21 NOVEMBER 2013

No2 EUROPEAN HOSPITAL @ MEDICA

SPECIAL ISSUE: MEDICAL, TECHNICAL, PHARMACEUTICAL, INDUSTRIAL NEWS

DUSSELDORF • THURSDAY • 21 NOVEMBER 2013

Genetically targeted medicine forges ahead

Leading scientist foresees a very near change in healthcare

Report: Mark Nicholls

Healthcare is undergoing a major change set to offer a real prospect of far more genetically targeted treatments, according a leading human geneticist Sir John Burn, Professor of Clinical Genetics at Newcastle University, England.

In his keynote speech entitled *Personalised Care*, to be presented at the Medica Education Conference 2013 (21 November), Sir John will re-buff any cynicism over personalised medicine ever having a role in healthcare. He will outline just how genome analysis detects an individual's genetic predisposition for certain diseases and how better assessment of their prognosis will play a greater role as personalised medicine takes the lead.

Ahead of the Dusseldorf conference, during our *European Hospital* interview he said: 'I need to get across to people that there has been a sea change technologically and that means there is now a real prospect of delivering a much more genetically-targeted form of healthcare.'

There is now better understanding of the molecular level of the diseases, particularly cancer, he explained, pointing out that scientists and clinicians can now find the explanation for rare genetic syndromes and identify people's genetic predispositions to anyone of a myriad of disease virtually at will.

Doctors have to recognise that diseases once considered common are now rare and that rare conditions are 'in relative terms more common', Sir John said. 'Rare diseases are now collectively a large chunk of our workload and now that we have the capacity to understand those diseases at a much more precise level and predict which ones will run in families, we are duty bound to get our heads round this in a way that collectively we have avoided before.'

This is being driven by the availability of targeted medication, he explained, and cited early examples such as treating chronic myeloid leukaemia by targeting the molecular basis of the tumour, and with B-raf mutation in melanoma, which opened the way for dramatic improvements in prognosis for patients with malignant melanoma. 'These very expensive but highly effective drugs are targeted to individual patients, which will change the whole ground on which we operate. Up to now most genetic testing has been done in rare conditions and at the end of a long diagnostic chain,' he pointed out. 'What is happening, and is going to happen even more extensively, is that it will become the first thing you do, rather than the last thing, to investigate the genetic make-up.'

The shift, he continued, will also see geneticists move from looking at one gene at a time to capturing the fragments of all the genes they think are relevant to a specific disease and on to exome sequencing to capture fragments of all the genes in the coding sequences.

The ultimate step was to move to whole genome sequencing which has now fallen in price to a few thousand euros, Sir John said.

Problems that he plans to identify during his address include incidental findings that suggest an individual is at risk of a genetic disorder and knowing how to tell them about it; and the need to acknowledge that subtle variations in gene expression – an area he believes is grossly underestimated even by experts in the field – may be very important. 'Subtle variation in gene expression in many of the common diseases will not be about gross loss of gene function but will be about a particular set of genes being slightly dis-regulated and causing a discord, which is very difficult to demonstrate unless you have the most subtle understanding of gene expression,' Sir John emphasised.

The professor also stated that interventions need not be expensive. For many years he has pioneered the use of Aspirin as a means of preventing cancer. 'We proved in people at the highest genetic risk that taking two aspirins a day for two years cuts their risk of cancer by 60%,' he pointed out.

His keynote speech will conclude with a focus on the UK's 100,000 Genome Project, which will sequence the personal DNA code of 100,000 patients over the next five years to help lead to better and earlier diagnoses and personalised care.

He believes a major challenge is to encourage the European Union to embrace the initiative.

'Personalised medicine is so important that it won't be called personalised medicine,' he said. 'It will just be called medicine. It will be so integral to what we do."

Sir John Burn, Professor of Clinical Genetics at Newcastle University, England, was knighted in 2010 for services to medicine and healthcare. An Honorary Consultant Clinical Geneticist at Newcastle Hospitals NHS Foundation Trust, he was Lead Clinician NHS North East until March 2013 and chairs the Genetics Speciality Group (NIHR).

MEETING TODAY:

NB: Professor Sir John Burn's keynote lecture on Personalised Medicine will be delivered at the Medica Education Conference 2013, at 1pm on 21 November 2013, in CCD South, Room 3.

Preventing sporting deaths

The Fédération Internationale de Football Association (FIFA), the world's soccer association wants every major football pitch to adopt universal standards of emergency medical care

Report: Mark Nicholls

Football authorities across the world have been urged to adopt a universal standard of emergency care to help cut the potential for serious injury or death during matches.

A key part of the plan is an 11-step initiative devised by soccer's international governing body the Fédération Internationale de Football Association (FIFA) Medical Assessment and Research Centre, which has also developed the FIFA 11-Steps to prevent Sudden Cardiac Deaths and other life-threatening situations.

Writing in the British Journal of Sports Medicine, an international panel of experts led by leading sports cardiologist Professor Jiri Dvorak, who is also FIFA's chief medical officer, wants every major football pitch in the world to adopt a universal standard of emergency medical care along the lines set out by FIFA, to curb the potential for serious injuries and deaths.

The call comes as FIFA aims to step up efforts to flag the importance of dealing quickly and expertly with on-pitch medical emergencies. Although not common, such incidents continue to happen with sudden cardiac arrest remaining the leading cause of sudden death during play.

In recent years there have been several high profile cases of sudden cardiac arrest – among recent events was Fabrice Muamba during an English Premier League match, who survived thanks to the prompt care he received in the football stadium.

However, FIFA is anxious to boost the quality of the emergency field-side response and help medical teams provide a universal standard of potentially life-saving assistance.

FIFA's Medical Assessment and Research Centre has developed an emergency medical bag (FMEB), helped by an international panel of experts, that included specialists in neurology, cardiology, orthopaedic surgery, sports medicine and emergency medicine.

The FMEB contains a comprehensive inventory of essential but generic equipment, accessories, and medicines – from dressings, syringes, and a stethoscope to a defibrillator and spinal board, for use anywhere in the world, at amateur and professional level, in training and competition.

The FMEB is designed to be used in response to a range of on-pitch medical emergencies, from anaphylactic shock and fractures, to spinal injuries and sudden cardiac arrest, for up to 60 minutes, if need be. Earlier this summer, following a decision at the 2012 FIFA Congress, the FMEB was sent to all 209 FIFA member's associations.

In view of the varied knowledge, skills, training and composition of healthcare professionals on duty during training and competition, FIFA also recommends that key field-side professionals should go on FIFA football emergency medicine training courses, backed up with advanced life support/pre-hospital basic care qualifications.

As part of its prevention programme, the Centre has also developed the FIFA 11-Steps to prevent Sudden Cardiac Deaths (and other life threatening situations).

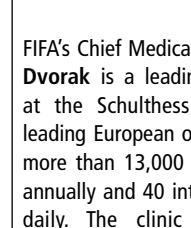
The 11-Steps protocol focuses on: prevention through screening to pick up athletes with pre-existing conditions that make them more susceptible to major injury or sudden death; planning through adequate training and an approved emergency medical plan; pre-game preparation to include the FMEB, an on-duty medical team, and an adequately staffed/equipped ambulance; putting the emergency medical plan into practice the moment a player collapses on the pitch.

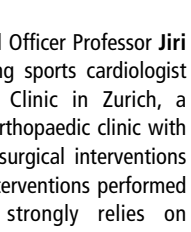
'Both the FMEB and FIFA 11-Steps are part of a broader preventive philosophy promoting player safety and football as a health enhancing leisure activity,' the report authors explain. 'Education of medical and paramedical staff, coaches, physiotherapists, referees and fitness trainers is an essential adjunct to this process… The FMEB is the proposed medical equipment standards to be provided at every football field and to be used whenever medical emergencies arise.'

FIFA's Chief Medical Officer Professor **Jiri Dvorak** is a leading sports cardiologist at the Schulthess Clinic in Zurich, a leading European orthopaedic clinic with more than 13,000 surgical interventions annually and 40 interventions performed daily. The clinic strongly relies on multidisciplinary teams representing different medical specialties. The clinic is home to the FIFA Medical Centre of Excellence and the FIFA Medical Assessment and Research Centre F-MARC, of which Professor Dvorak is chair.

EU directive progresses on clinical trials

Along with others, Germany has unanimously welcomed the revision of the EU directive on clinical trials. The change from mere guideline into a regulation valid in all member states, specifically aimed at making it easier to carry out multinational studies, is particularly welcomed. However, the EU commission's draft presented last summer was heavily criticised and the EU Committee on Public Health has since amended this, considering important points of criticism – but not all of them. Bettina Döbereiner reports





Wolf-Dieter Ludwig (left), Joerg Hasford

In the first public reaction to the EU directive, representatives of the German medical fraternity, of Ethics Committees as well as representatives from the ruling- and opposition parties who heavily criticised the previous draft now positively stressed the fact that the EU parliamentarians will make a testing of study projects by ethics committees mandatory – and, unlike in the previous draft, have also stipulated this in the directive.

The fear that sponsors – mostly pharmaceutical companies – could choose a country for studies that primarily look at the assessment of the cost-benefit ratio for multinational studies, and where testing standards are low, has also been allayed. In the current draft, the choice will be made based on an independent voting procedure.

