methods for just one gene. Whole exome sequencing has the potential to enable rapid testing for any disorder with a genetic basis and can overcome many of the problems outlined above.

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SUPPORTS
DOMAINS }

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Innovation
health&wealth

DOMAIN 2:

ENHANCING QUALITY OF LIFE FOR PEOPLE WITH LONG TERM CONDITIONS

A COLLABORATIVE APPROACH TO TACKLING MEDICINES WASTE

In June 2011, South Central SHA (SCSHA) launched the biggest coherent medicines waste project in its history. Covering both primary and secondary care this holistic approach to system change involved a number of innovative and ambitious interventions, from raising public awareness of the cost of medicines to promoting the use of patient's own medicines in hospital. Collective and collaborative working has enabled SCSHA to address issues present across the system, ensuring uniform delivery and providing measurable and comparable outcomes. The project's unique factor is that it unites a wide variety of elements at different stages of development in the delivery of one goal, reducing medicines waste.

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SUPPORTS
DOMAINS]

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WINNER



Encourage, recognise and reward...

ABPI PLERIXAFOR (MOZOBIL)

This is a novel therapy which stimulates mobilisation of stem cells from the bone marrow to the peripheral blood for collection, which is required in order to enable autologous stem cell transplantation, a treatment commonly utilised in lymphoma and multiple myeloma. A significant proportion of patients will fail to mobilise on conventional mobilisation regimens (G-CSF alone, or G-CSF in combination with chemotherapy such as cyclophosphamide), meaning that they cannot progress to transplant. Mobilisation with plerixafor is also more rapid which provides possible benefits to the NHS of decreased resource use and increased capacity.

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SUPPORTS
DOMAINS]

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AUTOMATIC PERSONAL SECURITY SYSTEM FOR THE ELDERLY - VIVAGO

Vivago is a Finnish healthcare technology company that develops, markets and sells automatic personal security systems ensuring elderly individuals safe living. Its home solution enables safe and pleasant living at home.

Automatic alarms provide a safety device that can be personalized and programmed to notify automatically if it is taken off the wrist. Typically users are able to stay at their own home at least one year longer, reducing the cost to public healthcare dramatically. Costly falling accidents can be reduced, as well as expensive hospital days.

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SUPPORTS
DOMAINS }



BRENT MODEL OF SUSTAINING RECOVERY AND RELAPSE PREVENTION (SRRP)

This new clinical technology focuses on high-risk factors for stress and relapse such as withdrawal from help, alcohol and drugs, non-compliance with medication, managing faulty thinking, skill development in problem solving, understanding individual warning signs, life style balance and developing individual recovery and a relapse prevention plan. The impact is evidenced through systematic evaluation of service users/carers questionnaires and ongoing research.

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SUPPORTS
DOMAINS }



DEMAND MANAGEMENT AND ONLINE TEACHING PROGRAMME - ICE

This relates to a demand management program on ICE, the GP electronic online requesting software and an interactive GP online teaching program. The program is aimed at supporting and guiding GPs in requesting the appropriate laboratory tests, thereby, improving patient care and reducing unnecessary demand. This teaching program was developed to reinforce best practice in the use of laboratory tests in the direct management of patients, but also in managing demand of laboratory tests by presenting and discussing real practical cases.

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SUPPORTS
DOMAINS }



DIABETIC FOOT INFECTIONS PATHWAY

This work aimed to develop an antibiotic foot formulary for the empirical treatment of diabetes related foot infections presenting to a multidisciplinary foot service. A multidisciplinary team of diabetologists, podiatrists, pharmacists, microbiologists, orthopaedic and vascular surgeons considered that many people did not have a severe enough foot infection to warrant hospital admission, and that they should be able to stay at home.

Thus they created an extra category of 'Moderate infection – borderline admission'. They would be treated with once daily intramuscular antibiotics administered by their practice nurse or by a district nurse in addition to oral antibiotics with regular follow up in a specialist foot clinic.

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SUPPORTS
DOMAINS]



Innovation
health&wealth

DIGITAL DATA DEVICES CARDIO SERVICE

This service delivers the provision of digital data devices which allow an extended cardio service to be run through primary care, providing 24 hour BP, ECG and Spirometry testing. This utilises telemedicine for the safe transfer of results to an over read service or straight through to the cardiologist at the hospital. The data can be transferred directly into the patient's record to provide the GP with up to date confirmed results, without the need for scanning or posting results.

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SUPPORTS
DOMAINS]



WelchAllyn
Advancing Frontline Care™

FORUM FOR INJECTION TECHNIQUE (FIT)

The Forum for Injection Technique was founded in 2009. The overarching vision is to help those with diabetes using injectable therapies achieve the best health outcomes by ensuring that the dose is delivered to the right injection site, using the right technique, every time. FIT undertook a consensus group meeting which was attended by over 40 diabetes specialist nurses (DSNs), people with diabetes, and a clinical care representative from Diabetes UK. In October 2010, FIT published the First UK Injection Technique Recommendations.

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SUPPORTS
DOMAINS]



HOME HAEMODIALYSIS

Despite its evidence on clinical superiority and cost effectiveness, Haemodialysis at Home, has an extremely low UK prevalence (1-2%). An innovative approach to pathway redesign of existing dialysis provision to incorporate a dedicated training program that facilitates learning and promotion of self-confidence, has allowed patients to perform extended haemodialysis independently at home. The treatment model has led to a seven-fold increase in home haemodialysis patients in Manchester, delivering superior clinical outcomes with the added option of adapting the treatment around individual lifestyle. Providing a safe and superior dialytic therapy, this technology has offered improved health and longevity, empowering patients with greater involvement, freedom and flexibility along with wider healthcare benefits of fewer medications and hospital visits, with substantial reduction in healthcare costs.

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SUPPORTS DOMAINS } 4



WINNER



Encourage, recognise and reward...

HOME-VIDEO-EEG-TELEMETRY (HVT) - KINGS@HOME

This innovation is a redesign of an in-patient service by undertaking video-EEG telemetry in the patient's home rather than in hospital, including a fully developed mobile recording system. Using the MRC definition of a complex intervention, the work piloted, evaluated, developed and implemented Kings@Home, a new clinical service of home video-EEG telemetry. The findings show that diagnostic video-telemetry for seizure classification and poly-somnographies is reliable, can be carried out safely in the patients' home and poses no security risks for staff. It can be effectively integrated into the service offering of a tertiary care centre as a routine home or community-based procedure. HVT was preferred by patients over IVT and provides a means of reaching out to some of the most vulnerable patient groups who would not otherwise benefit from this investigation.

