



NHS Innovations South East

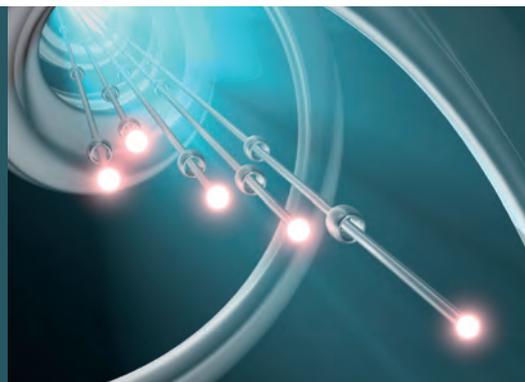
... *the innovations management service*

Annual Report  
09-10



# Annual Report

09-10



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# Foreward



For the past five years, NISE has been working to promote and support innovation throughout the NHS in the South-East. As the case studies in the following pages help to demonstrate, we have helped our main stakeholders – the region’s NHS Trusts and their staff - to translate their innovative ideas and projects into an impressive range of commercially successful products and services. In so doing, I believe we have also supported the delivery of better-quality patient care, improved outcomes and a more efficient and cost-effective NHS.

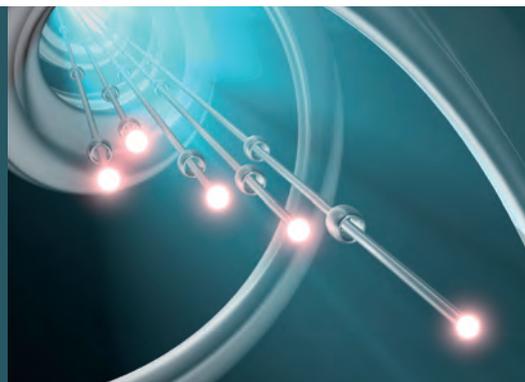
We have also worked hard to forge strong, mutually-beneficial relationships between the local NHS and the region’s thriving commercial healthcare sector. The year just ended saw the successful conclusion of a three-year exercise funded through SEHTA (the South East Health Technologies Alliance), during which we provided assistance to no fewer than 196 healthcare SME’s, many of whom work at the cutting edge of science and technology. We also successfully completed our second PSRE contract - and were awarded a third contract. It would be hard to exaggerate the importance of the PSRE (Public Sector Research Exploitation) Fund to UK healthcare innovation and this new award is both an important and much-needed source of funding and a welcome recognition of the value of our work.

Overall, the year just ended was NISE’s most successful to date; we have more projects on our books than ever before and brought a greater number of innovations to a successful commercial conclusion than in any previous year. Our task now is to maintain and extend that impressive track record going forward: in spite of the challenges we face from a difficult global economic climate, I am confident that we can do so. There are several reasons for this confidence; not least the fact that the innovation culture is now well-established throughout our region, as evidenced by the fact that the projects on our books originate from more than fifty different NHS Trusts. NISE has always understood that, if an innovation culture is to prosper, then inventiveness has to be rewarded. NISE has always been at pains to ensure that the ingenuity and hard work of its NHS partners is rewarded, especially when helping them with their commercial negotiations. That, in turn, encourages innovation, setting the scene for further growth.

At the same time, of course, we have to ensure that NISE’s own operation is as efficient and cost-effective as possible. Although this year has been a highly successful one, it has also been challenging financially – as it has for most businesses - and our Board has therefore had to make some tough decisions. Two local offices have been closed and staffing levels streamlined as we have sought to prepare the organisation for the prospect of continued economic uncertainty. It is greatly to the credit of our Chief Executive, Dr John Stedman, and his colleagues that NISE has again delivered such a strong performance, against this backdrop I should like to conclude this brief introduction to our Annual Report by thanking and congratulating the whole NISE team.

*Oliver Wells*

# Introduction



This Annual report from NHS Innovations South East (NISE) provides a county by county account of our work, helping NHS staff taking their innovative ideas to reality. This 'tour of the region' is no mere whim but a reflection of what we firmly believe to be one of our core strengths; our local knowledge and presence.

Between them, the members of the NISE team possess a wealth of scientific, medical, legal and commercial knowledge and experience. One of the major challenges for us, throughout our five years in business, has been to ensure that busy, hard-working NHS staff and organizations are aware of, and can access, that immensely valuable resource as easily as possible. It is not enough simply to be available; we need to be involved as early as possible and to offer a service tailored to the needs of our NHS partners. To that end, we have tried always to build strong working relationships with our local NHS partners and to understand their particular needs and circumstances. It is a strategy that has paid-off over the years, as the following pages hopefully make clear.

The year just ended has probably been our most challenging and yet our most successful to date and I am in no doubt that our continued ability to deliver successful innovations, in spite of the difficult prevailing economic climate, is in large measure due to the strength of our local relationships and networks.

In closing, I should like once again to pay tribute to the hard work and professionalism of my colleagues in the NISE team. The innovations featured on the following pages illustrate perfectly both the importance and value of their work and how very well they do it.

*John Stedman*

# Review of the Company's Performance in 2009-2010



## Introduction

Like most businesses, NISE was (and continues to be) affected by the difficult global economic climate. That was probably inevitable, given that our role is to work in partnership with NHS organizations and the healthcare private sector. As both those sectors have been affected by the economic downturn, so we too, have had to keep our business strategy under constant review. Our board and management have had to make some difficult decisions this year; staffing-levels have been reduced and offices merged, in a bid to reduce costs and improve efficiency and productivity.

We have also been working hard to secure our longer-term future; one consequence of the wider changes taking place within the NHS is that the regional innovations organizations will, in future, receive less central funding and be more reliant on local NHS organizations for their income. Like most of the other regional innovations organizations, we are working closely with our NHS Trusts and Strategic Health Authorities to establish a strong platform for future growth.

We have not allowed these temporary challenges to distract us from our primary purpose, however. NISE has continued to champion the cause of innovation across the NHS in the South-East and has been instrumental in developing a range of highly successful healthcare innovations. Indeed, we registered a record number of new projects last year, from every corner of the region; a high proportion of which came from front line clinical staff working to improve patient care and outcomes in their clinical specialty.

## Our work in 2009-10 – an overview

NISE's innovations experts use a well-developed operating-framework to assess innovations, both for their clinical / patient benefits and their revenue-generating / cost-saving potential. They help innovators to protect and develop those innovations, providing a range of technical, legal, scientific and commercial support services.

This year, NISE has also stepped-up its work with NHS R&D staff, helping them with queries relating to intellectual property (IP) and research-governance. More recently still, we have strengthened our relationships with NIHR-funded networks (CLRNs) across the South East to actively encourage regional innovation.

Perhaps reflecting the fact that the 'healthcare innovations business', though increasingly important, is no longer new, we are dealing with an ever-increasing number of requests from NHS Trusts for assistance in renegotiating or renewing existing partnership agreements; a service that our accumulated innovations expertise and commercial experience leaves us well-placed to offer.

This year NISE successfully concluded a contract with South East Health Technologies Alliance and the regional development agency to facilitate interaction between industry and the NHS. Over the contract period a total of 196 companies benefited from NISE support to more effectively exploit opportunities within the NHS as a market and a knowledge-base.

NISE has been in business now for five years and has a substantial innovations 'catalogue' to promote. The company was a major exhibitor at two of the main events in the healthcare calendar – the Healthcare Innovations EXPO and the NHS Confederation Conference – and also acted as lead organization on behalf of the nine regional innovations organizations during the recent Healthcare Innovation campaign launched by the Department of Health.

Behind the scenes, we have been working hard to promote the introduction of our new membership fee system and have been encouraged by the growing number of NHS organizations who have embraced this change. The services provided by NISE have been free to NHS Trusts for the last five years, and the membership fees now introduced are still heavily subsidized by other funders supporting NISE services. We hope every Trust in the region will eventually take-up membership. A key task for 2010-11 will be to develop lines of communication with a number of PCT's that are currently undergoing transformation.

## Achievements

In spite of the challenging circumstances in which we found ourselves, 2009-10 was a highly-successful year for NISE.

We registered a total of 152 new projects in the course of the year; sixty per cent coming from front-line clinical NHS staff within the region. In total, we now have 677 projects on our books, and are working with the overwhelming majority of NHS Trusts in the region (see list on page 23 for members as at 31st March 2010).

