



MATCH NEWSLETTER

Multidisciplinary Assessment of Technology Centre for Healthcare

About MATCH

MATCH is a collaboration between five leading UK universities in the field of healthcare technology assessment and a cohort of industrial partners from the sector. It provides a critical research mass stretching across the UK healthcare technology sector. It supports companies and user communities by creating methods to assess value, from concept through to mature product and by engaging with regulatory bodies at home and abroad.

Welcome to our fourth newsletter

Professor Terry Young



Welcome to our fourth newsletter. Our most important piece of news is MATCH has been renewed by the EPSRC. Following an in-depth submission and panel visit we have been told funding is being extended from 2008 – 2013. For the first time this gives us a horizon of over 6 and half years to plan our research programme in the medical device sector.

This newsletter contains some interesting research results . . .

We are particularly interested in what our supporter's priorities in forms of methods to be developed are. If you have particular

priorities please get in touch with me (terry.young@brunel.ac.uk)

We ought to say goodbye at this time to the team from kings, who will be focusing on their own project. We would like to thank the Kings team for their hard work over the first four years of MATCH and to wish them success.

Multidisciplinary Assessment of Technology Centre for Healthcare (MATCH) Public Interests Forum, 16th May 2007

Peter Taylor

The MATCH Public Interests Forum took place at the London Office of the University of Nottingham on 16th May. In welcoming delegates, Professor Martin Buxton from Brunel University identified two key messages: the wisdom of involving clinicians early on in the design of healthcare products and the need for economic evaluation at every stage of product development.

Professor Terry Young from Brunel delivered an upbeat assessment of MATCH, suggesting a "tipping point" had been reached with the renewal of EPSRC funding that effectively secured the programme's future until at least 2013. Enthusiastically, Terry explained how MATCH was bringing about the real prospect of non-adversarial engagement between device manufactures and healthcare customers by offering " . . . a unique opportunity for both sides of the table to have access to the same evaluation methods to inform negotiations."

Aline Lautenburg, Economic Affairs Manager of Ecumed, presented a comprehensive overview of European reimbursement and procurement practices relating to medical devices. Her presentation included an informative assessment of principal Member States' MedTech markets, during which Aline highlighted a continuing trend towards centralised purchasing and the negative impact of complex administrative hurdles on those, particularly SMEs, trying bringing innovative products to European markets.

From Noreen Caine, Director of Caine R&D Consulting Ltd, delegates learned how Health Enterprises East, an NHS Hub for Innovation and Regional Enterprise, is forging closer working links between industry, academia and the NHS through the Medical Devices Industry Project. Noreen described how the new service derived from this project will streamline the environment for developing and deploying innovative products, benefiting patients, the NHS and industry. She acknowledged the importance of involving clinicians and health economists in the development of innovative products and urged delegates to consider how this could be best achieved. In ensuing discussion, delegates agreed to set up a collaboration space on the MATCH website to capture thinking on this.

Dr Steve Morgan from Nottingham University ended the Forum with a presentation, deftly curtailed to recover the day's schedule, on Assessing Value in Procurement Processes. Covering MATCH's work with the NHS Purchasing and Supply Agency and other central procurement bodies, Steve outlined the current policy context within which value is assessed and described the work MATCH is doing with procurement agencies to improve device evaluation and procurement processes. Delegates were shown how a MATCH industry tool can help to establish a basis for determining value that is common to purchasers and industry. In closing the Forum, Martin Buxton took the opportunity to remind delegates about the highly positive prospects for MATCH as it enters its next stage.

Technical Textiles Symposium Porto Portugal 22-23 March 2007

Author: Patricia Grocott King's College London



Dr Patricia Grocott PhD BSc (Hons) DipN (Lon) RGN.

Patricia is a research fellow at King's College London. She has a clinical and academic record in palliative care, and a strong commitment to improving palliative wound care through the development of patient focused professional practice and wound care products. Her research activities are centred on the development and testing of methodologies for generating evidence for complex, multi faceted healthcare research, including capturing user needs in a form that can be utilised in the design of medical devices. She is currently the clinical project manager of the EPSRC funded WRAP (Woundcare Research for Appropriate Products) project and lead investigator at King's College London for MATCH

A two-day symposium was held in Porto, the fourth in a series designed to help companies transform their business from traditional to technical textile markets, including maintaining their competitive edge. Patricia Grocott was invited to give a plenary paper on the subject of engaging the users of medical textiles and representing their needs, whilst engaging in technological innovation.