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SUPPORTS DOMAINS } 1 5



WINNER



Encourage, recognise and reward...

IMPROVING THE INPATIENT MANAGEMENT OF DIABETES

Following a formal needs analysis which highlighted numerous issues a number of appropriate interventions were implemented including the following.

1. Training for ward staff to refer diabetes inpatients to DT within two days of admission who were seen within one working day. Any healthcare professional could initiate the referral.
2. Hypoglycaemia: "Link" ward nurses were given "Hypoglycaemia Boxes" and training on Hypoglycaemia Awareness Days.
3. E-hypoglycaemia module was incorporated in mandatory training.
4. Insulin Safety: Junior doctors received evidence based training in diabetic emergencies and peri-operative management.
5. Standardised Discharge Planning: a checklist was formulated and actioned.
6. Reducing admissions of "frequent attendees".

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SUPPORTS
DOMAINS]



INTERACTIVE VOICE RESPONSE (IVR)

Interactive Voice Response is a telehealth/digital by default adjunct to COPD care at a very low cost (£26 per patient per annum). Patients receive two computer generated phone calls per week and respond using their telephone key pad to ask questions about their COPD. 70+ patients can be monitored for the cost of a single traditional telehealth package. The same technology is now being used for post operative care to reduce unnecessary follow-ups and it could be used for other conditions such as heart failure. This is a demonstrably effective, low cost high impact innovation with an unusually high return on investment.

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SUPPORTS
DOMAINS]



LONG TERM VENTILATION (LTV) SERVICE MODEL

The benefits of care at home for medically stable children on Long Term Ventilation are well recognised, but the inability to construct a simple way through a complex discharge process means that young children spend many unnecessary months in hospital, lessening their quality of life and creating unnecessary expenditure for the NHS. The Royal Brompton innovative service model is designed around three main outcomes.

- To reduce avoidable and costly intensive care stay for medically stable LTV children by offering specialist input to local hospitals and third sector organisations.
- To improve patient and family experience by moving care closer to home in a more timely manner using a technology-enabled task driven process.
- To improve quality and consistency of local care by delivering specialist skills and knowledge into the wider community of healthcare workers, through a 'hub and spoke' clinical service model.

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SUPPORTS
DOMAINS]

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MICROARRAY ANALYSIS FOR MYELODYSPLASTIC SYNDROME (MDS)

MDS is stratified into prognostic categories (predicting survival and risk of progression to Acute Myeloid Leukaemia), according to several factors including the chromosome abnormalities present. These categories inform therapy. Current testing using G-band chromosome analysis is time consuming with ultimately 40-50% of MDS samples having a normal karyotype. Microarray studies have shown an increase in abnormal results to 75% due to the identification of cryptic abnormalities and some of these deletions are of prognostic relevance. Although microarray analysis will not identify balanced rearrangements, the majority of chromosome abnormalities observed in MDS involve unbalanced gain/loss. However, the use of SNP arrays will identify regions that may harbour biallelic gene mutations. The presence of gene mutations in MDS is increasingly becoming the focus of studies to identify those of prognostic, and potentially therapeutic relevance.

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SUPPORTS
DOMAINS]

1



MICROARRAY TESTING

This proposes the widespread implementation of Chromosomal Microarray Analysis for all children with developmental disorders. Up to 50% of children with developmental disorders remain undiagnosed and many have normal genetic results including most notably chromosomal analysis. Many studies have demonstrated the ability of microarray-CGH to detect sub-microscopic chromosome anomalies far beyond karyotyping. Between 10-20% of children with unexplained learning disability with a normal routine karyotype have a significant finding by array-CGH, giving a three to four-fold increase in positive diagnostic yield. Microarray testing has been implemented in the West Midlands for select patient cohorts (in particular those referred by clinical geneticists).

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SUPPORTS } 4
 DOMAINS }



NEW ORAL ANTI-COAGULANTS (NOACS)

Stroke is the third highest cause of death in the UK. Atrial fibrillation (AF) is one of the leading causes of thrombo-embolic stroke (estimated 15% of all strokes). Effective stroke prevention in patients with AF is, therefore, a clear clinical priority. New oral anti-coagulants (NOACs) were designed to provide a predictable, stable and reliable level of anticoagulation to reduce risk of stroke in patients with AF without the need for routine anticoagulation monitoring, and with a lower propensity for interactions with other agents. More than 50,000 patients with AF have been studied in clinical trials of NOACs against warfarin.

(NB: This is a joint submission from Bayer, BMS, Boehringer-Ingelheim and Pfizer).

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SUPPORTS } 1 4 5
 DOMAINS }



NUTRITION AND DIET RESOURCES UK (NDR-UK)

NDR-UK is a not-for-profit organisation providing access to quality nutrition and diet resources, aiming to prevent, treat and manage disease through food. It offers a comprehensive portfolio of nutrition and diet resources, covering approximately 40 different health areas. All resources adhere to a robust accredited information process which ensures they are written by dietitians and other relevant health experts, based on evidence, patient-focused and reviewed frequently. The resources have been recognised at The British Medical Association Medical Book Competition Awards 2008, 2009. More recently, information processes were accredited and commended by the only regulated information governing body in the UK: The Information Standard.

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SUPPORTS
DOMAINS }

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ONLINE PATHWAY FOR MENTAL HEALTH – BWW

BWW is part of the vanguard for transforming mental health services in the UK. It offers the first online pathway for mental health and wellbeing which places people at the centre of their own care. It also uniquely re-imagines the role of clinician from 'expert' to 'coach'. Its widespread adoption is enabling people to access well-governed and safe therapeutic services through self-referral from the comfort of their own homes. BWW delivers its services through a joint venture partnership with the Tavistock and Portman NHS Foundation Trust.

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SUPPORTS
DOMAINS }

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PANEL BASED MOLECULAR TEST FOR DSD GENES

Disorders of Sexual Development (DSD's) are a range of diseases which present primarily in the newborn period but also in the adolescent. Currently in the UK, molecular genetic analysis is limited and requires sending samples to more than one centre and testing is carried out on a sequential basis. This means that families can have a considerable delay before diagnostic confirmation of disease is available. The aim of this work is to provide a comprehensive panel based molecular test covering all of the genes associated with DSD's, using a next generation sequencing approach. A panel covering 14 genes associated with DSD will be established using the MiSeq platform for sequencing.