The EU parliamentarians also agreed that – in correspondence with German law – minors and incapacitated adults are to be given special protection. People who cannot freely choose their domicile, such as prisoners or sectioned psychiatric patients, are now also adequately covered.

Also particularly welcomed are transparency specifications. Clinical study reports will have to be published 30 days after a drug has been licensed. 'This is a first,' said Professor Wolf-Dieter Ludwig, Chair of the German Medical Association's Drug Commission. Cases where researchers had for years tried unsuccessfully to obtain clinical trial reports from pharmaceutical firms – e.g. for the flu medicine Tamiflu – will hope

Continued on page 14

Mobility is vital for patients and machines

Mobility – a patient's ability to move, as well as the availability of transportable medical devices for diagnoses and treatments – saves time as well as hospital costs. As Anja Behringer reports, much is happening right at the patient's bedside

The worldwide unique sliding gantry CT scanner slides on a rail system.

New technological opportunities make it continuously easier to use medical devices anywhere, for in- and out-patient care. The technology has become mobile – and so have the patients. In-patient monitoring can be carried out wirelessly, independent of a patient's respective location. Radiology results can be accessed and evaluated on mobile devices in a patient's immediate vicinity.

We discussed the question of mobility with Dr Michael Meyer, Vice President for Health Policy and Vice President of the National Account Management division at Siemens. In this role, he is the health-political representative for the healthcare segment of this medical devices firm in Germany.

In Dr Meyer's opinion, the most important medical devices are those for the entire imaging sector, radiology and MRI as well as laboratory diagnostics. 'The latest development here is the worldwide unique sliding gantry CT scanner, recently installed at the University Hospital at the J.W. Goethe-University in Frankfurt.'

Weighing around 2.3 tons, this CT scanner slides between a routine examination room and emergency treatment room on a rail system. Thanks to this entirely novel installation, patients need not be moved and repositioned thus saving vital time during emergency treatment and significantly lowering the risk of additional injuries. Unlike similar, existing systems, the rails used in Frankfurt can cope with contamination and any other factors and are therefore suitable for use in emergency situations.

The system was developed and completely newly installed at the University Hospital in partnership with Siemens and, following completion of a test phase, will now be routinely used for treatment. Due to the development partnership, the cost fell between €600,000 and €700,00, while the hospital would normally have had to spend €1 million for this advanced technology.

What does Dr Meyer consider the most important development in relation to the slogan Medical Devices on the Move? 'Diagnostics, with its new reagents, enabling point-of-care diagnosis. However, central laboratories will continue to exist alongside the technology which delivers results by the patient's bedside. This mix is a challenge, but also is the future.'

There is a lot happening in this sector. The objective is clear: Cost savings which, as always, must be achieved through savings in personnel and time, with more effective devices. The patient, as always, is at the centre of developments, but now as a more active partner.

Mobile medical devices also play an increasingly important part beyond the hospital, i.e. in out-patient or cross-sector care. Implants fitted in hospital can be monitored in a patient's home via telemetrics in the context of aftercare. Wound or diabetes management are further examples in which medical devices, together with IT, are used independent of location.

However, the increasing mobility of devices has a strong impact on tried and tested processes in medical care. To ensure that the new CT scanner in Frankfurt remains economical, between 20 and 25 patients a day should be examined.

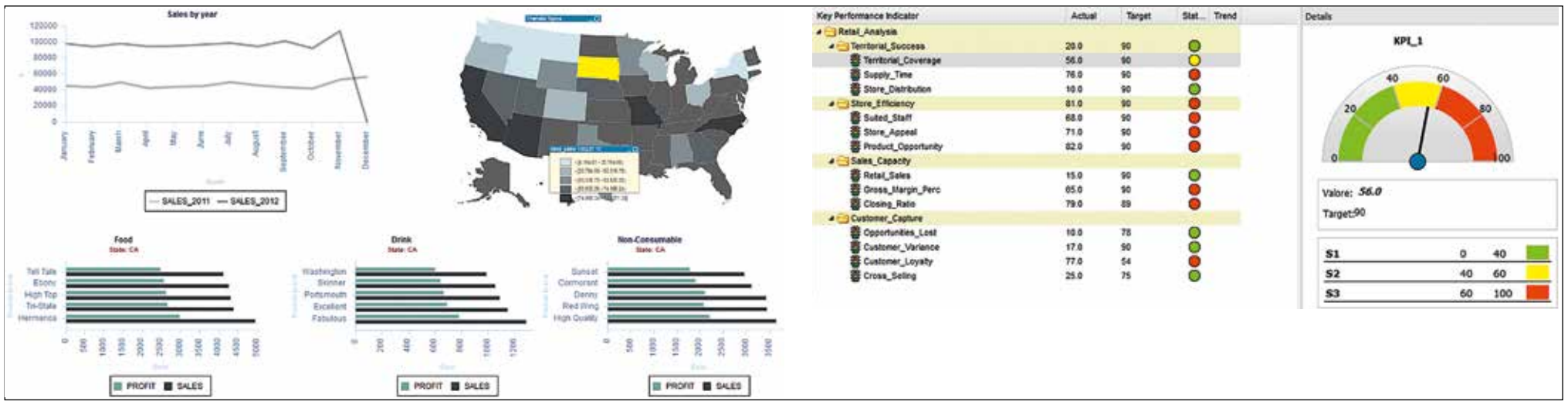
Therefore the University Hospital team changed their entire shock room management, carrying out tests using a manikin to optimise the constellation. All devices, and doctors and nurses now have their pre-determined places in the shock room. When the new system is installed in other hospitals their trauma teams will be able to benefit from training at the University Hospital Frankfurt.

Asked about pan-European differences in the development and use of medical devices, Dr Meyer said: 'The paradigm shift to point-of-care diagnostics is being tackled more flexibly and easily in other countries because there is more willingness to experiment. Southern European countries are further ahead than the Germans.'

At the Siemens AG Healthcare Sector in Germany, **Michael Meyer Dipl.-Kfm. Dr. rer. pol.** is Vice President of Health Policy and Vice President of National Account Management. After gaining his degreee and doctorate at the University of Hamburg, in 1984 he worked as a trainer and consultant in international consultancy firms. From 1997 he developed a professional services business with a focus on customer relations management. Up to 2004 he was also responsible for global strategic planning in the enterprise networks sector and then in charge of worldwide strategic alliance management, as well as the vertical solutions business, Siemens AG activities in the introduction of electronic health cards and the operational side of the business for Siemens Medical Global Solutions in Germany where, since 2010, he has also been responsible for the clinical products business as well as business development.

Siemens at Medica
Hall 10 / A20

Business intelligence in healthcare



Report: Moira Mizzi

Although the general assumption is that 'necessity is the mother of invention', many an invention, or advance in an existing one, is not always received with the same energy and enthusiasm in which it was produced. Recent advances in robotics, for example, saw the manufacture of remote-controlled trucks that hypothetically could reduce the manpower necessary to transfer goods from one place to another. However, software limitations in dealing with sudden changes on the road can extinguish hopes of its uptake.

Business intelligence, or the processes and technologies that transform raw data into relevant information for business purposes, suffered the same major hiccups – especially in the health sector. 'In general IT and business intelligence are still in their infancy, despite the boom in software and robotics,' laments Michał Romanczuk, IT manager at the private healthcare enterprise St. James Hospital, in Malta. 'The health sector in particular is still in the shadows comparatively as tailor-made software for BI is very expensive to buy (30-50K + configuration fees) and there is little know how in the sector on how to develop and implement it; in fact such software is only available in large hospitals or medical centres (500 beds +).

Business intelligence in hospitals can be used in their daily administration and in managing patient data (HIS - hospital information system). This encompasses management of patient records, scheduling/bookings, a financial module and stock control. 'The most important element of business intelligence is to put in "clean data" that is the right data in the right space,' the IT manager explains. 'This data can then be used to give full insight into performance, analytical support, ability to forecast and predict results - for example operations managers can get an overview about the resource required at certain times and in certain departments and act accordingly. 'Quarterly trends, both inside and outside the hospital setting, can also detect certain gaps and identify root cause of performance issues allowing a swift confident corrective action to be taken.' Some major European health centres are investing in business intelligence (BI). For example, St. Augustinus Hospital, near Dusseldorf, has implemented a tiered data storage system; likewise inactive data is archived in the relevant tier leaving more room for efficient use of the primary storage. Dedicated to the rehabilitation of disabled patients, the Valduce hospital in Como, uses powerful RFID-based analytic software to monitor and analyse when and where the patients spend their time during the day, thus supporting the healthcare staff to customise and calibrate rehabilitation programmes for each patient while checking for any organisational dysfunctions.

With a Computer systems engineering Honours degree from the University of Malta and a Masters in Data communication systems from Brunel University, UK, plus several other IT related certifications, plus 14 years hands-on and managerial experience in various IT areas, **Michał Romanczuk** now heads IT at Saint James Hospital, a multi national healthcare company.