Ten major commercial deals, mainly licensing or revenue-share agreements, were concluded during the year and the pipeline for the forthcoming year remains strong.

NISE registered two new patents, eight trademarks and a registered design with the UK Intellectual Property Office. Additional international cover was sought against a number of existing patent and mark applications.

In July 2009, NISE began supporting South Central SHA with the management of its Regional Innovation Fund. On average, we assessed ten applications per month (105 in all to the end of February), some of which have IP potential for the originating Trust.

We are currently in discussion with NIHR regarding the possible national deployment of the EDGE clinical trials management system. Development activity is ongoing, funded by the license income that EDGE has generated for the Southampton University Hospitals NHS Trust, where the software was developed. A formal agreement with NIHR is expected in 2010.

Finally, we had more Awards success this year when one of 'our' innovations - 'MyBeacon', a device and service to track dementia patients when wandering from home - took first prize in the Assisted Living category of the National e-wellbeing awards, against stiff competition from companies such as BT, Microsoft and Cisco Systems.

Congratulations to all concerned; especially My Beacon's inventor, consultant Rupert McShane, and colleagues from the Oxfordshire and Buckinghamshire Mental Health Trust.

## Economic impact

Innovation is crucial to the efficiency and effectiveness of the NHS and the quality of service it provides. That's why NISE and the other regional NHS Innovations organizations were established. We play a vital role in encouraging and supporting innovation throughout the NHS. By doing so, we help deliver improved patient care, better health outcomes and a more efficient and cost-effective Health Service. In the current difficult economic climate, that last point is particularly important. We have to be able to demonstrate that our work is not merely desirable but cost-effective. A recent economic impact assessment exercise indicates that our case is a strong one.

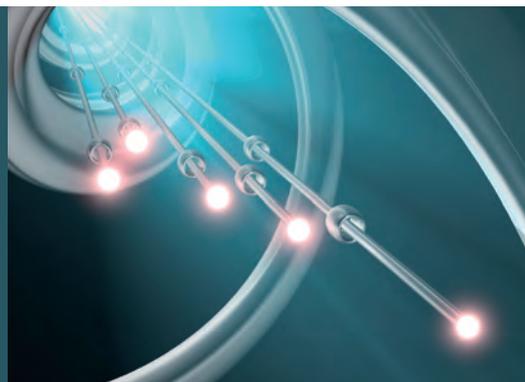
The two-year exercise was conducted by the York Health Economics Consortium, working in conjunction with four of the NHS Innovations organizations, including NISE. In all, the study considered the economic impact of eleven innovations, three of which – ALERT, Evalulogix and My Beacon - were NISE projects. (Short case studies on each are featured elsewhere in this report.)

Assessing the likely economic impact of innovations is a complex task. Much depends on how widely an innovation is adopted and how effective it then proves to be. (No innovation is 100% effective.) The assumptions built into the economic impact assessment model were deliberately cautious. For example, the study of My Beacon, a dementia tracking device and service, assumed an adoption-rate of just 20% among its target group and only 50% effectiveness in reducing the incidence of 'wandering' episodes. The predicted annual saving to the public purse was £43.3m.

Similarly cautious assumptions about ALERT and Evalulogix produced predicted savings of £26.9m per annum and £6m per annum respectively. That is a predicted annual saving of £76.2m from just three innovations, with cautious adoption and effectiveness assumptions. Of course, not all innovations will generate huge cost savings; some improve the quality of life of patients or their life expectancy. NISE has already ensured over 25 innovations from NHS staff are available for adoption, and has a significant pipeline of other innovations in development.

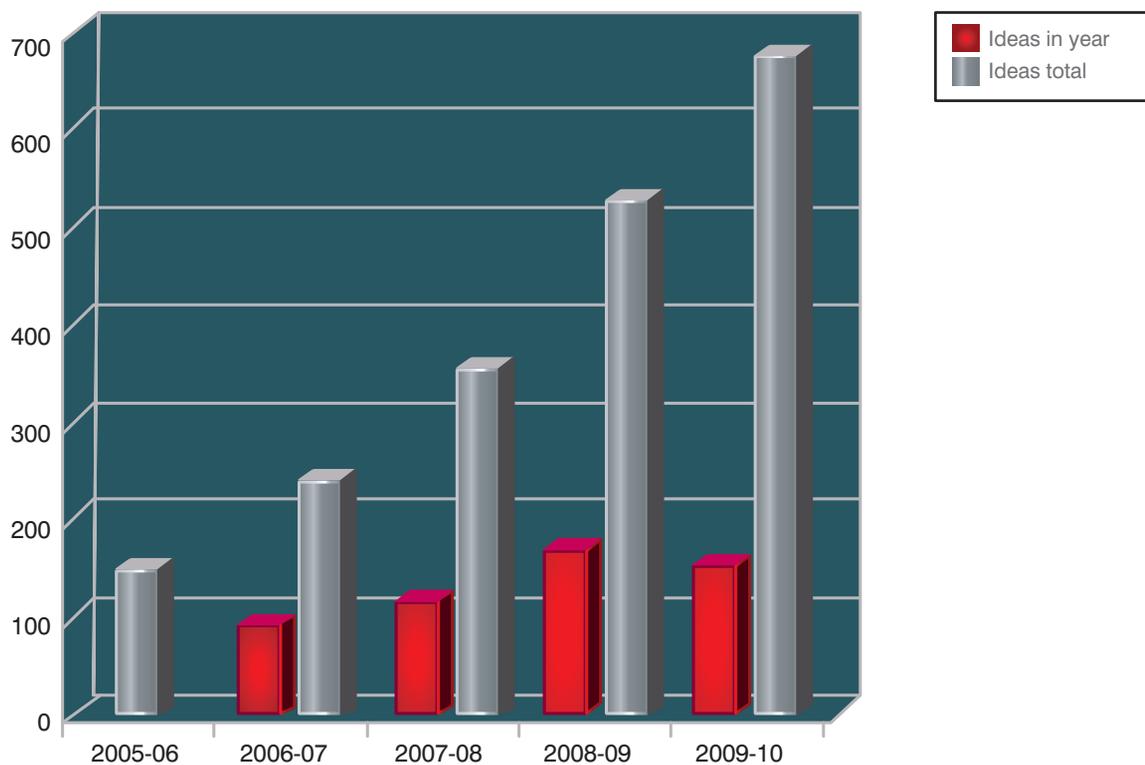
It is, however important to give credit where it is due; none of these innovations originated in NISE, they have their origins in NHS staff across the region. It is fair to say, though, few, if any, would have made it to the marketplace without us. There is a strong case for the value of the service we provide, that it is cost effective, and has significant economic impact across the whole healthcare delivery system of the NHS.

# Statistical Information

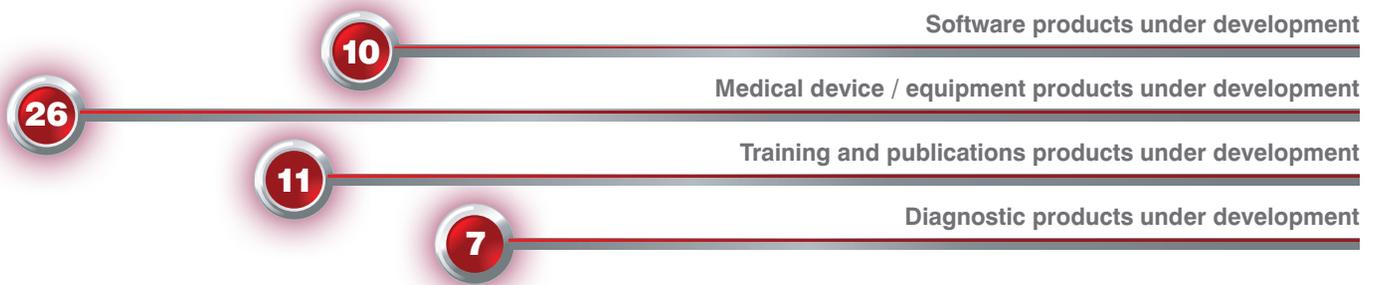


At 152, the number of new disclosures was slightly down on last year's record total. The number of live projects on our books now stands at 111.