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SUPPORTS
DOMAINS] 4

PERCUTANEOUS TRANSLUMINAL ANGIOPLASTY - LUTONIX DCB

This is a drug coated balloon catheter for use in percutaneous transluminal angioplasty with the aim of reducing the incidence of restenosis and improving limb perfusion. The coating is multi functional. It works to retain paclitaxel during the insertion of the balloon catheter to the target lesion, and also allows for optimal release of paclitaxel at the target site whilst minimising systemic drug exposure. The uniformity and durability of the coating allows for efficient transit of the proprietary coating of 2 µg per mm² paclitaxel to the target site in the stenosed vessel. When the balloon is inserted into the target vessel and inflated at the lesion site, paclitaxel is released into the vessel's endoluminal surface. After the inflation procedure, the lesion site will undergo a relining process with the deposition of new endothelial cells.



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SUPPORTS
DOMAINS] 3 5

SOFTWARE SOLUTION - 'HEALTH FABRIC'

This is an integrated software solution that enables primary, secondary, social care and patients to be actively involved in understanding, planning and decision making to improve or maintain health and well being. Users log in and have access to data to support them to make decisions or to enable efficiencies within the health and social care system. The drivers for the solution are patient need, improving quality, making best use of data and valuable resources in terms of people and time. The solution also provides an "app" so people can plan their care on the move. This solution supports care planning and self management in partnership with risk stratification tools and GP clinical systems and delivers a system that works to benefit patients.



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SUPPORTS DOMAINS



STRATIFIED TREATMENT FOR MONOGENIC DIABETES

Improved treatment for monogenic diabetes is one of the first applications of genomic medicine. Stratified treatment according to genetic diagnosis improves patient quality of life and the changes in treatment reduce healthcare costs. Monogenic diabetes can only be diagnosed through a genetic test.

Widely available biochemical and immunological tests can distinguish MODY from type 1 diabetes and these biomarkers have been incorporated into the genetic diagnostic service. An online 'MODY calculator' that utilises clinical characteristics to predict the likelihood of MODY has been developed, and allows selection of patients for testing according to a set threshold probability which will ultimately be determined by healthcare economics.



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SUPPORTS DOMAINS



TOPICAL WOUND OXYGEN THERAPY (TWO2)

This innovation provides a unique topical wound oxygen therapy, which is a non-invasive therapy that progresses chronic wounds to complete closure faster and with significantly less reoccurrences than other modalities.



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SUPPORTS DOMAINS



TREATMENT FOR WET AMD - ORAYA THERAPY (TM)

This provides unique and proprietary radiotherapy for wet AMD that offers a single, non-invasive office-based treatment for this rapidly growing problem. Ionizing radiation has been proposed to treat neovascular AMD primarily because it can induce regression of new blood vessels.

The Oraya Therapy is intended as a one-time procedure, utilizing highly targeted, low-voltage X-rays to treat choroidal neovascularization associated with wet AMD, adjunctive to the current anti-VEGF therapy. The procedure is typically completed in 20 minutes or less, in the outpatient setting. The patient receives a total body effective dose comparable to one-tenth of a head CT scan. The IRay® Stereotactic Radiotherapy device can be installed in a typical examination room setting with minimal modification.



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SUPPORTS
DOMAINS } 4

WEB-BASED ACTIVITY MONITORING SYSTEM - JUST CHECKING (JC)

This innovation provides a simple web-based activity monitoring system. PIR sensors in the home generate an activity chart which is accessed via a secure website. 75% of UK county councils with social service responsibility use JC in the assessment of people with Dementia or Learning Disability in the community, to ensure that individual routines and needs are understood during care planning to deliver person centred care. JC helps to unobtrusively observe a person's function in their own environment and shows objective 24hr routines of when someone goes to bed/gets up, and whether they are settled during the night. The holistic approach ensures decisions are based on facts rather than assumptions. This has been produced in clinical partnership with Cornwall Partnership NHS Trust.



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SUPPORTS
DOMAINS } 3 4 5

DOMAIN 3:

HELPING PEOPLE TO RECOVER FROM EPISODES OF ILL-HEALTH OR FOLLOWING INJURY

BIDIRECTIONAL BARBED CLOSURE DEVICE - QUILL™

This is a bidirectional barbed closure device that does not require any knots or loops to secure it in place. It won best medical device in 2010 in the Medical Design Excellence Awards. Quill™ is a novel wound closure system that eliminates a tedious, time consuming step in soft tissue approximation, the tying of knots to secure the closure. The placement of Quill™ is less traumatic on tissues. In addition, since no knot tying is required, the closure is faster, a third hand is not needed and less material may be required than is typically used in traditional methods of soft tissue approximation.

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SUPPORTS } 1 4 5
 DOMAINS }



COLLAGEN DRESSINGS OF PISCAN ORIGIN

A range of 100% Type I collagen dressings of Piscean origin. Biodegradable, biocompatible and non-allergenic. These exogenous collagen dressings are biologically active and dynamic, play a chemotactic role, stimulating and recruiting specific cells important in wound healing, and reduce levels of proteases in chronic wounds. Available in particles, sponges, sheets and film membrane. Suitable for acute wounds, and a wide range of wounds non-responsive to standard care, including severe epidermolysis bullosa wounds, the elderly patient and patients with co-morbidities. Particle format may be used on infected wounds.

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SUPPORTS } 2 4 5
 DOMAINS }



ELECTRONIC WARD MANAGEMENT SYSTEM

The e-Board is not only an electronic patient status at a glance board, but incorporates nursing handover and care quality information to make it a complete ward management system that engages ward staff in patient care, as well as providing vital bed management information on a more timely basis than a stand-alone system. The system is visual - so key information automatically colour codes to show importance, urgency, non-compliance etc, and information is highlighted when thresholds or deadlines are approaching or pass.

Pulling all ward information together in one system reduces duplication of recording information. Crucially, once recorded electronically, this information can then be accessed by a whole range of non-ward based professionals so people across the hospital can quickly identify their priorities, workload and resource requirements.



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SUPPORTS
DOMAINS }



ENHANCED RECOVERY AFTER SURGERY (ERAS) PROGRAMME

This is a joint initiative between East Midlands Health Innovation Education Cluster (EMHIEC), Derby Hospitals NHS Foundation Trust and Pfizer Ltd. The vision is to improve patient outcomes and experience through reduction in HAI and maintaining patient independence post surgery.