Michał Romanczuk believes that the problem with not having such systems is the dependence on human performance, which can be slower and less efficient. 'Such delays in processing and transferring data can hinder management from taking decisions in real time and many a business opportunity can thus be missed,' he believes. 'Business intelligence gives instantaneous information about what is happening in the organisation and such data can be shared between departments to improve quality and efficiency. Likewise departments that are lagging behind can be assessed and investigated leading to corrective action.' The United Kingdom's National Health Service (NHS), for example, allocates hospital funds based on how department efficiency – if patient turnover in e.g. the A&E department does not reach the allocated targets, then the department is penalised and funds are deducted accordingly. Such Key Performance Indicators follow the traffic lights codes – green for 'valid', orange 'warning' and red 'not up to standard'.

In fact, the sad story surrounding BI is that its validity is highly underestimated. Michal Romanczuk explains that geo-location is one area in which it can boost health outcomes. 'Although this field in epidemiology was introduced years ago to map disease patterns in different geographical locations, business intelligence nowadays can be used to extrapolate real time data on maps; likewise demographic trends can be elucidated (including alerts) and relevant decisions taken; data mapping which locality has a high degree of lung cancer, for example, can be extrapolated to relate to area realities and relevant measures implemented accordingly to amend a state of affairs,' he explains. 'Such data can also be shared with the Department of Health in the various European states so that the relevant preventive measures can be taken both at a local and a global level'.

He also believes that, apart from costs and having clean data, another hindrance to the uptake of business intelligence is mentality, especially in centres that are run by medical staff with little knowledge of advanced IT. BI is taken up as a module by medical and nursing schools, so that future medics can appreciate its relevance and importance and include it among their tools for healing.

Setting a new direction for IT

The UK's National Health Service new strategy

Report: Mark Nicholls

A Technology Strategy and Roadmap to plot the course of IT within the National Health Service (NHS) over the next few years was unveiled recently by NHS England.

According to the plan, the move will 'set the direction for NHS technology and informatics so that commissioners, providers and suppliers can make informed investment decisions' while other developments outlined in the plan include an integrated business intelligence tool to 'provide the robust information needed for evidence-based, insightful decision making for all parts of NHS England'.

The details were published in the NHS England Business Plan for 2013-14/2015-16. The document, entitled 'Putting Patients First', has a number of key targets including having 95% of healthcare trusts using the NHS Number as the prime identifier in clinical correspondence by January 2015 and developing a linked package of shared-decision making aids so that people can make choices about their treatment in collaboration with clinicians

It states: 'In co-production with key strategic partners and in consultation with stakeholders, we will develop and publish an evidence-based NHS Technology Strategy and Roadmap.

'Through the Informatics Services Commissioning Group we will bring together key organisations from across health and social care to ensure that benefits to patients and citizens are central to all commissioning decisions about national information and technology services.'

The NHS is developing the care. data programme to harness and utilise health and care data and thus provide timely data, linked across the different components of the patient journey and the outcomes resulting from treatment. The programme is designed to capture and link data from primary and secondary care to increase transparency and improve patient outcomes.

As a first stage, some three quarters of general practitioners (GPs) provided a full extract to care.data by September 2013. By December 2015, 75% of hospital trusts should have provided patient level prescribing data to care.data.

The monthly extract will be based on four groups of data; patient demographics, events, referrals and prescriptions, although sensitive data will be excluded.

The report also outlines the intention to be 'digital first' with the Health Online Programme utilising modern technology to transform the service offer of the NHS, 'empowering patients and citizens to take control and make informed choices.'

The Putting Patients First document contains a commitment for patients to have online access to their health records, make electronic referrals available to patients and health professionals and help all NHS patients to leave feedback in real time on any service - all by 2015.

This pledge comes as NHS England announced its vision for an improved electronic patient referral service. Details were revealed at the Commissioning Show in London in June with the vision for change building on the existing Choose and Book system, aiming to transform it into an improved and expanded NHS e-Referral Service. This is part of NHS England's commitment to making all referrals electronic and the NHS paperless by 2018.

An initial five-month consultation period with healthcare professionals is underway, with further consultations planned with patients, to help drive the future design and develop a system that is simpler to use, adopts the latest technology and provides an improved service for users and better experience for patients.

NHS England's Director of Strategic Systems and Technology, Beverley Bryant, said: 'We are very clear on the need to understand what clinicians want from the system and the consultation is central to this. We want a system that is quick, easy and beneficial for healthcare professionals to use and ultimately improves patient experience by providing flexibility and choice around the services we offer, wherever the patient is.'

Predictive analysis

USA healthcare recognises electronic benefits for patient care – and lower costs

Report: Cynthia E. Keen

The USA's healthcare system has awakened to the fact that electronically stored health patient data can save billions of dollars. Predictive analysis of 'Big Data' is a hot topic. Although in its infancy in terms of healthcare application, an impressive amount of governmental, organisational, corporate and venture funds are being invested in this technology.

Predictive analytics is a statistical technique that uses data mining and modelling to identify trends and predict outcomes. Predictive models are used to analyse historical and current data to identify detailed trends, risks, probability levels, and opportunities for hospitals to improve their services and patient outcomes.

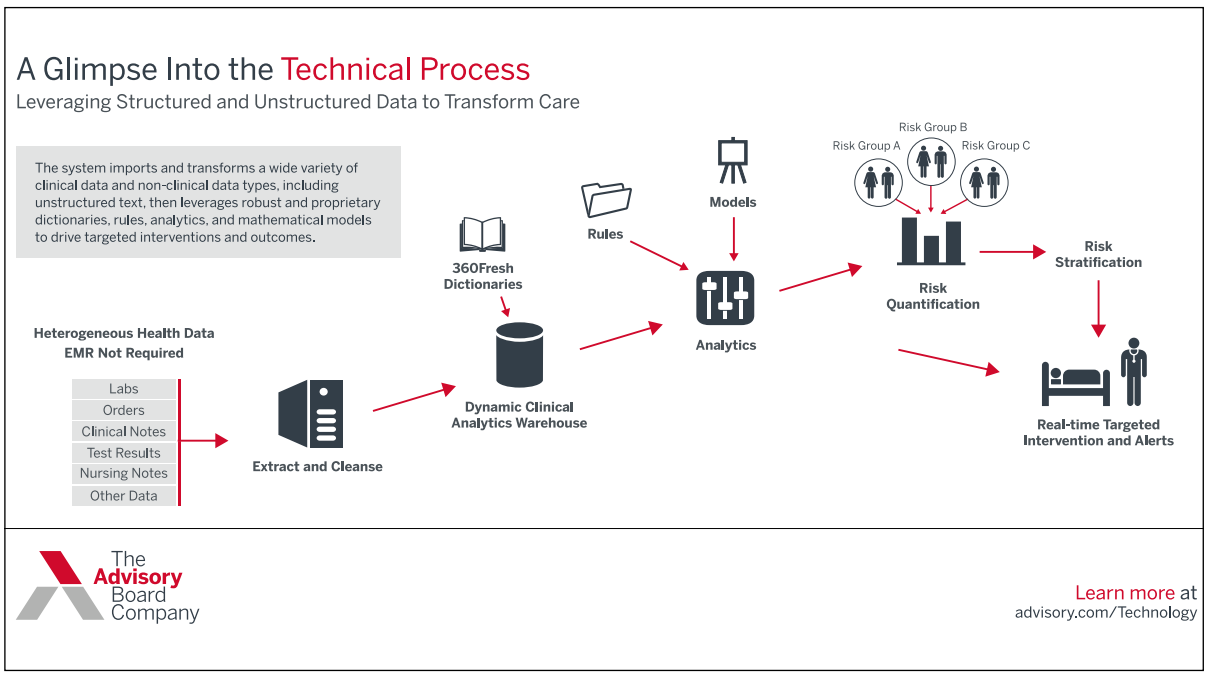
In July 2013, the USA's National Institutes of Health (NIH) committed $96 million ($24 million annually) to establish six to eight Big Data Knowledge Centres of Excellence. These have a mandate to develop and distribute innovative approaches, methods, software and tools for data sharing, integration, analysis and management. The resulting innovations are intended to make it easier for healthcare providers to manage big data, a problem that NIH believes is due to a lack of tools.

Big business agrees. Just one example of funds being invested in companies developing predictive analytics software for healthcare applications: recently Predixion Software of San Juan Capistrano, California raised $20 million. The primary investors were Accenture, EMC, and GE Ventures. T

The Advisory Board Company, an international consultancy, purchased Silicon Valley clinical analytics company 360Fresh to augment its Crimson software. Crimson's software tools allow hospitals to track complications, readmissions, and cost measures for each physician, as well as do peer review analysis. The Advisory Board Company's acquisition integrated software capable of extracting information from existing systems such as electronic medical records. Its data mining functions and analytics functions use text analytics and neuro-linguistic programming (NLP) processing to analyse both structured and unstructured data. This can include progress notes, admissions records, treatment regimes, and outcomes. This data can be used to create a comprehensive view of potential risk factors for individual patients.

The motto of Predixion Software is 'You cannot prevent what you cannot predict'. Hospitals in the United Kingdom and United States are fined if patients' readmission levels exceed a defined threshold. Using data of comparable patients, a predictive model can identify at-risk patients admitted to hospital for the first time. Risks of individual patients can be stratified daily, and treatment interventions can be implemented promptly. Analytic tools are also particularly useful in hospital efforts to reduce sepsis, decubitus ulcers, and in-patient mortality.