**Fig. 1: Cumulative ideas identified, 2005 - 2010**

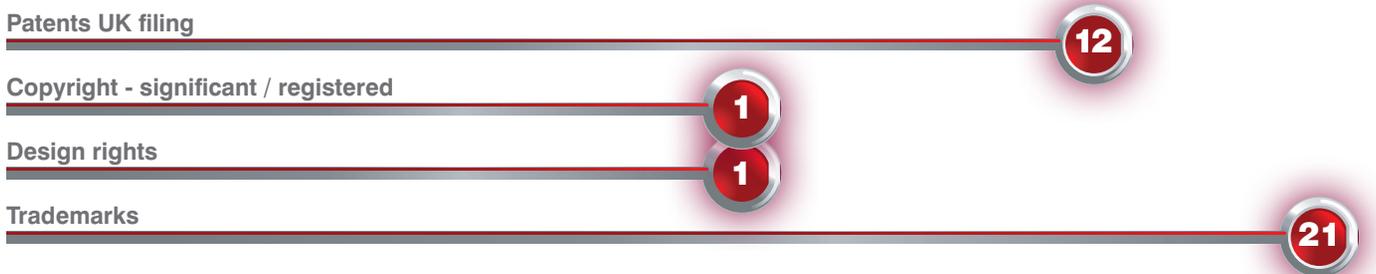


The past five years have seen a marked growth in the number of healthcare-related computer applications (mainly software packages) coming forward for assistance so it is perhaps worth pointing out that these currently account for just under 20% of the products we currently have in development, with medical devices and equipment accounting for almost half (48%).

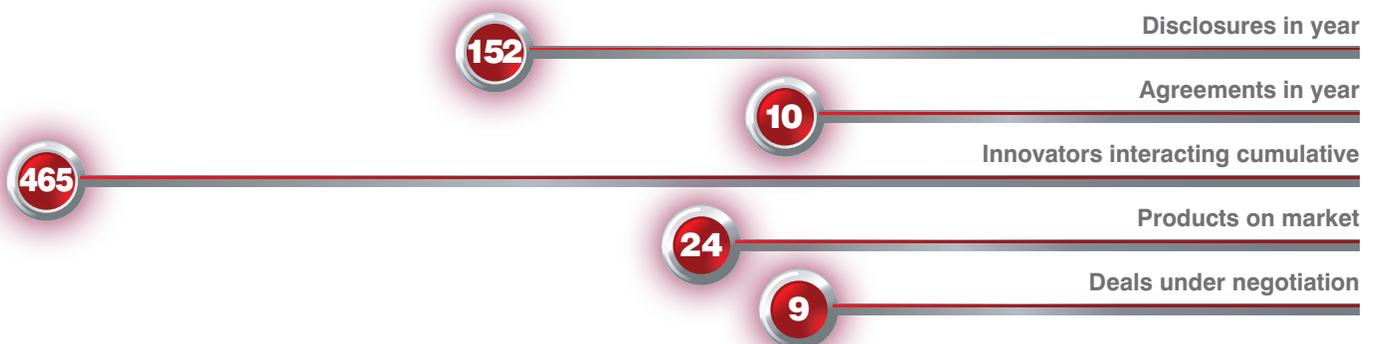


One particularly important aspect of our work is ensuring that the innovations and projects that are brought to us are properly protected, from initial patent applications through to the copyrighting of material and registration of trademarks. We filed 11 successful applications last year – our highest number to date.

We have always sought to achieve a balance between the generation of new business and the successful commercialization of existing projects so it is pleasing to look back at the applications we filed over the year and see that intellectual property (24%) and patents (26%) together accounted for a half of all filings, reflecting the continued strong growth in new disclosures while almost all the other filings were for trademarks, as projects came to fruition.



NISE has a pipeline of projects in development, ensuring that year on year we are delivering new innovations that can be adopted and diffused across the NHS, benefiting staff, patients and the taxpayer

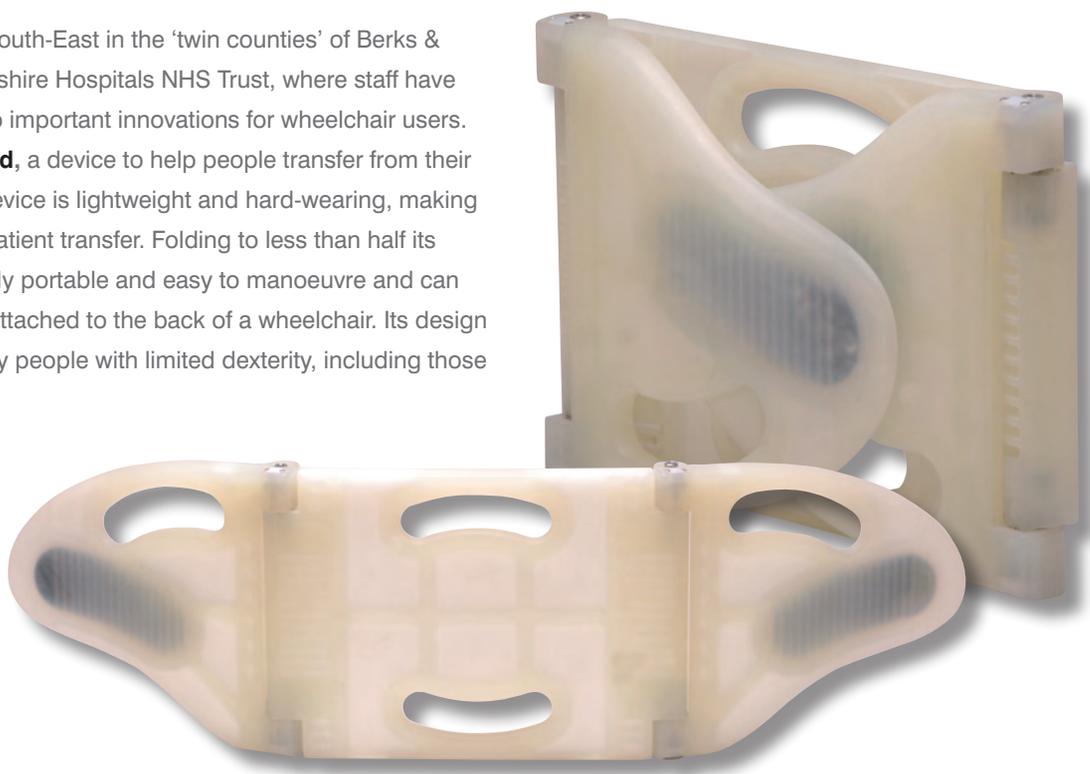


# Regional News

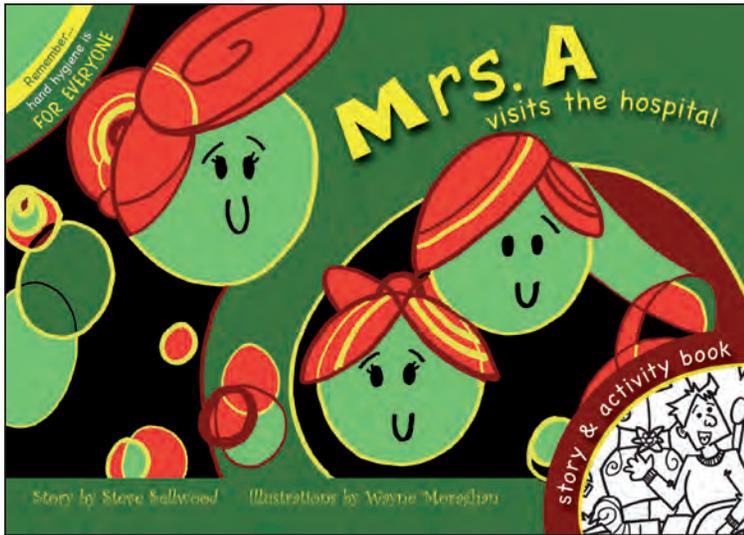


## Berkshire & Buckinghamshire

We begin our tour of the South-East in the 'twin counties' of Berks & Bucks, at the Buckinghamshire Hospitals NHS Trust, where staff have developed not one but two important innovations for wheelchair users. The first is the **Score Board**, a device to help people transfer from their wheelchair to a car. The device is lightweight and hard-wearing, making it suitable for all types of patient transfer. Folding to less than half its original size, it is also highly portable and easy to manoeuvre and can be stored in a back-pack attached to the back of a wheelchair. Its design makes it suitable for use by people with limited dexterity, including those classed as C6 tetraplegics. There is a huge potential market for the **Score Board** which should be available for sale some time later this year.