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SUPPORTS
DOMAINS }

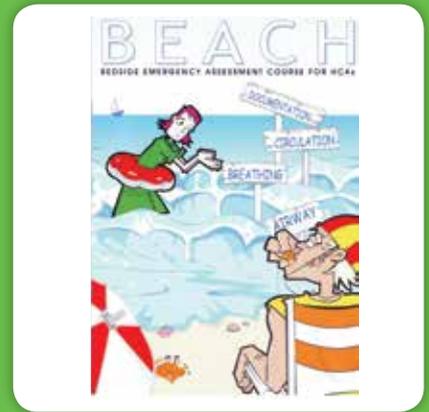


HCA TRAINING IN PATIENT DETERIORATION

The BEACH™ course has been developed in recognition of the need to train health care assistants in the basic techniques and skills required for early recognition of patient deterioration. The course is inexpensive and easy-to run; it can be delivered in just half a day, using only flip chart/slides and comes equipped with a comprehensive on-line course administration system. Built around a simple, illustrated manual it advocates a structured, prioritised system of patient assessment and provides clear strategies for communicating any signs of deterioration to colleagues. Its content includes airway problems, breathing problems, circulation problems, good handover of critical information and prioritisation of workload.

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SUPPORTS
DOMAINS }



HY-VAC CLINICAL FLUID DISPOSAL

A device has been developed which allows the waste from the patient to be sent to the hospital drain rather than sent to landfill or for incineration. The system is wall mounted and easy to use with minimal set up before an operation. The system functions using clear push button LCD display to walk the operator through the key steps of the unit's cycle during an operation. It incorporates a final automatic cleaning cycle using a validated detergent which ensures security for theatre staff and patient alike with minimal clean down before, during and after an operation. The system also means that moving and handling issues associated with disposal of containers and yellow waste bags are eliminated, thereby potentially reducing staff injuries associated with this.

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Innovation
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INTEGRATED CLINIC LETTER

This innovation is an automated mail merge in using Microsoft Word and the Patient Master Index to swiftly create pre-formatted clinic letters to GPs as PDF files. It saves three minutes typing per letter, plus all the costs of paper, toner, envelopes and stamps. Also Letter Viewer software has been installed so that correspondence can be swiftly accessed by clinicians without any need to pull notes from records.

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SUPPORTS
DOMAINS } 4



KNEEHAB XP – ACCELERATED KNEE RECOVERY

Kneehab XP is a clinically proven, garment based, neuromuscular electrical stimulation device that delivers advanced quadriceps rehabilitation. Kneehab XP incorporates Multipath, a patented breakthrough stimulation technology, which allows the device to pre-activate VMO and deliver comfortable high intensity sequential recruitment of the quadriceps muscle. Kneehab XP is utilised twice daily for 20 minutes to strengthen atrophied muscle, aid in overcoming inhibition, and speed rehabilitation. A study published in the AJSM in June 2011 found that patients who utilize Kneehab XP post-ACL reconstruction returned to work up to seven days earlier than patients who completed exercise rehabilitation alone.

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SUPPORTS
DOMAINS } 4 5



LEG MANIPULATION FOR HIP REPLACEMENTS - FLOTE

Based on direct experience of over 400 successful DAA hip replacements at the Wrexham Maelor Hospital over the last three years, a need was identified for a mechanical instrument to assist surgeons in the leg manipulation required for a successful DAA procedure. Using FLOTE the surgical team required for successful DAA hip replacement is reduced to surgeon, scrub nurse and (unscrubbed) technician. It is asserted that adoption of FLOTE has also contributed towards a dramatic reduction in length of stay and other support activities and, therefore, has significant economic benefits.



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SUPPORTS
DOMAINS }



SHARED DECISION MAKING (SDM) – ‘ASK THREE QUESTIONS’

Patients increasingly want to be involved in decisions about their own healthcare. Research has shown that when they are, they choose less hospital care and report better experiences. In using Shared Decision Making, health professionals explain all the relevant treatment options and alternatives to patients, providing enough information to enable the patient to choose the option that best suits their lifestyle, personal beliefs and values. AQuA has worked to develop and promote SDM, in particular using the “Ask Three Questions” approach*, which enables health professionals to provide higher quality information about options, benefits and harms. It is applicable to patients of almost any age and condition, including children and young people.



(*Ask 3 Questions has been adapted with kind permission from the MAGIC Programme, supported by the Health Foundation. Ask 3 Questions is based on Shepherd HL et al. Three questions that patients can ask to improve the quality of information physicians give about treatment options, A cross-over trial. Patient Education and Counselling, 2011;84:379-85)

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SUPPORTS
DOMAINS }



TRAUMA MANAGEMENT SOFTWARE - M.E.T.A.L

This trauma management software has been developed for organising orthopaedic trauma and emergency hospital admissions, producing lists for ward rounds and operating theatres and utilising the data for research, audit and teaching, all in a simple and intuitive interface. The software is based on a Microsoft Access database and Visual basic code to advance the system's capabilities.



It also has the flexibility to adapt to departmental needs and requirements. It was first installed in the Queen Elizabeth Hospital in Gateshead in February 2011 followed by Wansbeck General and North Tyneside General Hospitals, with excellent feedback from users. Its uniqueness is in the fact that it was developed specifically to address issues related to managing the daily orthopaedic trauma workload.

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SUPPORTS } 1 4 5
DOMAINS }

"VIRTUAL WARD" MODEL OF CARE AND ITS APPLICATION IN INTESTINAL FAILURE (IF)

Intestinal failure is associated with chronic morbidity and repeated hospital admission. The virtual ward model is an integrated multidisciplinary hospital outreach service providing long term specialist support for patients in their own homes, facilitating home discharge and reducing need for readmission. The IF virtual ward utilises structured patient education, remote biochemical and clinical monitoring, telemedicine consultations and open access outpatient clinics. Patients are reviewed at twice weekly multi-disciplinary virtual ward rounds, providing support for them and their primary care team. The system facilitates patient engagement and ownership, and is associated with high levels of patient satisfaction.



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SUPPORTS } 2 4
DOMAINS }

WOUND MEASUREMENT SYSTEM (WMS) - EYKONA®

The Eykona Wound Measurement System has three components as follows.

1. A bespoke portable clinical imaging device akin to a camera.
2. Small disposable targets placed on intact skin near the wound during the imaging process.
3. PC software.