Hospital enterprises like NorthShore University Health System and Rush University Medical Centre, in metropolitan Chicago, use models to assign risk levels of patients who have had, or are at risk of having, a stroke or cardiac arrest. When patients are admitted to Rush's emergency department with these symptoms who fit a high-risk profile, emergency physicians immediately notify cardiologists. Since time to treatment vitally affects outcomes of heart attack and stroke victims, use of the model eliminates delays waiting for treatment in the emergency department for patients assigned to a highest risk quartile.



Advisory Board predictive analytics graph

Predictive analysis is also starting to be used to supplement clinical trials intending to determine how a prescription medication or clinical treatment will work. This is being used to support the development and use of evidence-based medicine. It also can analyse a patient population based on multiple co-morbidities.

'Current economic reimbursement models for USA hospitals only consider clinical intervention assuming a simple view of service volumes (see Figure 1). However, a percentage of patients have co-morbidities,' explained Paul Savage, president of Healthcare Intelligence, a predictive analytics consultancy in Old Greenwich, Connecticut. 'It's important to understand the entire scope of what clinicians are treating and the underlying prevalence of chronic diseases, such as diabetes, even if these are not the immediate cause of an episode of treatment. With this understanding, the epidemiology of population health can be modelled recognising the trends and seasonality of patient needs and resource consumption.' [Figure 2 shows the realistic patient mix.]

Predictive analytics models can be honed to population demographics, geographic region, and even time of year. Their predictive accuracy can be checked against subsequent historic data. In a 2012 interview with healthcare IT blogger HIStalk (ww.histalk2.com) a Mr Arkell observed that 'being able to assign a risk profile to specific patients when they admit the first time is something that's a game-changing solution'. Healthcare providers who begin to use the technology tend to agree. Expect the use of predictive analytics to proliferate.

Versatile lighting

A brighter prospect for examinations and min

Acem at Medica H

Developed as an LED examination light for diagnostics, minor surgery and universal applications, Soled15 can be used for cosmetic surgery, intensive care, the recovery room, first aid, as well as in dentistry.

The lamp, which supplements the Starled series manufactured by ACEM Medical Company, is suitable for multi-purpose uses thanks to its flexibility and excellent light intensity, plus IR-free light beam, colour temperature (CCT) of 4.500 °K, plus colour rendering index (CRI) of 95 and long life with low power consumption, the manufacturer reports, adding: 'The high technological level combined with the use of high-powered LEDs allow Soled15 to have a very linear yield and a negligible performance decay for its entire life duration.'

Soled15 has a light intensity of 65,000 Lux (80,000 Lux with 'Boost' function) and low power consumption (16W). 'The LEDs layout gives a visual comfort and produces a uniform, homogeneous and shadowless light,' its Italian manufacturer ACEM

Probe repair solutions

GE Healthcare spreads Unisyn wares into Europe

GE at Medica Hall 10 / A56

Unisyn, a division of GE Healthcare that provides a multi-brand ultrasound probe repair solutions to biomedical and clinical engineers, is expanding product sales and services into Europe.

Initially, the firm's products were offered to customers in the United States and Canada, but since earlier this year Unisyn's proprietary goods and services have been integrated into GE Healthcare's Global Services organisation. The expansion of Unisyn's into the European market will enable GE to meet customers' increasing demand for probe repair better, while addressing healthcare quality and cost pressures.

'Expanding Unisyn's probe repair business into Europe will enable us to deliver fast, cost effective and reliable probe repair solutions to our European customers,' confirmed GG Sved, Vice President and General Manager of Services Europe for GE Healthcare. 'We can now offer our European customers a complete probe repair solution spanning across multiple vendor platforms as well as a broad portfolio. This reinforces our focus to drive new capabilities and provide a long-term probe repair solution that will deliver value to our customers and drive market growth for the region.'

Ultrasound customers around the world are challenged as they struggle to manage their broad ultrasound fleet of probes, the firm points out. 'They seek cost-effective, high quality solutions that can increase their uptime and reduce repeated failures.'

Unisyn, it reports, is uniquely positioned to test and diagnose ultrasound probe failures with its proprietary FirstCall probe-testing device. This patented technology enables Unisyn to diagnose, repair, and thoroughly test each and every probe before shipment back to the customer. FirstCall provides objective measures of probe performance through testing the acoustic and electrical properties of ultrasound probes.

'Patient safety is our number one priority,' GG Sved adds. 'The FirstCall technology enables efficient diagnosis, repair, and probe test to ensure quality and safety requirements are met. It can reveal early changes that can be cost-effectively repaired before probe failure, preventing costly issues from occurring. With this technology, our customers can continue their focus on increasing patient safety and improving their outcomes.'

e LED

or surgery

Hall 10 / D31

continues. This ceiling/wall/trolley-mounted lamp has a round shape that make it handy and easy to use move for diagnostics, lab tests, etc., and the easy-grip removable, sterilisable handle makes it suitable even for critical sanitary applications, the firm adds.

The I-Sense touch panel controls all the lamp functions, including light intensity adjustment, parts selection (SEL) – i.e. of single parts of the light beam and activation of desired LEDs in a sequential way according to needs – and also brightness increase (Boost)

Boost and brightness increase light intensity for a wide light field by around 20%, and this automatically de-activates after five minutes.

Responses to six misperceptions

Responses to six misperceptions in the 'gold rush of the 21st century'

Ageing populations, struggling healthcare systems, medical staff shortages, rising costs – all are well recognised. Thus telemedicine, dubbed the 'gold rush of the 21st century' earlier in the year by Jonathan D Linkous, CEO of the American Telemedicine Association (ATA), is gaining momentum.

Telemedicine can be pragmatically defined as devices and communication technology enabling 'health systems to expand their market share and by new providers of remote health services'. In his newsletter, the ATA CEO outlined 'six misperceptions' in the context of telemedicine vendors and service providers staking their claims. *Michael Reiter* of *European Hospital* sought the reactions of European medical and healthcare experts to these ATA statements

Statement 1: It's not the technology – it's the service

'Devices are tools that allow services to be provided at a distance,' says Jonathan Linkous. 'In healthcare, the focus, the purpose and the finances are on the service.'

According to George Crooks, Medical Director, NHS 24 in Scotland and Coordinator of the new large-scale telemedicine pilot 'United4Health' funded by the EC, 'In Europe, the drive is for safe, effective and person-centred care. To secure these goals, while at the same time delivering affordable and sustainable health and care services, requires us to innovate. The key innovation is in service redesign, supported by technology, not the other way around!' Moving citizens from being recipients of care to become informed providers of their own care – where it is safe and appropriate to do so – will benefit everyone, he believes.

Christian Hay, Delegate for Healthcare, GS1 Switzerland, defines telemedicine not in the restrictive sense of 'providing healthcare services in remote conditions', but as 'the capacity to access healthcare-relevant information in secure, safe and appropriate manner, where this information has been produced, enriched, and stored'. Further, he raised a point regarding standards: 'Due to the density of healthcare services in most of Europe, considerable efforts are made to standardise clinical data by using common semantics (SNOMED), minimum sets of common information, bridging identification gaps when a single standard (GS1) has not been adopted, etc.' Processes to access clinical data – 'safety, security, accuracy, and appropriateness', he said, are mainly 'considering IHE as the meta-standard way to link clinicians within a jurisdiction, as well as cross-border'.

2: Despite what you hear, Medicare reimbursement is not the Holy Grail for telemedicine.

'Medicare fee-for-service covers about 36 million Americans ... 88 percent of Americans are covered elsewhere and 81 percent of healthcare spending comes from other sources', according to the ATA CEO. 'There are no federal restrictions on using telemedicine for billions of health dollars spent on managed care, bundled services and on alternative plans by private payers.'

On budgets and financing, George Crooks states that one of the barriers to adoption of any new practice in healthcare 'is professional resistance. There are many reasons cited for this, from vested interests, discomfort at change and so on. However rather than focusing huge efforts on some of these less tangible issues, we should spend more time on developing real incentives to change and dismantling the concrete barriers. Key to this are the financial models that are in operation. Incentivise directly where appropriate, look to re-aligning or pooling budgets where benefits can be realised by those effecting the change rather than benefits being realised "somewhere else" etc.'

Christian Hay: 'Telemedicine has been frequently positioned as a key solution to reduce healthcare costs. That has not been demonstrated up to now; but telemedicine provides a considerable increase in efficiency, which is critical since the population


©WolfVision GmbH

is growing and becoming older, and it's already known that the number of care givers will not be sufficient in a couple of years.

3: Healthcare institutions, physicians and industry are partners not enemies.

'Transforming does not require replacing,' Jonathan Linkous comments. 'So many new entrepreneurs in telemedicine start out with a negative, competitive attitude towards traditional healthcare. We have not reached the point when someone with heart disease is going to trust his or her care to a computer alone. The roles of hospitals and health providers are changing but they will continue to be the backbone of medicine.' Health and care will always be a 'people' business, George Crooks commented. 'Face-to-face care is the backbone of healthcare and will always be so. However, technology, appropriately targeted can safeguard face-to-face care for those who really need and benefit from it, by taking certain transactions away and dealing with them in a way that's more convenient and accessible to the user.'