Hard on the heels of that device comes a new **stowing mechanism** for use with fixed-frame wheelchairs. Most active wheelchair users prefer to use fixed-frame wheelchairs because they are more reliable and robust, lighter and more manoeuvrable than folding wheelchairs. Perhaps surprisingly, however, the only equipment available to aid the stowage of a wheelchair in a car is designed for the folding wheelchair and is extremely expensive, costing in the region of £3,000 – £4,000. The new **stowing mechanism** is specially-designed to reduce stress-damage and pain, being lightweight (less than 2 kg) and easy to use (less than two minutes to install and one minute to remove). It can be used by people who are tetraplegic and / or have poor hand function and it costs a fraction of other models.



Meanwhile, over in Berkshire, the Royal Berkshire Hospitals Trust is the source of a rather unusual healthcare innovation; a children's book called **Mrs. A**. The clue to the book's purpose is in its title; it was written to help children in hospital - and their parents - understand the problems posed by MRSA, the risks of cross-infection and the importance of hand-hygiene. Easy-to-read and attractively-illustrated, **Mrs. A** is designed both to reassure and to educate and is a useful vehicle for discussion between parents and children. Cheap and easy to produce the book has proved a useful and effective tool in the fight against MRSA, helping to engage parents in infection control routines while their child is in hospital.

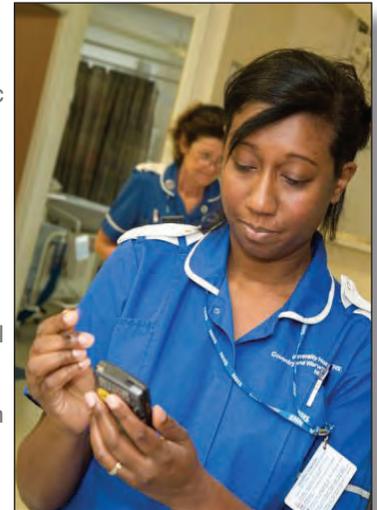
Berkshire is also home to the **Resource Service Organizer (RSO)**, a catalogue / stock-control software package for Health Promotion Services. Efficient stock control and management are crucial to the efficient operation of a modern health promotion service. The **Resource Service Organizer** is easily the most advanced system currently available and a huge improvement on the manual systems that are still widely-used. Thoroughly field-tested, it has consistently delivered a measurable increase in the efficiency of day-to-day operations, resulting in a much-improved service to clients. It provides accurate, up-to-date information in real-time, facilitates online ordering / booking, handles overdue items and provides an overall stock control service. Importantly, it also has the ability to generate a wide range of reports. Designed by the Berkshire Health Promotion Resource Service, working with a team of software developers from Health Promotion Services, the **Resource Service Organizer** is now available to Health Promotion services throughout the UK.

Finally, we return to the Royal Berkshire Hospitals NHS Foundation Trust whose Facilities Manager was responsible for the development of **Waste Watchers**, a VCD and information pack for NHS staff, outlining their responsibilities under environmental legislation and NHS guidelines. This is a major issue for the NHS; it has been estimated that the Health Service generates and disposes-of an average 250,000 tonnes of clinical waste a year, at a cost of more than £40 million. The NHS also produces 1% of the UK's general domestic waste. Complying with legislation and guidelines is an increasingly complex and expensive business, so it is vitally important that people think about what they throw away and where. **Waste Watchers** generated a significant reduction in levels of clinical and overall waste, saving 'the Royal Berks' more than £70,000 in its first year. It is now available throughout the NHS.



# Hampshire & Isle of Wight

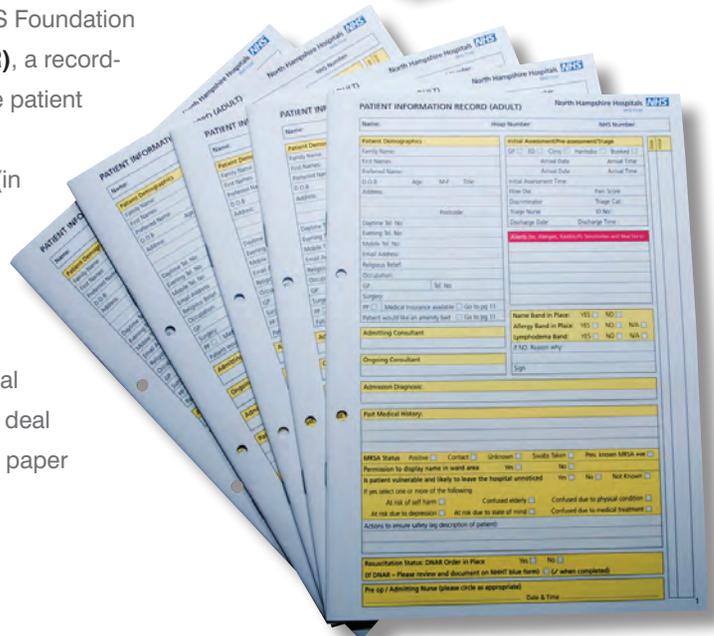
Hampshire has been the birthplace of several successful innovations in recent years and continues to generate exciting new solutions to longstanding healthcare problems. Our journey around the county begins in Portsmouth, with an award-winning “wireless, electronic point-of-care system” called **VitalPAC™**. Recognizing acutely-ill hospital patients and then successfully caring for them is one of the most significant challenges in modern healthcare. **VitalPAC™** uses PDAs and other mobile devices to monitor vital signs, record observations and calculate accurate risk scores for each patient. It ensures regular capture of complete patient observations and drives hospital protocols such as patient monitoring, screening for infection control and VTE prevention. The original concept came from a Consultant in Critical Care employed by Portsmouth Hospitals NHS Trust. **VitalPAC™** was designed by The Learning Clinic (‘Health Investor’ IT Provider of the Year for 2009) working in conjunction with the Trust and Microsoft. The Trust were recently awarded the NHS Excellence in Informatics Award.



We stay in Portsmouth for our next two innovations, which also focus on the needs of acutely-ill patients and the importance of recognizing and responding to signs of deterioration. **ALERT** (which stands for Acute, Life-Threatening Events Recognition and Treatment) is a flexible, interactive seminar training programme for medical, nursing and other healthcare staff to help them recognize and respond to early signs of clinical deterioration in patients. Developed by a Consultant in Critical Care and his colleagues at the Portsmouth Hospitals NHS Trust, it has already been licensed for use in more than 150 centres in the UK and is now being sold internationally. More recently, the same team have acquired **BEACH**; a complementary training programme aimed at Health Care Assistants. It, too, focuses on the early recognition of signs of clinical deterioration but here the emphasis is on ensuring that observations are accurately recorded and promptly relayed to trained healthcare professionals. A short, taught course, **BEACH** is flexible and inexpensive to deliver.

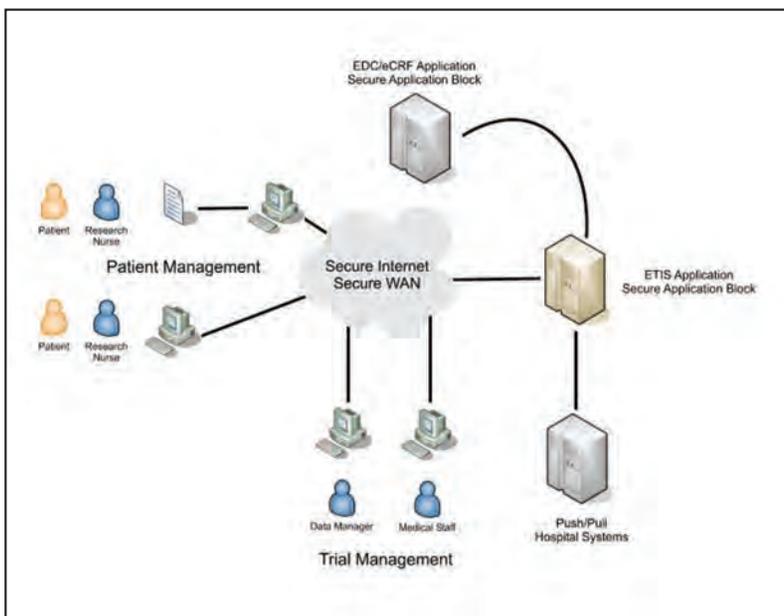


Meanwhile, staff at the Basingstoke & North Hampshire NHS Foundation Trust have developed the **PATIENT SAFETY RECORD (PIR)**, a record-keeping ‘booklet’ for use in hospitals. The PIR stays with the patient from admission to discharge, with all new information being recorded in it during their stay. This apparently simple idea (in reality, an extremely complicated design task) has many advantages for patient and hospital alike. It reduces the demands made on patients, frees-up staff time and delivers better record-keeping and improved information-handling; benefits that improve both patient care and hospital efficiency. NISE recently helped the Trust secure a licensing deal with a commercial partner and the PIR is now available – on paper and electronically - to hospitals throughout the NHS.