The system acquires full-colour 3D images similar to a CAD/CAM model, which fully characterise the shape of the human body. Wound care costs the NHS an estimated £3bn per annum. As wounds heal so slowly, it is difficult for clinicians to tell whether treatment is working and, because they heal from the base up, the most reliable measure of progress is a reduction in wound volume. Through remote assessment The Eykona® Wound Measurement System (WMS) allows for earlier decision-making and better treatment outcomes.

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SUPPORTS
DOMAINS }

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4

Innovation
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DOMAIN 4:

ENSURING THAT PEOPLE HAVE A POSITIVE EXPERIENCE OF CARE

A PACKAGE OF INNOVATION FOR MANAGING MILD-TO-MODERATE KIDNEY DISEASE IN PRIMARY CARE

This package aims to improve the quality of care of people with mild-to-moderate kidney disease. The package helps primary healthcare teams to identify people who have kidney disease, improve their knowledge and management, facilitate self-management, and educate people about kidney disease. The package includes a description of a manual/electronic method to ensure that the CKD Register is accurate and up-to-date; slide sets on the principles of managing kidney disease in primary care and how to implement a Quality Improvement intervention (a care bundle for CKD); a workshop for practitioners on how to facilitate self-management; and patient education materials including a guide on how to run effective group education sessions for patients.



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SUPPORTS
DOMAINS]



AMBULANCE CYCLE RESPONSE UNIT (CRU)

This ambulance cycle response unit has been introduced within the London Ambulance Service (LAS). The main use of the CRU in the LAS is to respond to 999 emergency calls every day in the busiest areas. Proven benefits include cost effectiveness, mobility, rapid response, life saving outcomes, special event cover, promotion of physical fitness, reducing carbon emissions and being an environmentally friendly mode of transport. This also provides appropriate care pathways and improved ambulance availability for serious 999 calls as well as saving money. Other areas of NHS could benefit by using bicycles.



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SUPPORTS
DOMAINS]



COMMUNITY BASED PATHWAY FOR TREATMENT OF MEDICALLY UNEXPLAINED SYMPTOMS (MUS)

A Mental Health Trust, a General Practice and the gastroenterology department of an acute hospital have worked to develop training to increase GPs' and acute care physicians' consultation skills, and thereby improve the treatment of Medically Unexplained Symptoms (MUS). By creating a community-based symptom management pathway, the traditional barriers between mental health and physical health, and between primary care and secondary care, have been reduced.



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SUPPORTS DOMAINS } 1 3 5

DAY HAND SURGERY PATHWAY

Two pilot all day hand surgery lists under regional anaesthesia were run successfully in June 2012. This was the culmination of significant effort to design and introduce a patient pathway to facilitate the growing numbers of regional anaesthesia cases that were being performed. The aim of the project was not to introduce new surgical or anaesthetic techniques which were already competently being performed on an ad-hoc basis but to introduce a robust, streamlined pathway which maximises efficiency and promotes an excellent patient experience.



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SUPPORTS DOMAINS } 3 5

ELECTRICAL IMPEDANCE SPECTROSCOPY (EIS)

Zilico Ltd is a company spun out of the Sheffield Teaching Hospitals NHS Foundation Trust and the University of Sheffield and is developing the next generation of diagnostics with a product line which will provide real-time results. Zilico has developed Electrical Impedance Spectroscopy, an objective scientifically-proven method to differentiate between normal and pre cancerous and cancerous tissues (neoplasias), into a technology that can address the need for improved detection and diagnosis of neoplasia.



The primary clinical focus is within the cervical cancer diagnostic pathway. Zilico's lead product, ZedScan I is aimed at patients referred after an initial test and will reduce the number of biopsies taken and has the potential to facilitate the wider use of 'see and treat' modality. The company also recently completed a proof-of-concept 50 patients trial for detecting neoplasia in oral lesions.

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SUPPORTS
DOMAINS] 1

END OF LIFE CARE - COORDINATE MY CARE (CMC)

Coordinate My Care is a service dedicated to preserving dignity and autonomy at the end of life. Its care pathways enable health professionals from primary, secondary and community care, to put the patient at the centre of health care delivery at this most sensitive time. This service is underpinned by an electronic solution. The record displays the patient's diagnosis, prognosis, current and anticipated problems, advanced care plan, resuscitation status and patients' wishes. The CMC record can be accessed 24/7 by all health and social care professionals who have a legitimate relationship with the patient.



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SUPPORTS
DOMAINS] 2 3 5

END OF LIFE CARE - COORDINATE MY CARE (CMC)

NHS London working in partnership with the Royal Marsden Hospital, to implement an electronic end-of-life patient system, Coordinate My Care, across London as part of the NHS 111 programme. CMC is an electronic patient care planning system for storing clinical information and the wishes of patients with life limiting illnesses. The system allows the sharing of information in a standardised format and can be accessed by a range of health professionals across the acute and community sector including GPs, community and acute nursing staff, London Ambulance Service, hospice and NHS 111 staff.



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SUPPORTS } 1 2 5
 DOMAINS }

INDIVIDUAL PLACEMENT AND SUPPORT MODEL

This service offers people recovering from addictions, and/or severe and enduring mental health problems, specialist support to access sustainable employment, training and education. Improving access to employment support services will help beneficiaries maintain the benefits of treatment, increase social inclusion, daily structure and financial independence. The service utilises an evidence based model developed for mental health services called the Individual Placement and Support Model. This is a value for money model recommended by the Social Exclusion Report (2005) and Commissioning Guidelines For Vocational Services completed by the Department of Health and Department for Work and Pensions as the most effective model for assisting service users back into employment.



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SUPPORTS } 1 2 3 5
 DOMAINS }

LEARNING DISABILITY EPILEPSY RADAR

This is a new visually based system to help explain eight aspects of treatment response that are clinically and holistically important, and which are commonly discussed in Learning Disability (LD) epilepsy clinics. The idea of the epilepsy radar (ER) has been to develop a visual communication tool to maximize comprehension, working on the principle that ‘a picture is worth a 1000 words’.

The ER is the result of a computer algorithm that uses MS Excel. Information discussed in the appointment is captured swiftly with an instant personalised single screen graphic produced, with visual display to facilitate information sharing and decision making as it is able to compare changes over time.

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SUPPORTS
DOMAINS]



Cornwall Partnership **NHS**
NHS Foundation Trust

NEUROMUSCULAR ELECTRONIC STIMULATION DEVICE

The Neurocare™ 1000/4P (Neuromuscular Stimulation Device–NMES) is an FDA and CE registered portable NMES of unique electronic configuration, the device and its treatment programme© are used in clinics, hospitals and home for:

- wound healing
- post orthopaedic surgery rehabilitation oedema avoidance of venous
- thrombosis neuropathy rehabilitation applications after neuromuscular conditions such as stroke, SCI, MS and others.