Seeing is belie

How virtual monitoring could aid adherence to TB medication

Virtual observation of patients taking prescribed TB medication could prove an effective technique to ensure they effectively complete their treatment course, according to research presented at the European Respiratory Society (ERS) Annual Congress held in Barcelona.

The new study suggests an alternative method to directly observed treatment (DOT), which is recommended by the World Health Organisation. Directly observing treatments is often time consuming for a patient and is resource intensive for outreach projects, which seek to help people who may not wish to visit a clinic.

Instead, the virtually observed treatment (VOT) method requires people to use their mobile phones to send their healthcare provider a short video of themselves taking the medication. After an initial visit to the clinic, this can be completed remotely, with any issues being followed up when necessary.

Researchers from the Royal Free London NHS Foundation Trust piloted the effectiveness of the VOT technique. Nine people needing DOT commenced the programme.

Two people returned no clips during the first week and were returned to the clinic-based approach. Of the remaining seven, six people returned video clips for a minimum of 95% of all treatment encounters.

Overall, the researchers observed 86% of scheduled doses. They concluded that this was a feasible method of monitoring TB treatment programmes in people able to use VOT.

'These preliminary findings suggest that telemedicine can help us overcome the difficulties we've seen in directly monitoring patients taking their medicine,' said lead author,

Collaboration is the key to future success, the medical director believes. 'For too long, healthcare providers felt they not only had to own the problem but also build the solution. Traditional procurement models left both sides suspicious and often dissatisfied; we need to work smarter and differently together.'

4: Device regulation is not bad – it's good.

Device regulation could rapidly accelerate adoption, Jonathan Linkous states. FDA rules for wired and mobile telemedicine devices, and their certification by an official government agency, is a stamp of approval, providing reassurance for cautious buyers. 'Device regulation has significant advantages and should be progressed', George Crooks agreed.

Device regulation, by deploying Unique Device Identification (UDI) across the world, will facilitate development and maintenance of interconnected implant registries, Christian Hay added. 'The lack of registries and their small ability to interconnect has become evident with the PIP breast implants scandal a few years ago; that provided

eving

Sara Hemming. 'Some people are unable or unwilling to visit clinics for a variety of reasons, but by enabling healthcare professionals to virtually monitor patients, we can still ensure effective medication use without the need for a one-to-one session. This has the potential not only to reach people who are otherwise unengaged, but also reduce costs and resources. A larger trial comparing the two techniques is needed to ensure the safety and reliability of this technique, and also determine who benefits most from this approach.'

European Respiratory Society President, Professor Francesco Blasi, added: 'The European Lung White Book, launched this week, calls on countries with high rates of TB, to set up strategies to manage the large numbers of people with drug-susceptible and multidrug-resistant-TB (MDR-TB). The study shows one way that could improve the effectiveness of treatments for people who are particularly hard-to-reach. The outcomes of this pilot study are positive and I look forward to seeing the results of a larger trial.'

regulators with a strong impulse to progress their efforts in standardising their medical devices regulation. The EU is a little behind the USA's FDA, but working on harmonised directions.'

Clarity around the application of medical device regulation in the area of mobile health is 'essential in order to protect user safety, build trust and maximise effectiveness, while encouraging innovation and stimulating new deployments on the market,' added Jeanine Vos, Executive Director, mHealth, GSMA – the GSM industry association. 'We therefore welcome the proposed EU regulation on medical devices as an important opportunity to create this clarity and help to ensure that mobile health solutions are regulated appropriately.'

5: A great idea is born every minute but few of them are successful.

Hundreds of new applications or remote health services aimed at lower rates of hospitalisation, improved compliance, etc. have popped up, the ATA CEO points out.

George Crooks: 'A positive study is nice, but marketing, partnerships, revenue pathways and knowledge of healthcare business practices are essential, for starters. Innovation by its very nature needs individual champions and enthusiasts, but transfer of even the most successful pilot to a main stream service and an "at scale" deployment needs the alignment of national, regional or organisational policy, strategy and business planning processes.'

6: Consumers don't buy healthcare themselves.

For fifty years, the percentage of out-of-pocket consumer spending on healthcare has dropped (not counting insurance or co-pays), Jonathan Linkous states. 'It is now less than ten percent of healthcare costs. Consumers are getting much more knowledgeable and engaged in selecting among available procedures and treatments, but they rarely pay directly for a healthcare product and service.

'If you look at the NHS within the UK, where healthcare is free at the point of delivery, this is certainly true', George Crooks commented. 'But the drive to person-centred care makes patient choice an increasing reality.' The expert reminds us that patients 'pay in many different ways. For example, in lost work hours because they have to access conventional care services etc.' – an aspect that depends on typical work contracts and regulations in individual European countries.

MRI goes wireless

mobile touch devices deliver remote control and in-room communication

Report: Michael Reiter

The current setup for MRI-guided interventions is challenging. With a physician positioned in the MRI room and an MRI operator in an adjacent room, setting scanning parameters requires communication by hand signals or via a headset that comes with inconvenient cabling. Martin Rube, from the Institute of Medical Science and Technology in Dundee/ Scotland, ably sums up the layout and paraphernalia: 'This conventional arrangement is cumbersome, slow, and produces risks as well as sometimes a less than perfect result. Advanced communication technology provides a much more convenient and safer solution.'

At the recent CARS 2013 congress in Heidelberg, he presented* a rather different approach based on various wireless devices such as the iPhone, iPad, or trackpad, mouse and glass fibre connections. To avoid RF interference, the concept is optical transmission; a converter ensures the connection from the optical fibre endpoint to the devices and vice versa. Bluetooth, W-LAN or a WiFi router are networking technology options, with an aerial positioned in the MRI room. For interfacing, the group uses either real-time or a VNC (virtual network computing) client. Neither the real-time interface nor VNC client have clinical approval and therefore can only be used for research.

This setup allows for communication and wireless remote control of the MRI within the magnet room, while maintaining a sterile environment. It was created for research purposes in Dundee, and was also previously used at the University of Stanford Medical School in the USA. An additional version was created for mobile use at other sites and has already been tested in Frankfurt, Germany and Sheba Medical Centre in Tel Aviv.

Martin Rube studied electrical engineering with a focus on magnetic resonance (MR) and is now working on his doctorate (PhD), at the Institute of Medical Science and Technology, University of Dundee/Scotland, in physics and electronic engineering with a focus on medicine.

Application areas

In Dundee, the wireless approach (iPad) was used mostly in Thiel soft-embalmed human cadaver models, on abdominal percutaneous interventions such as liver biopsies, as well as for ablations. Dr Rube reports that a broad range of further possible applications exists, e.g. cardiovascular interventions. Interventions for which highly focused ultrasound (HiFU) is applied, e.g. in myomas ablation, the temperature and necrotisation can be monitored using MRI guidance. The Dundee group is developing this technique further for ablation of liver tumours under respiratory motion.

In Stanford, the arrangement was applied to visualise and monitor a respiratory motion signal and to

manage the high-intensity focused ultrasound (HiFU) beam: the physician touches the region in the image on his/her mobile device to define the target for the beam. At that university, a 3-T MRI device from GE is used, as well as a tablet from HP.

Positive results – and challenges

The research group achieved its goal: the wireless setup allows the surgeon to set parameters and navigate directly from the patient table, Dr Rube explained. 'This helps bring speed and quality to interventions. Our tests show that this setup works,' he emphasised. 'The challenge is now to convince scanner manufacturers that they should get the CE mark and FDA approval for this setup.' The configuration, he said, also suited multi-modal environments very well, including, for example the combination of MRI with ultrasound.

* Paper presented in Heidelberg: *'Wireless remote control and in-room communication for MRI-guided interventions using mobile touch devices'*, by M A Rube, B F Cox, L Melzer, M Lenhardt, and A Melzer, University of Dundee (UK); A B Holbrook, Stanford University (USA)

Meet us at Medica

On show: extraordinary MRT diagnostics for early or newborn babies

LMT Lammers at Medica Hall 10 / Booth A59

There's a warm welcome awaiting for all visitors to the Medica stand occupied by the LMT Lammers Medical Technology GmbH team, says Nina Friedrich, the firm's Head of Marketing.

2013 is the 11th Medica attendance for this Luebeck-based medical technology company, which this year is presenting the internationally unique MR Diagnostics Incubator System nomag IC. 'With the nomag IC, newborns and premature babies who are dependent on the protective atmosphere of an incubator can be wheeled directly into the MRT,' the company explains. 'Their bodies are then scanned free of radiation, meaning that any potential diseases can be identified straightaway and treated quickly.'

An extraordinary product - This innovative MR incubator system was recently selected as a finalist for the M&K-AWARD 2014, presented annually by the Management & Krankenhaus journal for extraordinary medical products. Voting continues until 30 November.

Your chance to win a camera - Anyone who votes in the above competition has a chance to win a digital SLR camera. The documents to enter your details are at the LMT booth. Alternatively, you could vote online: **www.lammersmedical.com**

Enhancing the patient experience

Report: Michael Reiter

When it comes to hospital choice, patients no longer rely on their doctor's advice alone. Improved health literacy and a growing awareness of potential risks (e.g. hospital acquired infections, medical errors) are encouraging patients to choose carefully by considering the quality of care delivered, patient satisfaction scores, patient safety and comfort in general.