Next, we return to the Portsmouth Hospitals NHS Trust who, partly in response to the recent introduction of the new Consultant Contract, have worked with The Learning Clinic to develop an integrated, electronic planning, performance and management tool known as **CRMS**; the Clinician Resource Management System. **CRMS** is a secure, web-based system that supports the efficient management of consultant resources and ensures that all aspects of the consultant contract are met. It also allows consultants to manage their diaries, job plans, appraisals, annual leave requests and Clinical Excellence Awards through a single, online application. It

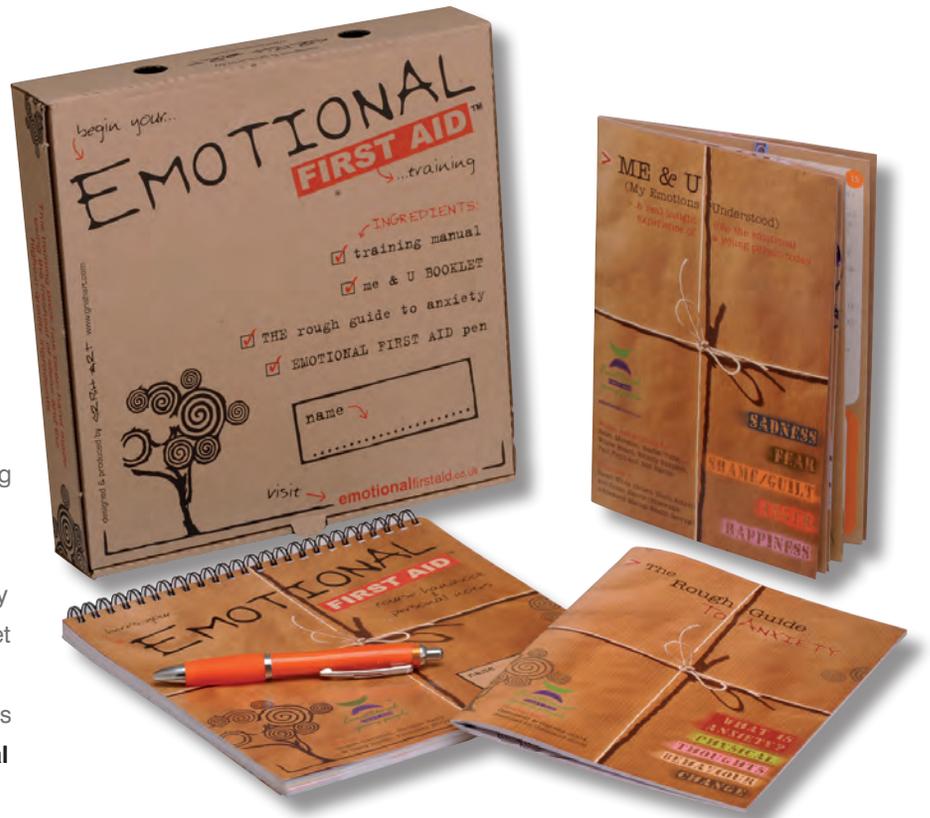
gives managers a complete overview of the work of consultants within the organisation, allowing for efficient management of this most valuable resource. Though designed initially as a stand-alone system, **CRMS** has the potential to deliver significant cost reductions and efficiency savings and is already being implemented in other NHS Trusts.



We move along the coast now, to Southampton, to look at a major breakthrough in the management of clinical trials. **EDGE™** is the culmination of more than seven years clinical trials software development within the Central South Coast Cancer Research Network, run from the Cancer Research UK Clinical Centre at the University of Southampton, in collaboration with Southampton University Hospitals NHS Trust. The first software solution of its kind, **EDGE™** offers significantly improved performance at greatly reduced cost. It achieves this by negating the need for teams of data analysts in Trust Research and Development departments to 'number crunch'. Instead, it enables research nurses and other clinicians involved in trials directly to input all relevant

data. This in turn allows co-ordinators at Trust and / or network level to create reports (e.g. on trial recruitment) at the touch of a button, and helps executive teams maintain effective oversight, ensuring that trials are properly-resourced and managed. The result is better information (and therefore better trials), in real-time and at substantially reduced cost. Moreover, because full maintenance, daily technical operations and support for the software are provided by the hosting service, **EDGE™** is a safe option with minimal switching costs. A truly generic application, **EDGE™** is being trialled at a number of sites in England with great success. It has the potential to be implemented across the entire NHS, delivering potentially huge efficiency savings.

We stay in Southampton for another innovative course – this time one for adults working with young people, to help them recognize and respond appropriately to those who may be at risk of developing a serious mental health problem. **The Emotional First Aid™** course was informed by a booklet called ‘Me & U – a real insight into the emotional experience of a young person today’. This was produced by Solent Youth Action, a project working with young people who have experienced mental health illnesses and made positive steps towards a recovery. Coming together, they shared their ideas and produced a booklet and DVD filled with real emotion, expert understanding and inspirational insight. As its name implies, the aim of the **Emotional First Aid™** course is not to turn teachers, youth workers, police officers and others into mental health workers, but rather to ensure that they are able to recognize the signs of mental illness, provide support and encourage the young person concerned to seek professional help.



# Kent & Medway

Our journey around England's largest county begins at the Maidstone and Tunbridge Wells NHS Trust, where staff at Kent Oncology have successfully established the country's first **Cancer Patient Management System (CPMS)**. It is easy to forget that most cancer patients continue to live at home after diagnosis, even when the cancer is relatively advanced and they are undergoing treatments such as chemotherapy and radiotherapy. It is easy to forget, too, that they often have other healthcare needs besides their cancer treatment. Often, however, when they call on the out of hours service or present at their local A&E, those dealing with them find they are unable to help unless and until they can access the patient's medical records and establish the facts regarding their cancer treatment. Essentially, the **Kent Oncology management System (KOMS™)** is a database that enables all authorized medical and nursing staff, working in hospitals and community settings alike, to do just that. The result is that cancer patients in Kent now have access to a comprehensive, high-quality healthcare service 24 hours a day, seven days a week. The **KOMS™** has already attracted the attention of the National Cancer Action Team. Meanwhile, the Maidstone and Tunbridge Wells NHS Trust are preparing to market the system to other Trusts.



The same Trust is home to two more recent and highly-promising innovations, the first of which is a new and improved type of **Biopsy Forceps**, with a new configuration of blades designed to deliver better, cleaner tissue samples. With help from NISE, a grant of around £100,000 was secured from the NIHR Health Technology Assessment scheme (now the i4i scheme) and GB and Patent Co-operation Treaty applications were filed with the UK Intellectual Property Office. A commercial partner has been identified and the device is expected to go into production in the summer of 2011.

The third innovation we are featuring from The Medway & Tunbridge Wells NHS Trust is the **Kanga Kardi**; a garment designed specifically for nursing mothers. Breast feeding confers significant health advantages to mothers and babies, including lower risk of gastrointestinal and respiratory infections and diabetes. It can also lead to improved cognitive development. Advantages to the mother include a lower risk of breast cancer and ovarian cancer. Early infant-mother contact, sometimes known as “Kangaroo care”, for an hour following birth, has been found to be effective at increasing breastfeeding initiation rates for all babies. Extending the period of Kangaroo care for preterm and low birth weight babies for several days or weeks has resulted in increased breastfeeding- rates and improved maternal well being. The **Kanga Kardi** is a simple garment that facilitates extending the period of kangaroo care for “normal” birth weight babies. With help from NISE, its creator, Sarah Gregson, is finalizing plans for a study of the benefits of this extension in Kangaroo Care. The **Kanga Kardi** is a highly cost-effective intervention with the potential to be introduced throughout the NHS. Work is now under way to identify a partner to manufacture and distribute the garments, pending a successful outcome of the trials.