The programme was organised in two parts. The first day comprised comprehensive scene setting, exploring critically key aspects of the supply chain from raw materials to products.

This included taking account of user perspectives, and the influence of technological trends as well as regulatory processes. The second day involved a detailed examination of the integration of electronics into textile materials, including amazing examples of stylish garments carrying microsensors for a myriad of applications including health care and the armed forces.



Roshan Shishoo of Shishoo Consulting chaired the symposium and opened the proceedings with a keynote address, which set the scene of the global textiles industry, valued at \$1.6 billion US dollars. Porto was particularly selected as the symposium venue as it is at the heart of Portugal's growing textile industry. Developments in this area generally were attributed to technological push, for example advances in polymer science, chemical technology and fabric forming techniques together with micro sensors. At the same time consumers and environmental concerns were identified as important influencing factors.

Of particular interest to MATCH the exploitation of innovative products globally was addressed by Bill Lakin, of Euratex, who reported on the LEAPFROG initiative, described as the largest textiles research project in Europe, funded by the European Commission to the tune of €14 million. LEAPFROG has 35 partners (academic and industrial) from 11 European countries. The project goals include step-change in productivity, quality and cost efficiency in garment and manufacturing processes through re-engineering and intelligent automation processes. Speaking to the user theme of MATCH, the aim is to push towards rapid customised manufacturing and a paradigm change in customer service and relationships. A major handicap for Europe in global markets is the high wages factor. LEAPFROG is exploring this, aiming to identify new areas of demand, concentrating on shifting from commodities to specialised applications, and customisation as opposed to mass production.

Patricia Grocott drew on the MATCH project 3 work on user engagement, posing the question 'How can manufacturers gain detailed knowledge of patients' needs for medical textiles for wound care applications'? The presentation included a description of the translational research model the King's team are testing in an applied case study with individuals to Epidermolysis bullosa.

Overall this was a very interesting and stimulating symposium in a delightful setting. Of particular note was the ease with which competing manufacturers came together to address issues of mutual interest. Delegates enjoyed superb Portuguese hospitality at Le Meridien and a local restaurant and port wine specialist. There is a detailed write up of day one of the symposium proceedings in the April-May copy of Technical Textiles International. The second day proceedings will be published in the next issue (<http://www.technical-textiles.net>)

MATCH Researchers Participate in a Medical Technology Trade Mission to Boston, May 2007

Alan Brown



Alan Brown is a Research Fellow at the University of Ulster. He has 9 years experience working in industry, managing major projects in new product and process development in the Micro-Electro-Mechanical Systems (MEMS) and semiconductor industries.

He obtained a MEng in Chemical Engineering from Imperial College of Science, Technology and Medicine in 1993 and has since completed a postgraduate certificate in Management from Henley Management College (1994) and a Postgraduate diploma in Manufacturing: Management and Technology from the Open University (2003).

His current research interests include the effects of price trends on strategic product development and the evaluation of new and emerging technologies using novel methods

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ST+D delegation at the Belfast Boston Connection Meeting on Telemedicine and Connected Health

The medical device and related healthcare technologies industries in the UK operate on a truly global market basis with export sales being a key element of both the established and growing companies involved. MATCH, as a UK funded Innovative Manufacturing Research Centre, has had from the outset, a realisation that its core activities need to be considered from this international perspective. In support of this approach, several of the current research themes are seeking to explore the most appropriate means by which they can interact effectively with other market sectors outside of the UK.

Clearly, the largest player in the global medical device market is the USA and is therefore an obvious target for MATCH to engage with in pursuit of gaining an international dimension. As part of this evolving strategy, Professor Brian Meenan and Alan Brown from the University of Ulster and Dr Julie Eatock from Brunel University participated in a Medical Technology Trade Mission to Boston on 30th April to 5th May 2007. The event was sponsored by Invest Northern Ireland (INI) who are one of the major contributors of funding to the MATCH project. Sensor Technology + Devices Ltd., a MATCH network partner also participated in the mission.

The Medical Technology Trade Mission programme centred around three formal events, namely: the 11th Massachusetts Medical Device Industry Council (MassMEDIC) Annual Conference, the Massachusetts Technology Leadership Council Healthcare Cluster meeting on "Innovation in Real-World Healthcare Settings"*, and a meeting of the Belfast Boston Connection on Telemedicine and Connected Health, all of which were hosted at the offices of British Consulate General in Boston overlooking the Charles river.