Meeting patient expectations

The view that the overall patient experience is strongly linked to the level of satisfaction means patient expectations are rising rapidly. Add to this the growing influence of social media and other online tools used to influence a patient's choice of hospital, and it's clear that healthcare providers are exposed to greater levels of scrutiny and under pressure to deliver a better performance.

Although most healthcare providers do not shy away from their responsibility to improve the patient experience, they are facing enormous challenges due to severe cost cuts and a growing shortage of skilled medical professionals. These challenges are the driving force behind efforts to improve the efficiency and delivery of care – and, hence, the patient experience.

Interactive patient care

To fully address these key priorities in healthcare, Barco, a leader in healthcare IT systems, has developed the industry's only completely integrated offering for interactive patient care, raising clinical productivity and patient comfort to the next level. The solution, called CareConnex, is powered by Hospedia, the world's largest operator of point-of-care bedside software.

CareConnex is a patient entertainment and communication system delivered over a range of touchscreen all-in-one smart terminals. Critically, it includes an advanced software interface and all associated accessories and systems required for installation in the patient room. CareConnex also serves as an interface for clinicians to access electronic medical records, hospital information systems and other healthcare applications at the point of care. Focusing on the intersection of patient-centered care and clinical efficiency, CareConnex enables healthcare providers to position themselves for success.

Personalised patient experience

In a highly competitive healthcare market, patient-focused services are becoming increasingly important, and healthcare providers are willing to invest in solutions that put patient comfort first. After all, patient satisfaction is a valuable indicator of the quality of care delivered.

Barco's patient entertainment system offers these services at the touch of a button. TV, radio, Internet, games, and other media applications are accessible directly at the bedside. The system also serves as a dedicated patient portal, featuring self-service options – including room and bed control, electronic meal ordering, and satisfaction surveys – and digital educational resources to improve clinical outcomes.

As a proof point of what Barco is able to provide, the CareConnex Smart Terminals form the front end of a pioneering networked bed concept installed at the Alexianer Krefeld Hospital in Germany. In addition to full patient entertainment and communication services, patients can control their beds and access hospital management functions through the terminals. Using existing IT systems and infrastructure within a hospital, CareConnex can be deployed to improve everyday clinical routines too. In most hospitals today, a host of IT solutions such as HIS, EMR and PACS are already in place, but their benefits are often not fully realized. Often inaccessible at the point of care, these systems do not allow sharing of patient data at the bedside which can result in duplicated efforts and inefficiency.

Barco's CareConnex solution offers a choice of touchscreen smart terminals to install in patient rooms, from which patients as well as clinicians can access a host of applications

'Offering multimedia entertainment, CareConnex enhances our patients' quality of life during their stay with us. They can improve their comfort too, by adjusting their own beds using a single touch screen interface.'

MICHAEL WILKE, MANAGING DIRECTOR, ALEXIANER KREFELD HOSPITAL

Tapping into new revenue streams

CareConnex addresses this by providing a user-friendly IT platform directly at the bedside, from which staff can access a range of clinical applications, including HIS, EMR, PACS, blood results, e-pharmacy and patient admission systems – without facing the security and maintenance issues that are typical of mobile devices. This way, substantial measurable improvements in clinical efficiency can be achieved.

CareConnex creates new opportunities to improve hospital profitability as well as efficiency. The solution allows providers to offer and promote paid services that are personalized to the patient, such as video-on-demand, TV bundles and gaming to help generate additional revenue.

Capitalizing on the opportunity for patient interaction, the system offers dynamic advertising options – respecting the sensitivity of the hospital environment – to recommend particular brands and to communicate the hospital's values and qualifications, gaining patient trust and adding to the overall care experience. In a time when healthcare reform discussions are the order of the day, interactive solutions – such as Barco's CareConnex – hold the key to the transformation of the delivery of care.

Robots in the operating theatre

Numbers are increasingly at hand in France

Annick Chapoy reports

A French surgical team, assisted by a robot, has been the first in Europe to remove a whole kidney through a single orifice (the patient's navel). Thanks to that single-access minimally invasive technique the female patient, who had a cancer localised in the kidney, could leave the hospital after three days.

During the procedure at Rennes University Hospital (CHU), a few feet from the patient, the surgeon sat behind a console, wore glasses to see 3-D images and work the robot's arms via hand and foot controls. In this way the cancerous kidney was removed doing a single umbilical incision into which the surgeon introduced two pliers and a camera, to be worked via the robot.

After three hours, the kidney was removed through just the 2cm incision, a single-access surgical technique that reduced post-operative pain, showed an optimal cosmetic result, and allowed the patient's discharge just three days later.

The laparoscopic nephrectomy, enabling visualisation and intervention within the abdomen has become a standard procedure for kidney tumours. Robot use assists the surgeon's movements: one arm for the left hand, one for the second and a third for the camera. Professor Karim Bensalem's achievement is that he did it by making just one incision rather than three or four.

Total nephrectomy with robot-assisted surgery opens new perspectives for patients: less blood loss, shorter hospital stays and functional sequels less important.

However, like any other new medical device, robotic surgery – now not only for urologic procedures but also in cardiac, thoracic and gynaecologic surgery, triggers controversy.

In recent years a robot buying frenzy struck hospitals and clinics. In France, 60 own a robot system, three times as many as three years ago. 900 are in operation in the USA, more than 1,200 internationally. The American Intuitive Surgical, the only manufacturer selling the da Vinci system, claims a spectacular growth in the last few years, 'based on the recognition of the benefits for the patients, practitioners and hospitals all over the world", according to this firm.

Karim Bensalah has played a major role in the development of techniques of laparoscopic and robot-assisted surgery and also single-access umbilical surgery

Surgeon benefits

However, whilst some praise the machine's performance, other voices stress that the patient benefit is yet to be proved. Surgeons who have experienced robot use hail the 'intelligence' and 'technological feat' but point out the limits for patients. In the leading newspaper Le Monde, Professor Jacques Hubert, urologist at the Nancy CHU (East of France) was quoted as saying: 'Robot-assisted surgery is growing in France without a sound evaluation. A few hospitals buy that equipment to boost their image. After a nine-year experience in our hospital, 1,000 people were operated on with the assistance of a robot. Let us say that the robot improves the surgeon's vision, eliminates the problem of his trembling hand, and allows a 360° range of action impossible for the human hand. Robotic surgery brings about the same advantages than the endoscopic surgery and a better accuracy but, is it a major benefit for the patient? No, but it probably has an indirect advantage.'

Professor Guy Vallancien, urologist at Institut Mutualiste Montsouris in Paris, adds: 'The equipment is marvellous. Only one drawback: the surgeon does not have a feel of the pressure on the tissue he is operating on. Is it more accurate? Nothing proves a human hand can be just as precise. Look at ophthalmologists – they don't use robots. The real progress is ceoliosocpy. The robot is only an extension of it. The benefit for the patient is questionable, it' s neither better or worse; but for sure it's beneficial for the surgeon – less tiring.'

If urology is the flagship speciality robot uses, cardiac surgery was originally the target. 'We acquired a machine in 1999,' recalled Professor Jean-Noël Fabiani, head of cardiovascular surgery unit at the Georges-Pompidou Hospital in Paris. 'Being able to work with it has been a formidable adventure, but we don't use it any more. Robotic surgery means longer operations. A whole team is needed to operate the machine. In the time needed to carry out one robot-assisted surgery we could have performed three operations in the conventional method. Moreover, it brings no benefits other than the cosmetic one, thanks to a limited incision. However, we get the same result with video-assisted surgery.'

Although truly an 'excellent sewing machine' but, considering the price, between €1.5 and €2 million, and a maintenance service cost of 10% of that sum annually, it can be very expensive.

'A few hospitals who bought one have ceased using their robot,' confirms Prof. Hubert confirms. 'They're quite pleased to save money' – because the health insurers do not refund robot- assisted surgery. The extra cost -- one surgery costs roughly €4,000 -- must be shared by the hospital or patients. When saving efforts are demanded everywhere, how can such spending be justified, beyond publicity for the surgeon, hospital or robot manufacturer? No doubt the surgical robot has a future and its cost should go down. Meanwhile, a global assessment on its use is needed, rather than a blind promotion of robotic surgery.

Without going backwards, the idea of having hospitals share equipment, or the geographical distribution of equipment, are ideas to be explored if we can have responsible healthcare, suggests Prof.

Michaël Peyromaure, from the Chochin Hospital's Urology department, in Paris.

MEETING TODAY:

MEDICA MEDICINE & SPORTS CONFERENCE

Venue: Congress Center South (CCD South).

Thursday, 21 Nov. 2013 ● 9:40 a.m. – 10:00 a.m.