Meanwhile, at neighbouring Dartford and Gravesham NHS Trust, Dr Armando Gonzalez and colleagues at Darent Valley Hospital have developed the **Gentamicin Calculator** - a software tool that calculates the dosage and timing of the antibiotic Gentamicin. Following initial trials at Darent Valley Hospital, NISE is working with the Trust and Dr Gonzalez to obtain funding for multi-centre trials. Work on a prototype **Gentamicin Calculator** device is also under way and talks are taking place with a commercial partner who can provide this and other local content on a memory card, which can be automatically updated via internet connection, so that the calculator will be accessible on a range of hand-held devices, including Smartphones.

# Oxfordshire

Our first Oxfordshire innovation is the **OxCAT** (or, to give it its full name, the Oxford Child Sexual Abuse Assessment Skills Trainer). The brainchild of Dr Sue King, Associate Specialist in Community Paediatrics at the Oxford Children's Hospital, the **OxCAT** consists of an anatomical model and a DVD, which together are used to train medical practitioners and other authorized specialists in carrying-out a colposcopy (a highly-specialized diagnostic examination) in suspected cases of child sexual abuse. Diagnosing child sexual abuse is extraordinarily difficult, especially as the stakes are obviously extremely high for everyone concerned. Realistic and effective training is of critical importance as accurate diagnosis crucially requires a proper understanding of the wide variations that may be found in the appearance of the hymen and other genital tissues in prepubertal girls. The main reason why the '**OxCat**' is so badly-needed is that there are variations in hymenal appearance - including congenital presentations - which can be mistakenly identified as symptoms of abuse. Though doctors may be aware of these variations, accurately and confidently distinguishing between congenital presentations and the symptoms of CSA requires specialized training. However, much current training still relies on photographic and other illustrations and / or on the use of toys, such as dolls and even teddy bears. Dr King's idea was to develop instead a highly-realistic anatomical model, which comes with inserts presenting different 'conditions'. The model was developed with the assistance of NISE who, among other things, helped identify the right commercial partner; the model is produced under license by specialist manufacturer Pharmabotics Ltd. and is used in conjunction with a training DVD made by Dr King and Dr Sheila Paul, a Buckinghamshire GP and forensic physician for Thames Valley Police.

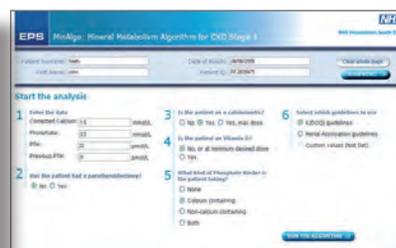
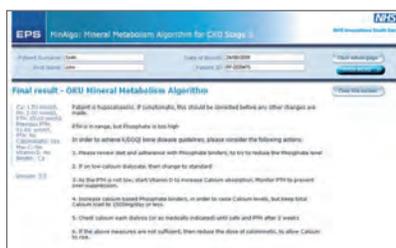
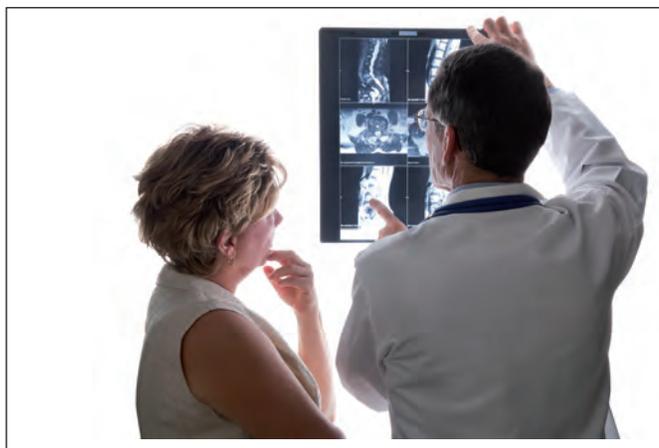


We stay in Oxford for our second innovation. **Evalulogix** is a software package that enables clinicians quickly and simply to assess the suitability of patients with rheumatoid arthritis for anti-TNF therapy. It was first developed by Dr Raashid Luqmani, a Senior Consultant at Oxford's Nuffield Orthopaedic Centre. Rheumatoid arthritis is generally managed using drug therapies. However, around 10% of patients do not respond to conventional drug treatment, with the result that inflammation of the joints is uncontrolled; potentially leading to such severe damage that surgery is required to replace joints. The best hope for these patients is anti-TNF therapy, which uses biologic drugs to suppress the body's natural release of the chemical TNF (tumour necrosis factor). Unfortunately, anti-TNF therapy, which costs between £9,000 and £18,000 per patient per year, only works for 60%-70% of the patients to whom it is given. If it is successful, that represents good value, taking into account both the benefits to the patient and the reduced demand for other treatments, including joint replacements. But the high overall cost of anti-TNF therapy, together with the fact that around one-third of patients do not benefit, has prompted the National Institute of Clinical Evidence (NICE) to limit its use to two groups of patients: those initially assessed as being likely to respond well to it and those who are already receiving it and continue to benefit. Identifying those two groups of patients is a complex process, and Dr



Luqmani, one of the UK's top Consultant Rheumatologists, developed the **Evalulogix** software - a sophisticated and powerful statistical tool - to enable his team to assess patient's eligibility and assess their responses much more quickly and systematically than was previously possible. Winning a prize from NHS Innovations South-East (NISE) for his software was the start of collaboration between Dr Luqmani and NISE that culminated in the software being developed further by EPS Research, before a licensing agreement with global pharmaceutical company Roche made the software, now known as Evalulogix, widely available.

From the Oxford Radcliffe Hospitals NHS Trust comes **MinAlgo**. The brainchild of Consultant Nephrologist Paul Altman, MinAlgo is a powerful new tool to help doctors manage the mineral bone disease problems (MBD) associated with chronic kidney disease (CKD). Treating these problems is a highly complicated business, involving complex decisions about the correct use of phosphate binders, calcimimetics and Vitamin D. **MinAlgo** is a software package based on an electronic algorithm, designed to aid the clinical management of complex CKD bone and mineral metabolism disorders by prescribing the right combination of binders, calcimimetics and Vitamin D for each individual patient. Designed to operate on a variety of platforms, from conventional computers to smart phones, **MinAlgo** analyses patient data and returns information on possible courses of action. More than 24,000 different input combinations are covered.

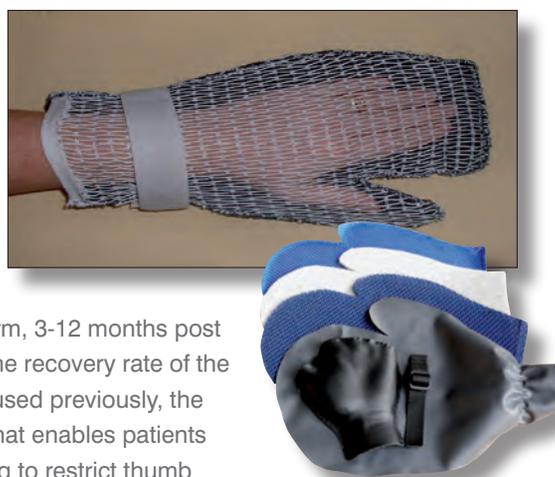


Finally, Oxford is home to **My Beacon**, a ‘tracking’ service designed to protect people who may be inclined to wander and become lost, as a result of memory loss caused by dementia. This tendency to wander is a recognized symptom of dementia and wandering episodes can be very distressing experiences, for patients and carers alike. Developed by Dr Rupert McShane, a Consultant in Old Age Psychiatry at Oxfordshire and Buckinghamshire Mental Health Partnership NHS Trust, the **My Beacon** service uses GPS technology similar to that used in mobile phones. The patient carries or wears a simple tracking device with a SIM card, enabling them to be located if they wander, and given assistance quickly and easily. **My Beacon** is now widely available throughout the UK.

# Surrey

Our first point of call in Surrey is the Frimley Park Hospital NHS Foundation Trust. Staff at the hospital have developed **Qpoint™**; an “external quality assessment service” for blood glucose meters used in the management of diabetes. Poorly-managed diabetes can have very severe adverse consequences and blood glucose monitoring is a crucial part of the Diabetes Care Pathway. Ensuring the reliability of blood glucose meters is therefore essential to any effective diabetes-management system. The **Qpoint™** scheme works as follows: every month, healthcare professionals or patients submit a blood sample, along with readings, to the **Qpoint™** team at the hospital. The samples and readings are analyzed for statistical variance. Each participant is then sent, by post, a personalized report, giving the accuracy of each meter. A small pouch is enclosed with each report; this contains a synthesized blood sample, ready for the next reading to be taken. The **Qpoint™** team not only undertakes the analysis and provides the service but also manufactures the sachets for distribution of the EQA material. The **Qpoint™** service is much simpler and more straightforward than other schemes (e.g. WeQAS, NeQAS) and therefore quicker and more efficient. At the moment the service only covers blood glucose meters but plans are underway to extend it to other analytes.