A non-invasive, pain free comfortable therapy, the device is extremely cost effective and easily incorporated into conventional treatment pathways. Well researched and with most applications clinically proven, the device is available to lease or purchase.

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SUPPORTS
DOMAINS]



RADIOTHERAPY AND CHEMOTHERAPY TREATMENT REGISTRATION, REFERRAL AND SCHEDULING SYSTEM - CAS-PER

CaS-per is a web based registration, referral and scheduling system, specifically for the use in managing radiotherapy and chemotherapy treatment. It allows clinicians in peripheral clinics to refer patients for radiotherapy and/or chemotherapy at the cancer centre/unit. It replaces the traditional paper proforma which has a number of problems including incomplete and inaccurate data, delays in the transfer of the proforma, introducing risk, safety and security concerns. The CaS-per application ensures a robust clinical dataset is recorded, complying with all national dataset requirements. The system can be fully configured for local use including local treatment regimens/protocols.



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SUPPORTS
DOMAINS



PERIPHERAL ARTERIAL DISEASE - DOPPLEX ABILITY

This relates to the development of Dopplex Ability which is an easy to use, automated device that, in just three minutes, can measure the Ankle Brachial Index which is used to detect the presence of Peripheral Arterial Disease (PAD) in patients with wounds, diabetes or risk factors for Coronary Heart Disease. The unit can be used by a GP or a healthcare support worker to indentify PAD and make the appropriate referrals to secondary care clinics. Dopplex Ability has significantly reduced variability when compared to traditional Doppler methods of measuring ABI and produces accurate results within three minutes.



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SUPPORTS
DOMAINS



ELECTRONIC PERSONAL ASSESSMENT QUESTIONNAIRE

The electronic Personal Assessment Questionnaire (ePAQ) may be completed using a touch-screen or a standard computer with mouse and keyboard. A voucher system allows on-line use of the system, with patients completing the detailed, interactive and validated questionnaire via the internet, linked to their hospital IT system via the N3 network. ePAQ is a key element in supporting devolved care (including nurse-led clinics) as well as 'Virtual Clinics', where ePAQ is combined with telephone consultation to reduce unnecessary outpatient attendances. Following treatment, ePAQ progress reports are automatically generated, allowing objective assessment of outcome. It was originally developed for use in pelvic floor disorders (ePAQ-PF), though is now being deployed in other areas, including Gynaecology and Pre Operative Assessment (ePAQ-PO).



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SUPPORTS
DOMAINS } 2 5

PRIMARY CARE DVT SERVICE

This service was set up to improve care provided for people presenting at their GP surgery with a possible Deep Vein Thrombosis. Prior to the service, all patients with a suspected DVT were referred to hospital where they were given a blood test and usually spent several hours awaiting the results. Approximately 70% of the patients referred to hospital do not have a DVT, therefore, the near patient testing service provided practices with the ability to provide this service within the practice and only refer up the 30% of patients who were likely to have a DVT.



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SUPPORTS
DOMAINS } 1 2 3 5

PROSTHESES - C-LEG

Microprocessor knees are prosthetics for above-the-knee amputees that use microprocessor-controlled hydraulics to replicate the actions of a human knee adapting to an individual's gait. They allow patients to walk down stairs, slopes, walk more quickly and expend less energy. They also provide amputees greater safety, mobility and independence. A wide range of amputees can make use of the C-Leg. The innovation is widely available for military amputees, complimented by the Murrison Report "A Better Deal for Military Amputees", which recommends funding for military personal to receive the best available technology. The innovation should be extended for non-military amputees.



email: bockuk@ottobock.com

SUPPORTS DOMAINS } 2 3 5

QUALITY IMPROVEMENT FRAMEWORK (QIF) - STOKE ON TRENT

Stoke on Trent is an inner-city area with high levels of deprivation and high health needs. In 2008/9 attainment of quality care by general practices was viewed to be inadequate. Further measures were required to incentivise not just good, but excellent care.

This led to the introduction of a Quality Improvement Framework to minimise health inequalities, improve the local population's health and life expectancy and to identify previously undiagnosed patients with long term conditions. QIF has pragmatic, achievable, aspirational quality indicators that were developed to promote exemplary practice among local surgeries. Annual review and amendment of the targets and thresholds is undertaken to build on quality already achieved and to prevent duplication of payments through QOF. To join the QIF programme, practices have to meet a minimum set of standards.



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SUPPORTS DOMAINS } 1 2 3 5

SELF-MONITORING OF WARFARIN THERAPY USING INR DEVICES

Patients on oral anti-clotting medication are at increased risk of complications such as blood clots or excessive bleeding, if their level of INR is not regulated properly. Patients typically need to check their INR levels anywhere between once a week and once a month, depending on their stability. Patient self-testing enables patients to test at home, quickly identify a change in health status, and then liaise with their doctor or nurse over the telephone or by post. By identifying problems sooner, access to appropriate treatment can be gained and the consequent benefits seen earlier.

email: enquiries@bivda.co.uk



SUPPORTS
DOMAINS]



SMS TOOL TO SUPPORT PEOPLE WITH MENTAL HEALTH PROBLEMS – BUDDY

Buddy is an SMS and web based self management tool designed to support people with mental health problems. It works by sending service users a daily text message inviting them to record their thoughts, feelings and behaviours, and to rate their mood on a scale. The website allows them to view and analyse these diary entries. They can also use the website to set personal goals, which can be sent to them as text reminders at a time of their choosing.

For clinicians, using Buddy in therapy sessions enables them to have a much clearer view of their client's life and their condition in between sessions, making therapy more informed, more focused and more useful. Buddy also helps reduce Did Not Attend (DNA) rates by reminding users of their appointment 24 hours and two hours in advance.

email: contact@buddyapp.co.uk



SUPPORTS
DOMAINS]



THE DIGNITY SHOWER

This is a versatile mobile shower and full body unit, which cleans and dries a person in bed from their neck to feet. A person is rolled in and back out of the shower easily with no lifting needed. The shower unit drains the soiled water under the person and into a drainage bag, isolating infections and diseases. The shower keeps the person covered at all times maintaining their dignity and privacy. Soaps and skin medications can be added to the water flow. The shower only requires five litres of water per wash, saving on water and saving energy needed to heat the water.

email: dignityproductsltd@gmail.com

SUPPORTS DOMAINS } 1 2 5



THE EMPOWERMENT PROGRAMME

This is a joint venture between South London and Maudsley NHS Foundation Trust (SLaM), the Institute of Psychiatry at King's College London and primary care practices in Lambeth. It works with Microsoft® HealthVault™, a privacy and security enhanced online service which allows service users to gather, store and share health information. 'Myhealthlocker' will connect service users with their data from SLaM and their local GP, as well as provide the opportunity to feedback through patient rated outcomes straight to SLaM's electronic medical record system. This enables users to be better informed, understand their choices and become a more empowered partner in their care.