Key Note by Dr. Simon Evetts, Medical Projects and Technology Lead, Crew Medical Support Office, European Astronaut Center, European Space Agency:

Learning from space – the secrets of an astronaut´s health and fitness

EUROPEAN HOSPITAL

EUROPEAN HOSPITAL Publisher, Theodor-Althoff-Str. 45, 45133 Essen, Germany
Phone: +49 (0)201 87 126 850
Fax: +49 (0)201 87 126 864
E-mail: info@european-hospital.com

www.european-hospital.com

Editor-in-Chief: Brenda Marsh
Art Director: Olaf Skrober
Managing Editor: Brigitte Dinkloh
Senior Writers: John Brosky, Michael Reiter
Executive Director: Daniela Zimmermann

Correspondents
Austria: Michael Kraßnitzer, Christian Pruszinsky. **France:** Annick Chapoy, Jane MacDougall.**Germany:** Anja Behringer, Annette Bus, Bettina Döbereiner, Jennifer Eletr, Jörg Raach, Walter Schäfer, Susanne Werner, Holger Zorn. **Great Britain:** Brenda Marsh, Mark Nicholls.
Malta: Moira Mizzi. **Poland:** Pjotr Szoblik. **Russia:** Olga Ostrovskaya, Alla Astachova. **Spain:** Eduardo de la Sota. **Switzerland:** Dr. André Weissen. **USA:** Kerry Heacox, i.t. Communications, Jacquie Michels

UK editorial address
55 Wey Meadows,Weybridge, Surrey KT13 8XY
Subscriptions
Janka Hoppe, European Hospital, Theodor-Althoff-Str. 45, 45133 Essen, Germany
Subscription rate
6 issues: 42 Euro, Single copy: 7 Euro.
Send order and cheque to: European Hospital Subscription Dept
Printed by: Margreff Druck und Medien, Essen, Germany
Publication frequency: bi-monthly
European Hospital ISSN 0942-9085

Representatives
China & Hongkong: Gavin Hua, Sun China Media Co, Ltd, Room 802, 15th Building, BinJiang Residential Quarter, Dongyuan Road, Futian District, Shenzhen, Guangdong, China, Code: 518031
Phone: +86-0755-81 324 036
E-Mail: gh@european-hospital.com
Germany, Austria, Switzerland:
Ralf Mateblowski, Hintergasse 1, 55234 Hangen-Weisheim, Germany
Phone: +49 6735 912 993
E-Mail: rm@european-hospital.com
France, Italy, Spain: Eric Jund, 2264 Chemin de Sainte Colombe, 06140 Vence, France
Phone: +33 493 58 77 43
E-Mail: ej@european-hospital.com
GB, Scandinavia, BeNeLux:
Simon Kramer, Willem Alexander Plantsoen 25, 2991 NA Barendrecht, The Netherlands
Phone/Fax: +31 180 6200 20
E-Mail: sk@european-hospital.com
Israel: Hannah Wizer, International Media Dep. of El-Ron Adv. & PR Co., Ltd., 7, Leteris street, Tel-Aviv 64166, Israel
Phone: +972-3-6 955 367
E-Mail: hw@european-hospital.com
South Korea: CH Park, MCI, Room 103-1011, Brown Stone, 1330, Baekseok-dong, Ilsan-Ku, Goyang-si, Gyunggi-do, Korea 410-360
Phone: +82 2 730 1234
E-Mail: chp@european-hospital.com
USA & Canada:
Hanna Politis, Media International, 8508 Plum Creek Drive, Gaitherburg, MD 20882, USA
Tel: +1 301 869 66 10
E-Mail: hp@european-hospital.com

Medical archiving

PACS is evolving into a patient data library

Attempting to gain a patient's complete medical history is often like assembling an intricate jigsaw puzzle. Old and current data are scattered within the HIS, DMS, PACS and a multitude of sub-systems in various medical departments – and their retrieval is as time-consuming as it is frustrating. The Visus Medical Archive is the first solution to collect all these data in a 'digital patient library' for easy access, the company reports.

'Medical Archive bridges the gap between the different media by building upon the proven PACS II strategy with JiveX Integrated Imaging, which allows the integration of non-radiology and non-DICOM imaging and other data into the PACS. Going beyond these data, the firm adds, 'Medical Archive accommodates documents such as OR, diagnostic or any other type of medical report, care briefs or scanned documents the patient supplied.'

Thus information previously as managed in a decentralised fashion is now linked in a meaningful way: the written report accompanies the radiology images, the OR report is linked to the video of the intervention, the physician's report is attached to the patient ECG. In short, Visus confirms, Medical Archive provides a library in which all data referring to a patient are interlinked in a logical system. The user, provided he has the necessary access rights, enters a headword, such as the patient's name or order number to call up and view all available data in a single system.

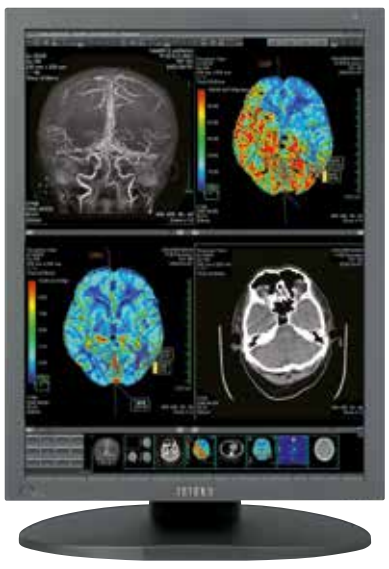
VISUS at Medica
Hall 15 / Booth G22

The missing link

Medical Archive collects the data from the HIS or the different departmental sub-systems. However, as the name indicates, Medical Archive deals exclusively with medical data – all administrative data in the HIS data pool remain untouched. Medical Archive does not intend to take over the core functions of the HIS, such as medical reporting or managing the digital patient record. Rather, Medical Archive starts where HIS functionalities end: providing an intelligent filing system, tamper-proof maintenance and institution-wide access to the complete medical history of a patient, Visus explains, adding that deep integration with the HIS allows culling information from the wide patient context.

Medical Archive also offers the possibility to establish a true archiving structure that exists outside the HIS: beyond collecting and presenting data in a patient context Medical Archive can store and manage these data in a system-neutral and fully compliant way. For the hospitals, this approach not only means optimised workflow but also increases their flexibility, because data can be migrated more easily and in a system-neutral fashion.

Details: www.visus.com



CCL 258i2

CCL 358i2

LED colour displays for diagnostics

CCL258i2 and CCL358i2 convince with high luminance

The Japanese display vendor Totoku extends his i2 line-up with a two and three megapixel display. The CCL258i2 and CCL358i2 are high brightness colour displays with a very high contrast ratio. That's why both can be used for primary diagnosis or critical applications like thorax exams.

The CCL258i2 and CCL358i2 are now the first colour models with the new LED backlight. The successor of the CCFL technology is based on semiconductors and is known from a variety of consumer products. 'The benefits are both ecological as well as financial and qualitative nature. Compared to CCFL monitors, LED displays, save up to 20 percent electricity and have a longer life span by about 30 percent. This has a positive effect on the budget of the user.

Furthermore the CO2 emissions decrease due to reduced energy production. Specifically, those displays will use 15 percent less power than their predecessor. At the same time the lifetime almost doubles and disposal is more environmentally friendly, since LEDs 'do not contain critical elements such as mercury', says Marcel Herrmann, Marketing Manager at Totoku Medical displays.

Ecologically the new i2 series is also benefiting users. With the newly developed power supply, standby power consumption was reduced by 80 percent. Together with the backlight dimming function hard cash is saved. And with the full remote management administration, time is reduced.

All new i2 models are offering the new display port interface. This enables users to connect not only DVI signals or video cards but also the latest Display Port cards from various vendors, for example Matrox, ATI and NVIDIA.

Another benefit from Display Port is the improved greyscale reproduction, the firm explains. 'Display Port offers for the first time true 10-Bit greyscales on a colour display and true 11Bit for the greyscale products.'

For details go to www.totoku.com and www.totoku.de

Despite population decrease, in 2020 cancer case will increase

Playing a key role in appendicitis re-evaluation

Report: Bettina Döbereiner

In the country's first scientific study to correlate the demographic changes and frequency of tumorous diseases, demographic changes have led scientists to forecast a significant increase in the number of cancerous diseases in coming years.

Compared to 2008, by 2020 the annual number of new cancer cases diagnosed will increase by around 14% and the prevalence of tumorous diseases will increase by around 13%.

Although the total German population is forecast to decrease by 2.2% (1.8 million inhabitants) between 2008 and 2020, the percentage of older people will increase significantly over the same period. 'The percentage of women over the age of 80 will increase by around 31% and the percentage of men in this age group by as much as 83%,' explains Professor Wolfgang Hoffmann, from the Institute for Community Medicine, University of Greifswald, who headed the study.

The scientists regard increased life expectancy as the main cause of the projected rise in cancerous diseases, because many tumours only occur in old age. Since there have been no systematic studies into the effects this will have on society and the need for cancer care, at the start of 2012 the German Society for Haematology and Medical Oncology asked the Institute to investigate.

Publicly presented this spring, the resulting study –The *Challenge of Demographic Change. A stock-take and look at future requirements for oncological care* – suggests that the annual number of new cases in 2020 compared to 2008 will increase by around 67,000 new cases. The largest absolute increases are projected for those cancers typically occurring in older age, e.g. prostate, colon, lung and breast.

Experts are discussing the challenge of demographic changes

The largest predicted increase among men will be colon cancer (22%) followed by prostate (19%). In women, the largest absolute increases are also forecast for colon cancer of the colon (12%), and lung (11%). The researchers predict the overall cancer prevalence to increase to around 13%.