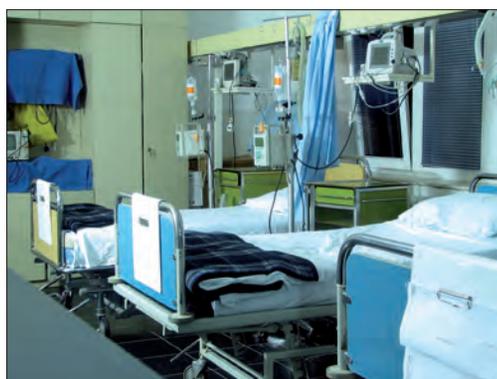
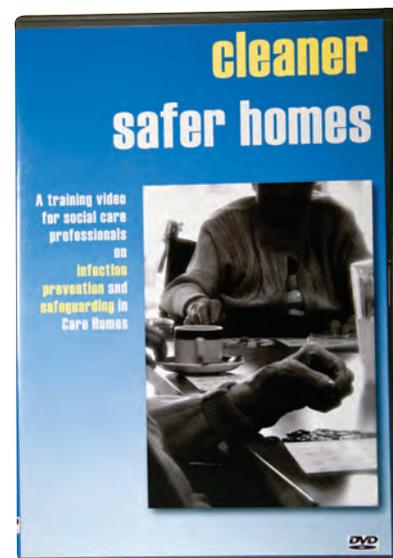
We make the short journey from Frimley to Farnham to see our second Surrey innovation. The **C-MIT** (or, to give it its full name, the Constraining Mitten) is the result of a collaboration between staff at Surrey PCT (based at Farnham Hospital) and the University of Southampton. It arose from a study into a modified form of ‘constraint- induced movement therapy’; a recognised therapeutic intervention to promote upper limb recovery in adults following hemiplegia (usually as the result of a stroke). Conventionally, constraint therapy combines the use of a splint and sling, which completely immobilises the unaffected upper limb in order to force use of the hemiplegics arm. However, this gives rise to obvious safety concerns, especially since the patients concerned may be particularly susceptible to falls. The **C-MIT** is designed to restrict the use of the ‘good’ arm without restricting its movement and is particularly useful for patients with recovered movement in their hemiplegics arm, 3-12 months post stroke. The increased recovery rate helps reduce dependency and improves the recovery rate of the hemiplegic (paralysed) arm function. Though constraining mittens have been used previously, the **C-MIT** has a number of unique design features including a high friction palm that enables patients to continue to effectively grip a walking aid; a plastic insert and internal padding to restrict thumb opposition and wrist activity, a mesh upper-side and internal structure that increases air circulation and prevents heat build-up and improves patient comfort. The **C-MIT** is designed to be oversized, to limit any temptation to use the unaffected hand and to act as a visual reminder to the patient to use the stroke arm. Given that approximately 50,000 people are disabled by strokes every year (in the UK alone) it is clear that there is a potentially huge market for this innovation. With the help of NISE, the Trust found a commercial partner who could produce the **C-MIT** under licence and the mitten is now commercially available.



Our final Surrey example is not, strictly-speaking, a new innovation. However, it provides a useful illustration of the issues that can arise with so-called ‘mature’ innovations, post commercialization. The NHS innovations ‘movement’ is itself no longer new and NISE now spends a small but increasing proportion of it’s time helping Trusts and innovators to review, revise and renew existing products, services and contracts post-commercialization. This particular innovation is the **Emergency Capacity Management System (ECMS)**, a web-based patient referral system originally developed in Surrey as long ago as 1997 and now deployed by a consortium of ambulance services. In its original and quite basic form the capacity management system was established to provide a real time admission database showing pressure at different acute hospitals. In 2003 the Consortium sought to improve the system and incorporate a range of other functionalities. They engaged a freelance consultant, on a temporary basis, to re-write the software program that underpinned the system but were subsequently concerned to discover that the person concerned had asserted ownership of the new software, potentially preventing the (free) roll-out of the system to other ambulance services. The consortium (of Ambulance Service Trusts) therefore invited NISE to review and establish the Intellectual Property status of the ‘new’ system and to broker an IPR ownership position for the Consortium which would remove all risks and encumbrances associated with the ownership dispute. NISE eventually secured an outright assignment of all Intellectual Property Rights to the Consortium, freeing it to work with other NHS bodies to extend the benefits of the system to other regions.

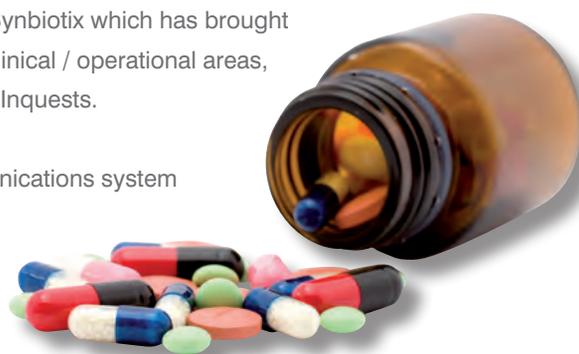
# Sussex

We begin this final stage of our tour in West Sussex, with **Cleaner Safer Homes**; a training DVD for social care professionals who routinely visit care homes. Chiefly concerned with safeguarding and the prevention of infection, the DVD illustrates acceptable and unacceptable practice and highlights situations that should be reported to the relevant manager within the NHS Trust or Social Services. The brainchild of a Consultant Nurse for Older People with West Sussex PCT, **Cleaner Safer Homes** is deliberately designed to be “positive and entertaining” but its serious and important purpose is to help professionals visiting care homes to spot what it calls “the trigger signs of poor practice or neglect”. These may have to do with the fabric of the care home itself (e.g. beds that are unsuitable for a resident’s / patient’s needs; inadequate pressure-relieving equipment) or with the condition of its residents or patients (e.g. malnutrition or unexplained low body weight, social isolation). Identifying and remedying these problems swiftly helps reduce morbidity and mortality, improve infection-prevention and raise standards of patient care. **Cleaner Safer Homes** is now available to PCT’s across the country.



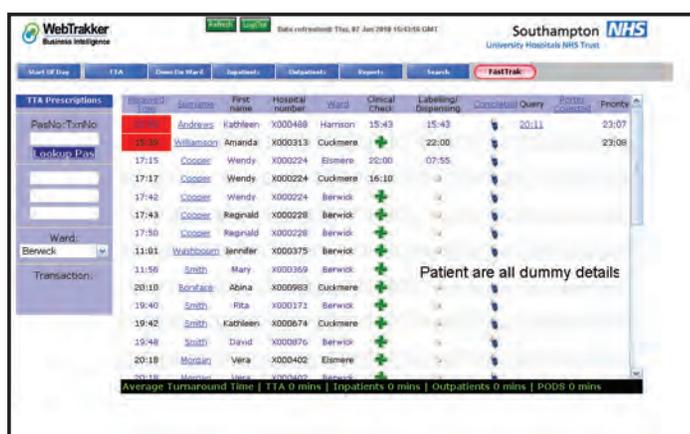
We stay in West Sussex for our next innovation. **RAPID** is an incident management and Investigation software package, developed at Western Sussex Hospitals NHS Trust. It is obviously extremely important that patient safety incidents are fully and accurately Recorded and that investigations are carried-out efficiently, so that lessons can be learned and patient safety improved. Unfortunately, most current recording systems use PC spreadsheets or tables which simply record the chronological sequence of events two-dimensionally in a timeline and permit only limited, unsophisticated analysis. Closer, more detailed or complex investigation (e.g. root cause analysis) is more difficult and more cumbersome. However, using **RAPID**, nursing and medical staff are able to record incident data onto electronic worksheets, which the system then uses to generate a visual aid. Staff are then able to view the data sequentially, in pictorial form, with a clear chronology so they can investigate contributing factors, draw-up an action plan and identify lessons learned. **RAPID** won one of NISE’s Innovator Awards in 2006 and NISE subsequently helped establish a commercial partnership between the NHS Trust and London-based healthcare company Synbiotix which has brought **RAPID** to the market. It is now in use in a variety of locations and a range of clinical / operational areas, including Patient Safety, Child Protection, Complaints & Claims and Coroners Inquests.