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SUPPORTS DOMAINS } 1 2 3 5



TREATMENT ESCALATION PLAN (TEP)

Torbay and Devon have formalised the medical treatment plan that a patient may expect as they approach the end of life, into a Treatment Escalation Plan (TEP). This is carried by the patient to ensure that all attending health professionals know what the patient wants to happen to them if they suffer a clinical deterioration anywhere in the health community. This is similar to a do-not-resuscitate (DNR) plan but encompasses all possible treatments available.

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SUPPORTS DOMAINS } 2 5



DOMAIN 5:

TREATING AND CARING
FOR PEOPLE IN A SAFE
ENVIRONMENT AND
PROTECTING THEM FROM
AVOIDABLE HARM

21ST CENTURY NURSING BAG

An NHS Innovation Challenge Prize winner, this resulted from a three year evidence-based and co-designed programme sponsored by NHS East Riding of Yorkshire that engaged healthcare commissioners, service improvement managers, infection control specialists and neighbourhood care teams. The programme has delivered a multi-award winning '21st Century Nursing Bag'. The bag's unique design makes it the only bag in the world that optimises the effectiveness of hand cleaning to minimise the transmission of MRSA, while improving productivity and standardising the patient's service experience in an uncontrolled healthcare setting - the home. The bag has been designed with nurses and for nurses.



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SUPPORTS
DOMAINS] 4

WINNER



Encourage, recognise and reward...

ADMISSION AVOIDANCE AND REFERRAL CAR

This model allows the advanced skills of the Emergency Care Practitioners to be used to maximise the benefits to the patients, Ambulance Trusts and PCT/CCG's. The model can be described as an 'Admission Avoidance and Referral Car'.

The innovation of this concept is that the resource sits outside of the Emergency Core resource of the Trust (whilst maintaining the ability to respond to immediately life threatening calls). The resource forms an integral part of the intermediate services available locally and treats patients on scene and/or refers them to various community services, for example nursing support, community step-up beds, and acute-assessment units. It engages with all community teams, CCGs, PCT and geriatricians to maintain its profile and develop new pathways.



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SUPPORTS
DOMAINS] 1 2 3 4

ANTI-TNF THERAPY ASSESSMENT CLINIC – EVALUELOGIX™

Anti-TNF Therapy, is used to treat RA, JIA and PsA and can cost between £9,000 and £18,000 per patient per year, however, it is not effective for all patients. EvaluateLogix™ is a piece of software that can quickly and simply enable clinicians to identify patients' suitability for anti-TNF therapy. The system provides for the recording, calculation, analysis and graphing of a number of Rheumatology Assessments and Evaluation Tools. Results can be updated and calculated with full audit trail against each element. The software supports the scheduling of visits and permits visit to visit comparisons.

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SUPPORTS
DOMAINS }



DROPLET DIGITAL PCR (DDPCR)

Conventional invasive prenatal diagnosis (PND) with amniocentesis and chorionic villus sampling, have associated miscarriage risks which are unacceptable to many couples. However, it is known that there is a small amount of the baby's genetic material, known as free fetal DNA, present in a pregnant mother's blood. A number of recent advances in genomic technologies including droplet digital PCR (ddPCR) and next generation sequencing (NGS), could be utilised to deliver non-invasive prenatal diagnosis (NIPD) for single gene disorders. This innovation will accelerate the translation of genomics into current patient pathways, and will improve patient care by reducing the need for invasive procedures for PND, thereby, increasing availability but avoiding procedure related miscarriage.

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SUPPORTS
DOMAINS }



FALLS PARTNERSHIP VEHICLE

The Falls Partnership Vehicle (with an emergency care practitioner and an occupational therapist), provides an immediate response to elderly patients at home who have fallen and dialled 999. They assess whether patients can stay at home safely or need admission to secondary care, and investigate why the patient has fallen, assess the home environment and provide intervention acutely and to reduce falls risk in the long term.

They also ensure patients have a diagnosis for the cause of their fall and focus on reablement. Clinical governance is provided by a weekly virtual ward round with a consultant community geriatrician. The focus is patient centred and provides proactive integrated care, aiming to reduce inappropriate acute hospital admissions and encourage elderly independence safely.

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SUPPORTS DOMAINS } 3



WINNER



Encourage, recognise and reward...

HERNIA REPAIR - THE ONSTEP TECHNIQUE

This ONSTEP technique is used to treat all types of inguinal hernia defects - direct, indirect and femoral, with initial studies showing favourable results to the Lichtenstein approach, which is currently performed in up to 70% of all open inguinal hernia procedures in the UK. The ONSTEP technique offers the simplicity of the Lichtenstein repair, facilitating a short learning curve*, but more importantly has demonstrated a reduction in chronic post operative pain (10%* to <1%*) and surgical operating time (49* minutes to 17 +/- 6* minutes), providing benefits to both the hospital and patient.

*References available on request

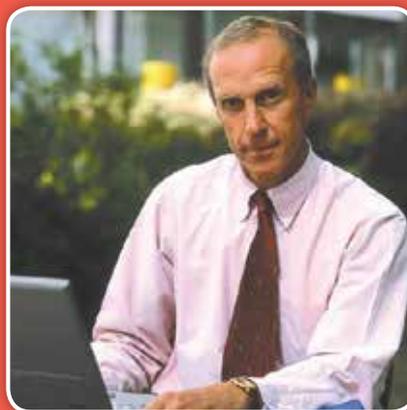
email: claudia.holy@crbard.com

SUPPORTS DOMAINS } 1 2 4



HOSPITAL TRANSFUSION SERVICES

Hospital transfusion has been ‘re-engineered’ to use information technology throughout the process rather than manual checking. It incorporates barcode identification of patients, staff and blood units using two-dimensional barcodes. Bedside handheld computers and electronically controlled blood fridges prompt staff through every step of the process to ensure the correct blood is transfused. An alert is provided to the user and the transfusion laboratory if the wrong blood is collected or transfused. It requires the transfusion laboratory to be linked with other information technology (IT) systems, providing robust documentation and transfer of data relevant to transfusion practice at all stages. The electronic transfusion process improves patient safety, reduces staff time and saves money.



