

MATCH® NEWSLETTER

Multidisciplinary Assessment of Technology Centre for Healthcare

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Welcome to Newsletter 8

Professor Terry Young



Welcome to our 8th newsletter. We are trying to respond to the demand to have more frequent information, so you should be seeing more of these in your mail.

We have come through our 7-year review in excellent shape and are now focused on the last couple of years of the main MATCH grant – especially in terms of getting our results and findings out there. Much of this newsletter, therefore is devoted to the services and training that we can offer. Social media offer a convenient way of getting in touch with your customers. Millions

of words a week are produced through social media, some of which describe how people like or dislike the products around them. We present ways of capturing blog and other material and sifting it for product information. The long-term benefit may be the application of narrative-assessment tools to such streams of words. We are also unveiling new courses – a couple of which are described inside.

Our interaction with the outside world comes in many ways, one of which is MATCH taking part in various exhibitions. The biggest

impact comes through direct collaboration with industry, and so we are also launching a new Affiliates scheme to make linking to MATCH less expensive and to open up new channels for working together and conducting joint research.

And finally, we all have to write papers, so we have an article about a fruitful retreat that MATCH members set up and ran successfully.

I hope you enjoy the read, and look forward to hearing from you.

Writers Retreat Experience

Anila Shab



The three-day writing retreat was an opportunity for collaboration, guidance and support in producing publications. Although the majority of time was spent typing away on our laptops, we could set up meetings with others or seek guidance, which was achieved by using a flipchart as

a meeting request board so as not to disturb other work going on.

My experience was of discussions on paper outline, structure, content, data collection and analysis, outcomes, and final proofing. Most of these were related to individual papers, which meant that group discussion took place in separate meeting rooms away from the central writing area. The retreat also provided an opportunity for PhD researchers to discuss their position and experience in terms of publications.

For the retreat, I had prepared one article and was just starting out on another, and benefited in two ways.

I obtained guidance on producing a final version on the draft article as to which journals to target and was able to speak to a co-editor. I was also able to question the structure of the other article for which data collection and analysis had been conducted, but which still needed the underlying themes to be arranged appropriately. After organising my material I was able to use the time to concentrate on producing some copy and, with everyone furiously typing away, it was a silently motivating environment. Now I just need another retreat to finish it off!

Medical Device Industry and Social Media

Dr Sarwar Shah



Social media is a fast growing field of communication with a wide audience who may be located anywhere around the globe. Its use facilitates two-way communication, enabling interaction not only from the speaker or moderator to the audience, but also in reverse. The numerous benefits include speed, low cost, and a less controlled communication tool for expressing opinions, sentiments, suggestions, and recommendations about products, services, policies, and in fact just about anything! There are however some limitations such as reliability of information, longevity of information availability and its acceptance as a source of evidence. Despite these limitations, social media is quickly being adopted by the public, policy makers and commercial sectors.

Within the health sector, service providers and users as well as healthcare technology suppliers and vendors are adopting social media, especially within the pharmaceutical sector. It has been found that social media can be a useful tool for medical device manufacturers, purchasers, users and the ultimate beneficiaries - the patients. There is evidence that healthcare professionals such as doctors and nurses are using it to communicate with their patients.

Patients and their families can keep abreast of latest developments in healthcare and medical device technology, which could benefit their treatment in hospital or at home. Patients have also found that communicating with other people with similar medical conditions and sharing their experiences and opinions on many issues of common interest gives them an arena to communicate their experiences and opinions widely².

A further development in social media is its use by medical device manufacturers for communication with their customers/users of their products. However, they are using this mainly for marketing purposes. There is limited published literature on the use of social media for engaging medical device users at the early stages of developing medical devices such as the concept development and (re-) design of devices. Engagement with potential medical devices users, especially the patients, can be important and helpful in developing medical devices that are going to be used in home environment by patients or their lay carers/family members.

However, adoption of social media by medical device manufacturers is still an underreported and unstudied domain. Hence, there is limited information about the adoption of social media by medical device industry in the UK. Therefore, there is a need to study

adoption of social media by the British medical device manufacturers for engaging with the users of medical devices. There are several issues with intellectual inquiry concerning adoption of social media by medical device manufacturers. The interesting issues could be as follows:

- What is the value of engaging with users to inform medical device design?
- What is the regulatory framework for engaging with users in the process of medical device development and marketing?
- What are the opportunities and limitations of using social media for medical device development and evaluation?
- What are the ethical and social issues involved in medical device manufacturers' engagement with medical device users through social media?

In addition, assessment of the interest and the capacity and expertise required for the adoption of social media by medical device companies, particularly the SMEs, is also vital.

¹Shah SGS. The impact of social media on the MedTech marketplace. *Healthcare Equipment & Supplies*. 2011 31st March. <http://www.hesmagazine.co.uk/show.php?page=feature&id=2195&story=2195> (open access)

²Shah SGS, Robinson I. Patients' perspectives on self-testing of oral anticoagulation therapy: Content analysis of patients' Internet blogs. *BMC Health Services Research*. 2011;11. <http://dx.doi.org/10.1186/1472-6963-11-25> (open access)

BLOGS
NETWORKING
INTERACTIVE
VIRAL
STRATEGY
ONLINE
COMMUNICATION
MARKETING
BRANDING
VISION
INNOVATION

MATCH Campaign Tool

Hiran Basnayake



Calling all medical device companies! Are you interested in understanding your product market and how your competitors are progressing in this tough economic climate? Do you want to know what your customers are saying about your products? If the answer is yes, please read on...