We cross into East Sussex next, to hear about **eXpert™**, a web-based communications system designed to ensure that antibiotics – and especially restricted antibiotics - are prescribed and dispensed correctly and used appropriately. Sometimes, pharmacists have cause to query a prescription, or to seek additional advice and information from the Consultant Microbiologist. Often, when that happens, they wish to make that additional advice and information available to other relevant parties. Until recently, all these communications were conducted by telephone and / or in writing. However, this sometimes gave rise to delays or led to clinical decisions being made on the basis of incomplete information. Determined to design a quicker and more efficient system, the Principal Pharmacist at Eastbourne District General Hospital (part of the East Sussex Hospitals NHS Trust) developed a software programme which enabled pharmacists to report on the prescribing of restricted antibiotics and / or to query anything unusual on the prescription whilst allowing Consultants to respond almost immediately with appropriate advice and guidance.



With the assistance of NISE and healthcare company Promatica, the web-based version of the system was developed. This enables any frontline clinical worker to report concerns and seek advice from assigned experts and, better still, makes that advice available to other selected users, since accessing the application requires only a standard web browser and the appropriate permissions. The team behind **eXpert™** are convinced that improved communication between professionals will lead to better-informed clinical judgment, improved patient care and a reduction in inappropriate therapy. Other Trusts seem to think so, too; **eXpert™** is now in use in a number of Trusts and is commercially available throughout the UK.

**WebTrakker** is another East Sussex innovation; the brainchild of a Pharmacy Operations Manager with East Sussex Hospitals NHS Trust, who wanted to improve communication between the pharmacy and other hospital departments – and with good reason. Prescribing and dispensing medicines is necessarily a time-consuming and fairly bureaucratic process and it can be a very frustrating one for patients and staff alike. Pharmacy and nursing staff often spend a lot of time, every day, on the telephone to one another, checking the detail of prescriptions or asking when they will be ready, whilst long waits for medication sometimes lead to delays in discharging patients from hospital.



**WebTrakker**, which recently won the Novartis Award for Innovation in Hospital Pharmacy, is a software programme designed to improve information-flow, speed-up dispensing and make patient discharge easier. Developed by the Trust in collaboration with healthcare company Promatica, **WebTrakker** allows information on prescriptions to be sent to the hospital pharmacy without delay. It also enables pharmacy staff to send 'prescription status' information directly to the Discharge Lounge, Wards and Transport. Other benefits include real-time prescription turnaround time, modelling of workflow patterns in the dispensary, a robust audit trail for all dispensed items and the recording and analysis of

all dispensing near misses. Above all, though, the system avoids a lot of wasted time - on the wards and in the pharmacy – and delivers much more efficient coordination of patient discharge and prescriptions.

Our final Sussex innovation is a board game called **Ladders and Bladders**. Based on the traditional game of Snakes and Ladders, this is a teaching aid designed primarily to improve infection control and, in particular, catheter hygiene. Most current methods of teaching involve fairly formal courses or seminars, backed-up by handouts. By contrast, the **Ladders and Bladders** approach is designed to be enjoyable, in order to keep students attention and reinforce the key messages. A 'giant' floor-based version is being developed for use at conferences and in training days, together with a tabletop version that can be used outside of normal training hours as a quick "game" to assess knowledge and revise taught techniques. Although **Ladders and Bladders** is currently designed for use in urology, it could easily be adapted to other areas of clinical care. Potentially, there is a significant market for this kind of innovation; it is worth remembering that, in addition to the obvious patient care benefits, preventing just one HCAI (healthcare associated infection) episode saves the NHS an estimated £5,000.



# Financial Summary



As an organisation set up to benefit the NHS, patients and the healthcare system in the UK, NISE is heavily dependant on its core funding from central government grant awards and NHS membership fees, providing over 90% of its income. Other income is derived from consultancy contracts and fees for services from members and clients.

During 2009/10 NISE benefited from a grant from The Department of Business Innovation and Skills under the Public Sector Research Exploitation fund (PSRE4), and also from interim funding from the Department of Health and the NHS Institute for Innovation and Improvement, whilst commissioning responsibility was transferred to the South Central Strategic Health Authority and South East Coast Strategic Health Authority. These primary sources of funding enabled NISE to provide core IP and innovation management services to NHS organisations in the south east. NISE also completed the South East Health Technology Alliance contract, providing advice and support to SME's in the south east, funded by the South East England Regional Development Agency (SEEDA).

During 2009/10 NISE introduced cost saving and efficiency programs, including reducing office costs by closing two of its regional offices, reducing headcount, and implementing IT systems to support home working.

Audited accounts will be available later in the year when the audit has been completed and the accounts approved by the NISE board.

## Unaudited Income and Expenditure statement for 2009/2010

<b>Income</b>	
Membership fees	177,500
Government grants	991,742
Other operating income	87,326
Bank & other interest received	5,661
<b>Total</b>	<b>1,262,229</b>
<b>Expenditure</b>	
Pay & pensions	844,591
Recruitment, etc.	5,767
Travel & associated costs	47,452
Rent, rates, utilities, telephone	39,064
Marketing & exhibitions	92,859
Post, stationery & office expenses	15,315
Computer costs	25,699
Legal & professional fees	29,182
Accountancy & auditors	16,460
Staff welfare & payroll	24,674
Sundries & subscriptions	7,352
Entertainment	
Bank charges & interest	584
<b>Total</b>	<b>1,148,999</b>
<b>Surplus before depreciation, disposals, bad debts and tax</b>	<b>113,230</b>

# Board and NHS Members



## Board of Directors and senior management

**Mr Oliver Wells**, Chairman

**Margaret Henry**, Company Secretary

**Dr David Kingham**

**Dr Stephen Cook**

**Mr David Copsey**,  
Maidstone and Tunbridge Wells NHS Trust

**Dr John Stedman**,  
Chief Executive, NHS Innovations South East Limited

**Nick Moberly**, Royal Surrey County Hospital NHS  
Foundation Trust

**Alastair Matthews**, Southampton University Hospital Trust

**Dr James Morris**, The Oxford Radcliffe Hospitals NHS Trust

## Senior Management Team

**Dr Tony Hill**

**Dr David Lubega**

## NHS member organisations as at 31st March 2010

Basingstoke and North Hampshire  
NHS Foundation Trust

Berkshire Healthcare  
NHS Foundation Trust

Brighton and Sussex University  
Hospitals NHS Trust

Buckinghamshire Hospitals NHS Trust

Dartford & Gravesham NHS Trust

East Kent Hospitals University  
NHS Trust

Eastern and Coastal Kent Teaching

Frimley Park Hospital NHS Foundation  
Trust

Maidstone and Tunbridge Wells  
NHS Trust

Medway NHS Foundation Trust

Milton Keynes Hospital  
NHS Foundation Trust

NHS Hampshire

NHS Oxfordshire

Nuffield Orthopaedic Centre NHS Trust

The Oxford Radcliffe Hospitals  
NHS Trust

Oxfordshire and Buckinghamshire  
Mental Health NHS Foundation Trust

Portsmouth Hospitals NHS Trust

Queen Victoria Hospital  
NHS Foundation Trust

Royal Berkshire NHS Foundation Trust

Royal Surrey County Hospital  
NHS Foundation Trust

South Central Strategic  
Health Authority

South East Coast Strategic  
Health Authority

Southampton City PCT

Southampton University Hospitals  
NHS Trust

Surrey and Borders Partnership  
NHS Foundation Trust

Sussex Partnership NHS Trust

The Ridgeway Partnership

Western Sussex Hospitals NHS Trust

NHS Innovations South East has benefited from funding from the NHS Institute for Innovation and Improvement's National Innovation Centre, the Department of Business, Innovation and Skills PSRE fund, and the South East Health Technologies Alliance (SEHTA). The views expressed in this publication are those of the authors and not necessarily those of the NHS Institute for Innovation and Improvement's National Innovation Centre, the Department of Business, Innovation and Skills, and the South East Health Technologies Alliance (SEHTA).



## NHS Innovations South East

NHS Innovations South East identifies and manages intellectual property in the South East on behalf of the NHS