As well as the formal events noted above, the MATCH team also took the opportunity to undertake high level meetings with senior staff in MassMEDIC and Partners Healthcare. In addition, Julie Eatock spent time with clinicians from Massachusetts General Hospital with whom she is currently undertaking collaborative research.

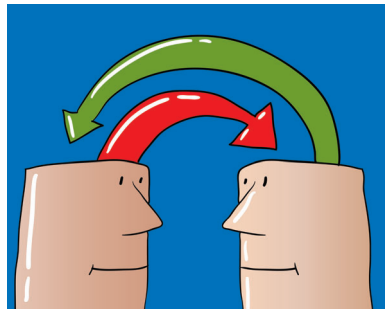
On the basis of the contacts that have been made during this trip, and in particular the discussions held with MassMEDIC, Partners Healthcare and Massachusetts General Hospital, it is expected that further on-going engagement will ensue that will enhance the quality and impact of MATCH research. Such activities offer an opportunity to study the application of the novel methods and tools that are being developed within MATCH within a healthcare system that is different from that encountered within the UK.



Dr Sarwar Shah is research fellow at Brunel University. He is medical doctor and his research interests include medical device technologies and users' perspectives, health and safety of medical device users, and health and environmental issues. He has authored a number of articles in peer reviewed academic journals.

The MATCH in Malaysia

Dr Syed Ghulam Sarwar Shah, Research Fellow (MATCH), Brunel University



In December 2006, I went to Kuala Lumpur, Malaysia to present a paper at the 3rd Kuala Lumpur International Conference on Biomedical Engineering (Biomed 2006). The conference was organised by the Department of Biomedical Engineering, University of Malaya, Malaysia; Department of Biomedical Engineering, Inje University, Korea; and Malaysian Society of Medical and Biological Engineering.

The conference was inaugurated by the Prime Minister of Malaysia and there were about 250

participants from around the world. It was for the first time for me to be in any of the ASEAN (Association of South East Asian Nations) countries. My visit was sponsored by the MATCH (Multidisciplinary Assessment of Technology Centre for Healthcare) since I was presenting my research paper.

The title of my paper was 'taxonomy of surrogate users for the development and evaluation of medical devices from the end users' perspective' (Shah and Robinson, 2007). The basic aim of the paper was to investigate surrogates of medical device end users, such as patients, persons with disabilities and elderly, who could be involved in the process of medical device development and evaluation from the end users' perspectives. In this regard, an elaborate taxonomy of surrogates of the end users was presented. The main argument was that clinicians and carers can be involved at different stages of the medical device development life cycle to integrate end users' needs in medical devices. The justification to be a surrogate of the medical device end user included possession of sufficient clinical knowledge and substantial experience of dealing with the respective end users for the clinicians; and better understanding of the working environment, daily activities and requirements of the end users being represented for the carers.

Apart from participating in the conference, I had an opportunity not only to go for sightseeing but also to meet a few companies that were involved in providing support services to the medical device users. One of the companies was the Healthtronics, which I visited along with other delegates of the conference. The company was involved in providing bio-medical equipment maintenance services to more than 100 hospitals in several countries such as Brunei, Malaysia, the Philippines, the United Arab Emirates and Vietnam. During discussion with the representatives of the companies, it transpired that training in the use and maintenance of medical equipment was an important aspect besides the usability issues. Several users who might be individuals, small clinics or large hospitals, both private and public, require support to maintain medical devices regularly to meet their needs and ensure provision of healthcare safely and timely. In the absence of a proper, regular and local maintenance support system, medical devices that are mostly expensive may not be useable, which will be wastage of resources. This situation may add into the suffering of those at the receiving end of healthcare.

Therefore, medical device development and evaluation from the end users' perspectives requires not only the consideration of several issues such as user's physical, social, cultural, environmental, training and technological needs but also the usability, safety in use and maintenance of the devices.

Reference: Shah, S.G.S. and Robinson, I. (2007) Taxonomy of surrogate users for the development and evaluation of medical devices from the end users' perspective. In: 3rd Kuala Lumpur International Conference on Biomedical Engineering 2006. (Eds, Ibrahim, F., Abu Osman, N. A., Usman, J. and Kadri, N. A.). Springer, Berlin. IFMBE Proceedings, Vol. 15, pp. 546-549.