For the future of healthcare, these results imply an obvious increase in the need for oncological care – for in- as well as out-patients, with in-patient stays raised by around 13% by 2020. 'The implications for care will be an increase in out-patient care for cancer treatment, the professor predicts. The trend is already evident: Financial data from 2008-2011 suggests a significant increase in out-patient care for cancer cases that cannot be explained simply by demographic change.

The need for medical oncologists will also increase. Germany today has around 1,500 specialists and, according to the study, by 2020 there will be an additional need of 6-25% depending on the region. According to DGHO executive chairman Professor Mathias Freund, that calculation does not yet include the impact of retirement among some older oncologists, which will not be covered by the number of younger, qualified oncologists in all cases. An urgent need will arise for other specialists, e.g. radiotherapists and qualified nurses.

However, the prognosis, which by nature can be somewhat inaccurate in places, also presents some good news: the predicted increase in costs at 11% (€1.7 billion) will be similar to that in other medical fields.

Increasingly important drug therapy

As a result of the study, the German Society for Haematologists and Medical Oncologists is calling for improved reimbursement for their services, for new financing concepts for specialist training and for licensing studies for drugs also to involve older patients with concomitant diseases.

According to practicing medical oncologist Friedrich Overkamp MD, his specialty will become particularly in demand. 'There will be less and less surgery, less radiotherapy treatment and more drug treatment,' he predicts, adding that this trend will increase further as new substances develop, such as small molecules.

'These orally administered drugs are precisely targeting the growth regulation of cancer cells and are highly effective', he says. However, there is almost no knowledge of the management of short-term and long-term side effects. So far, there are around 12 of these highly complex medications on sale, but the industry currently has more than 600 small molecules, monoclonal antibodies and other specific substances in the pipeline, which will be marketed over the next decade, he points out. 'We'll have to expect effects and side effects that are unknown, as yet. Therefore we urgently need medical oncologists who understand the entire organism and can react to possible side effects as early as possible.'

Professor Wolfgang Hoffmann, Institute for Community Medicine, University of Greifswald

A further reason why the expertise of medical oncologists will be in more future demand is the increasing patients' age, often suffering concomitant diseases and limitations of organ function. 'In these cases it's especially important to administer medication in a well-informed manner with an eye on the patient's entire organism,' explains Prof. Freund, who also calls for clinical studies that include older people with concomitant diseases.

'Unfortunately,' he adds, 'we often don't know how to deal with concomitant diseases in older patients because licensing studies for new substances and drugs are mostly carried out with younger patient populations. As the responsible doctors, we are interested in carrying out quality-assured treatment for these patients in the context of clinical studies.'

There is also agreement on the need for a new political framework to provide better financial regulations for specialist medical training. Currently, no expenses allowances are made for further training. Training specialists in practices outside the hospitals is desirable, but cannot be implemented sufficiently, he explains, because these practices can almost no longer afford to employ junior doctors.

EU directive progres

Continued f

fully soon become a thing of the past, he said. Moreover, it will now also become mandatory to publish an easy to understand summary of study results within a year of the study completion – even in cases where a drug is subsequently not licensed. Violations of these regulations will incur fines, just as they do in the USA.

Advocates of the Commission's draft also welcomed the Act of Parliament. The Chair of the German Society for Haematology and Oncology, Professor Mathias Freund, specifically welcomed the fact that, based on an OECD classification, a distinction will be made between clinical trials and low risk trials, with all trials involving medicines that have already been licensed, classed as low risk trials. These studies are to have shorter authorisation periods and will also be covered by the necessary insurance via a national compensation mechanism. This would represent a significant financial relief for mostly third-party funded academic therapy optimisation studies in the cancer research – particularly essential for rare cancers, e.g. acute lymphoblastic leukaemia or Hodgkin's lymphoma.

However, critics said that in certain cases study participants in low risk trials no longer need to give spe-

Dutch innovation reaches out at MEDICA

Country pavilion highlights range of hot new products

Report: Michael Reiter

The Task Force Health Care (TFHC) was initiated in 1996 by the private sector; the Dutch government acts as a partner. "This platform – with its 70 members and a network of 800 companies – has been designed to strengthen the healthcare infrastructures and systems in emerging as well as developed countries by the maximum use of Dutch expertise", explains Peter Post, General Manager of this PPP organization. The platform collaborates closely with FME-CWM ("FME"), an association of enterprises in the technological industry in the Netherlands with approximately 2500 members. FME, among others, houses a cluster called FME Life Sciences and Health (a collaboration of nine health-related sector organizations in the Netherlands). Within this framework, Post is in charge of international business development for the medical-technogical sector. The organizations have joined forces to organize an attractive Dutch pavilion at MEDICA.

» THE DUTCH PAVILION is located in Hall 16, B49/B57

Life sciences and health are one of the nine economic top sectors of the Netherlands

Although each country is different and even though the Netherlands scores high in ranking (the European Powerhouse Index ranks the country first for best performing health system), in general certain health challenges are universal, summarizes the manager: the greying society generates an increasing need for care service, and at the same time budgets are capped; providing access to quality care, implementing preventive measures such as a healthy lifestyle, and providing alternative medical services avoiding hospitalization and enabling autonomous lives for the elderly are the approaches suggested by experts and policymakers. The aim of the TFHC is to combine the expertise of Dutch University Medical Centres, the Government, the Industry, NGOs and knowledge institutes, and provide meaningful and sustainable health solutions to Europe and beyond.

An ecosystem boosting medtech innovation

"A major benefit in our country with its small size and eight university hospitals is that it is very easy for payors, care providers, policymakers, and the industry to interact. This open atmosphere among stakeholders helps to spark innovation and take those new ideas to the market." However, the Netherlands may be a good test bed and starting point, but companies need larger markets to grow and become self-sufficient and independent from subsidies, according to Post. And this is where TFHC comes in.

"We give good advice to these emerging SMEs, and we support their marketing activities – for example, by taking them to MEDICA, with financial support from our government. To participating companies, this presence in Dusseldorf will typically by the first step to setting up their booth independently the following year, and a starting point for international activities", states Post.

Dutch pavilion will be a hotspot of innovation

At MEDICA, Dutch companies have had a significant presence for many years. In total, there will be 135 of them at MEDICA 2013; "at our Dutch pavilion, a top selection of SMEs will present their new products and solutions", says Post. Companies include recent university spinoffs. In addition to company booths, the "Innovation Plaza" at the centre of the pavilion will host an "artsy" poster exhibit of small companies which have barely made a showing on the market as yet. Representatives from each exhibitor will be available for discussions. "Self-monitoring homecare solutions, technology for non-invasive diagnostics, for rehabilitation, e-health and many further areas will be part of the innovative products shown there", points out Post.

Looking for buyers, distributors, partners, and researchers

"All interested groups are invited to join us at the pavilion", underlined the manager. In addition to company staff, representatives from the TFHC and from FME will be there from Wednesday to Friday to speak also about players who are not at Medica. "Furthermore, we look forward to discuss, very much in general, the transformation of the healthcare sector and concepts to meeting common challenges – combining knowledge and technology." On Thursday, the Chairman of the Task Force Health Care –Thijs Teeling and the Dutch Consul General will be present during the afternoon networking event. Also on Friday, there will be a networking reception inviting informal discussions.

"Improving healthcare together" – this is Post's credo for information sharing at this pavilion. The Dutch extend a warm welcome to join in.

"Improving healthcare together": Peter Post acts as General Manager, Task Force Healthcare, and Business Development Manager, FME.

Activities

Opportunities to meet with representatives from innovative Dutch companies: daily. Networking receptions: Thursday, Friday 16.00 – 18:00 at the pavilion.

Participants

Pavilion: Qserve, Painmaster, Topic Embedded Systems, KLS Netherlands, NEA International, Clinical Science Systems, DirActive, Qill Health B.V., Medispirit B.V., Vanguard Healthcare Solutions, Avant Medical, Ross – Health Group, Van Berlo, Best Medical, Protechdry, Virtual Proteins, Verathon Medical Europe B.V., Medimate. eWWTrade4You, Applied Radar Technology B.V., Dutch Domotics B.V., Medigroup B.V., MyDiagnostick Medical B.V., BRIDEA MEDICAL, Epona Medical.

sses on clinical trials

from page 2

cific consent for study participation, and that research on pregnant and emergency patients for the benefit of third parties would be permitted. Professor Joerg Hasford, Chair of the Germany's Permanent Working Party of Research Ethics Committees, believes this is not acceptable and it is also problematic that, in the case of multinational studies, an ethics committee in the reporting country only needs to assess the first part of an application, i.e. the study protocol and the risk-benefit ratio. 'This is not acceptable, because medical care standards in Member States differ significantly, which, from experience, also reflects in the study protocols,' he said. The ethical justifiability of a clinical study can only be investigated on site – and not across borders.

Finally, Prof. Hasford also criticised the (still very tight) deadlines and the introduction of implied consent, which, in the case of non-adherence to deadlines, is assumed according to the draft.

What remains to be seen is to what extent the remaining criticisms still voiced in Germany will be considered for the new EU regulations. The parliamentary draft is currently being negotiated with the EU Council of ministers under the leadership of MEP Glenis Willmott to work out a joint compromise

SonoScape

Feel the Difference S9

Style and Performance S40

15-Lead ECG

Video Endoscope

9E25, 10G05

MEDICA®

www.sonoscape.com

ISO 13485

Caring for Life through Innovation