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SUPPORTS } 1 2 4
 DOMAINS }

INCREASING ACCESS TO PSYCHOLOGICAL THERAPIES (IAPT) SERVICE – BME

The IAPT service addresses depression and anxiety. Nationally, Black and Minority Ethnic (BME) communities do not have equitable access to this service, despite evidence of increased mental health need within some BME communities. The commissioners and service provider designed increased access into the service design through partnering with the local BME VCS.



The outcome of this model was audited and showed that BME people had at least as good access, experience and outcomes as white British people. The model is now being piloted with the lesbian, gay, bisexual and trans communities.

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SUPPORTS } 2 3 4
 DOMAINS }

INTERNET ACCESSIBLE WHITEBOARD

This is an Electronic Whiteboard to track admissions to Acute Assessment Areas from GP and Accident and Emergency Departments. Whiteboard can be viewed anywhere with Internet Access and an external link requires a secure VPN link. Benefits of the functionality include the following.

1. 'Not yet arrived' patients can be seen and 'Arrived' patients can be tracked through the admission clerking; treatment and post take ward round process.
2. Ward rounds list reports are available.
3. Daily and Weekly Dashboards.
4. Juniors can get statistics of how many cases they have managed.

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SUPPORTS
DOMAINS]



LIQUID GLASS TECHNOLOGY

Liquid glass technology was introduced to the NHS in 2010 and has won the NHS Smart Technology Award. Since this time the technology has been enhanced and it has recently been adopted by three NHS hospitals. All London Ambulances will be coated with the technology in 2013. The technology allows the end user to coat almost any surface with a nano scale layer of SiO₂ (glass). The invisible glass coating is wiped or sprayed on to the surface. When coated all surfaces become easy to clean and anti bacterial.

email: liquidglass.coatings@gmail.com

SUPPORTS
DOMAINS]



NATIONAL TRACHEOSTOMY SAFETY PROJECT (NTSP)

Tracheostomies are performed for a variety of acute and chronic conditions and have a dramatic impact on the lives of patients and their carers. Recurrent problems with tracheostomy care were identified through critical incident work with NPSA. NTSP is an innovative collaboration between key stakeholders including medical royal colleges, multidisciplinary staff and patient groups.



Developed resources are designed to improve basic care with the goal of reducing preventable harm and premature death. These include emergency management algorithms, paired bed-head signs, guidelines for competency, training, equipment and infrastructure, all supported by extensive resource documents, smartphone applications and courses.

email: admin@tracheostomy.org.uk

SUPPORTS } 1 3 4
 DOMAINS }

PAEDIATRIC OBSERVATION PRIORITY SCORE (POPS)

This represents a bespoke method of identifying children with potentially serious illnesses, while at the same time safely supporting staff in redirecting or discharging those who do not need ongoing care. This allows for the most sick or very well children to be clearly identified early in the patient journey. POPS is a checklist enabling staff of any level of experience to risk assess and prioritise children at the point of entry to urgent/emergency healthcare, using routinely collected data. A numerical score is derived and a novel electronic data capture system has been devised, which highlights abnormal variables and displays current resource utilisation within the department it is being used in.



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SUPPORTS } 1 2 3 4
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PATIENT SAFETY PROJECT - MEDICINES RECONCILIATION

In 2009 the Chief Pharmacist network in South Central (NHSSC), in collaboration with the region's Patient Safety Federation, embarked upon a project to improve patient safety and reduce avoidable harm through the recording of medicines reconciliation within 24 hours of admission.

Each Trust signed up to record this data on a given day each month and to then submit this to the SHA for collation. This focus has enhanced data capture and accuracy and produced a sophisticated database which reveals trend data, identifies step changes and targets good practice through statistical process control, behaviour charts and identifying significant and random variation.

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SUPPORTS
DOMAINS]

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RECALL AND REMINDER SERVICE FOR PATIENTS TAKING MEDICATION - SYSTEMTDM™

This is a recall and reminder service for patients taking any medication requiring regular monitoring for health reasons. Developed in-house by Norfolk and Suffolk NHS Foundation Trust, SystemTDM™ enables GPs and pharmacists to manage patients prescribed therapeutic/high cost drugs and monitor for toxicity or long-term health implications. It enables delivery of NICE guideline driven care independent of, and exceeding, Quality and Outcome Framework requirements, and offers greater responsiveness to appointments and out-of-range results. SystemTDM™ maintains a register of everyone taking lithium in Norfolk.

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SUPPORTS
DOMAINS]

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SKIN PROTECTIVE FABRIC – PARAFRICTA

Parafriкта® is a new, innovative, fully developed and approved skin protective fabric. It is proven to prevent and help heal bedsores (pressure ulcers), thereby, enhancing patients' quality of life, shortening their hospital visits and achieving substantial cost savings. The Parafriкта® fabric is converted into a range of products including bootees, undergarments, sheets, pillowcases and 'baby nests'. Application of the Parafriкта® technology results in a smooth, breathable fabric, with an extremely low drag co-efficient, which stops the skin from shearing, dragging, sticking and thence breaking down to start a wound.

email: info@hrhealthcare.co.uk or info@parafriкта.com



SUPPORTS
DOMAINS }



TREATMENT OF DVT OR PE WITH RIVAROXABAN

The current treatment of patients with deep vein thrombosis (DVT) or pulmonary embolism (PE) is burdensome, requiring a dual drug approach of low molecular weight heparin (LMWH) injections and vitamin K antagonist (VKA), such as warfarin and frequent INR monitoring. Rivaroxaban provides innovation in being the first oral single agent approach to treat DVT and PE, with no INR monitoring required.

NICE appraised rivaroxaban for treatment of DVT and prevention of recurrent DVT/PE in 2012 (TA261), and is currently conducting an appraisal in treatment of PE and prevention of recurrent DVT/PE (ID569). NICE found that rivaroxaban was less costly than other DVT treatments for three months, as commonly required, and cost-effective for longer-term treatment. NICE recommended rivaroxaban as an option (without restriction) for adults with deep vein thrombosis.

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SUPPORTS
DOMAINS }



Innovation
health&wealth