MATCHing innovation in health care with regulation of medical devices

Dr Lotte Steuten



Lotte Steuten (Research Fellow) joined MATCH in October 2006. Her current research is on the economic evaluation of medical devices, aiming to develop tools and methodologies that effectively assess the value of a medical device at each stage of the product life-cycle, from pre-concept to mature product. She has a PhD (cum laude) in Health Technology Assessment from the Department of Health Sciences at Maastricht University (The Netherlands) and a Master's Degree in Health Sciences from that same university. Her area of expertise includes health economic evaluations, decision-analytic modelling and systems dynamics modelling in various fields with a specific emphasis on applying health economic evaluations and decision-analytic modelling in multidisciplinary areas. She is a member of the Health Technology Assessment International (HTAi) society.

Patient access to innovative, safe and cost-effective medical devices is not as good as it should and could be. This has led to health and economic benefits forgone to patients and the NHS, and a decreasingly attractive market for medical device companies in the UK.

An NHS culture that is perceived to be rather cautious as opposed to supportive of innovation; an increase in regulatory barriers, particularly in terms of efficacy and safety, combined with a perceived failure to balance these properly with potential benefit; and health technology assessments that arguably come too late in the product development process, have confronted medical device industries with huge challenges in ensuring that their investments deliver new medical devices at a price that both rewards innovation and is affordable to an increasingly financially-stretched healthcare system.

Similar situations exist in most European countries and as regulation in this area is now largely driven by the EU and the EMEA, tackling these issues increasingly requires cross-EU working. Against this background, MATCH has recently been invited to take part in the EU-project 'InnoHTA' and was invited to present some of its work at an EU-conference about International Regulation of New Medical Technology.

Recurrent topic of discussion during both meetings was how to innovate HTA methodology and regulatory processes to improve patient (or user) access to new, safe and cost-effective medical devices (as distinguished from all medical devices).

First of all it became clear that in some countries HTA and decision-making are considered to be one and the same thing, while other countries, as the UK, France and Denmark, clearly distinguish HTA as a purely supportive/informative activity to reimbursement and procurement decision-making. This distinction would have a major impact on further discussions.

Representatives of industry, HTA, and academics generally envisaged earlier involvement of HTA in the product development process, whether or not combined with conditional licensing opportunities, to be the preferred way forward in improving uptake of safe and cost-effective medical devices in routine clinical practice. Regulatory agents, however, were clearly divided in their opinion. Representatives of countries that do not distinguish HTA from decision-making articulated severe concerns about industries and academics working closely together in R&D processes and in particular the potential impact of such collaboration on the objectivity of the collected information. Regulatory and reimbursement representatives for France, UK, Denmark, Sweden and The Netherlands on the other hand were very much in support of the idea.

Further, debate in both meetings focused more specifically on the perceived feasibility of the 'early assessment' approach and considered the potentially limited (quality of) data collection by medical device industry and the varying willingness of companies to provide access to these data at early stages. Especially during these discussions, MATCH's vision on, for example, ways to integrate Bayesian value of information approaches into the product development cycle; our practical tools and experiences in collaborating with both the medical device industry as well as with regulatory and reimbursement bodies, attracted considerable interest from several participants across Europe and showed our lead position in this field.

Industry

ABA Adams Business Associates	
Baxter	www.baxter.com
Boston Scientific Ireland Ltd	www.bostonscientific.ie
Corin Group PLC	www.corin.co.uk
DePuy International	www.jnjgateway.com
Diameter Ltd	
Finsbury Orthopaedics	www.finsbury.org
HeartSine Technologies	www.sovereign-publications.com/heartsine.htm
Johnson & Johnson	www.jnj.com
luxfer	www.luxfercylinders.com
Mölnlycke Health Care	www.molnlycke.com
Moor Instruments	www.moor.co.uk
Oxford Biosignals Ltd	
Pearson Matthews	www.pearsonmatthews.com
Smiths Group plc	www.smiths-medical.com
Smith and nephew corporate	www.smith-nephew.com/uk
Zimmer	www.zimmer.co.uk

Government Agencies

EPSRC	www.epsrc.ac.uk
Invest Northern Ireland	www.investni.com
NPSA	www.npsa.nhs.uk
PaSA	www.pasa.nhs.uk
National Innovation Centre	www.pasa.nic.nhs.uk

Universities Partners

University of Birmingham	www.bham.ac.uk
Brunel University	www.brunel.ac.uk
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University of Nottingham	www.nottingham.ac.uk
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