Social Media is a new phenomenon that is changing the way we interact today on the internet. The growth of social technologies (e.g. YouTube, Facebook, Twitter and Google Blog) has enabled a new pathway for trend and market research. Utilising social media during medical product development allows you to "listen before talking". Social media gives you informal ways to understand your product, your competitors and the "lay of the land" ahead. The social revolution nonetheless does have strengths and weaknesses; see http://en.wikipedia.org/wiki/Social_media, but if used correctly can be an incredibly powerful instrument.

Social media tools monitor and analyse content on the internet. These tools provide intelligence that help nurture an idea to development and beyond. Social media tools help you to:

1. Diagnose where you are in your online presence.
2. Identify key goals that you want to achieve.
3. Help set up priorities in terms of what you are trying to achieve.

MATCH spent the past six months investigating social media tools. In a study, MATCH observed that functionality available in some "free" tools provide similar insight to those that will be commercially paid for. MATCH has developed a prototype "front-end" dashboard that collates important features of social media tools. The dashboard is called MATCH Campaign Tool and acts as a preconfigured click through to Google Insights, Google Blogs, BlogPulse and Ice Rocket.

By engaging the MATCH Campaign Tool with User Centred Design (UCD), medical device innovators will be able to focus and evolve their applications with the user in mind. Research shows that products and technologies developed this way are likely to be more stable in the commercial market, be of a superior quality and guarantee a better ROI (Return of Investment) than those that are industrialised using other methods.

Using the MATCH Campaign Tool and participating in MATCH workshops geared for better understanding of social intelligence, will encourage medical device innovators to listen to their target audiences, promote enhanced design, quality and achieve a greater ROI for a medical product.

Medical companies that are interested in finding out more about our prototype product or would like to contribute to its further development, please contact our Communications Manager Elizabeth Deadman or Programmes Manager Peter Michael Taylor.

MATCH Exhibiting

Elizabeth Deadman



You may have spotted the MATCH team exhibiting at various conferences and exhibitions this year, even though MATCH had previously attended one or two events a year, this year we decided to attend a number of new events in different parts of the country. By publication of this newsletter, we will have been at:

- BioWales 2011, Vale of Glamorgan
- Healthcare Innovation EXPO 2011, London
- Medilink East Midlands Innovation Day 2011, Nottingham
- NHS Confederation Annual Conference & Exhibition, Manchester

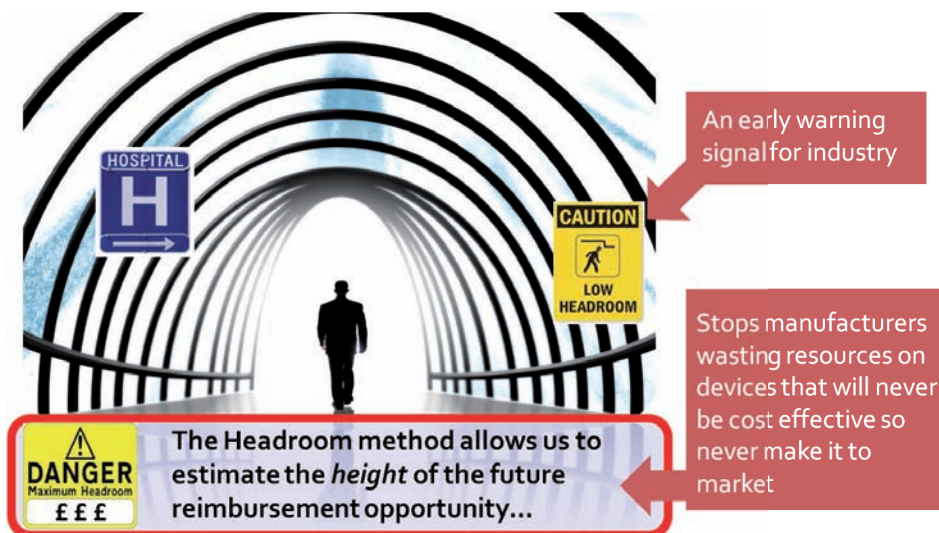
And there will be more to follow. Although we are seasoned exhibitors, MATCH had previously exhibited with a banner stand and some leaflets, it was decided that we needed to 'up our game' and invest in a new exhibition pop-up stand with our vision statement, the distinctive logo and lighting.

Taking part in the exhibitions is great fun as you never quite know what to expect; there is always new devices, catching up with old acquaintances and meeting interesting people. At one of the events we were discussing the Health Economic Tool with Tom Pellereau, one of this year's candidates of the BBC programme The Apprentice. Tom went on to win "The Apprentice" and has been awarded a £250,000 business partnership with Lord Sugar.

Having increased our exhibiting by 100%, we are now taking the opportunity of the quite spell over the summer to review the experience and assess lessons learnt and plan for future exhibitions.

Business decisions for new medical devices – The Headroom Method

Amanda Chapman



growing emphasis placed on health economics in coverage decisions, to the extent that demonstrating cost-effectiveness is often referred to as the 'fourth hurdle' for market approval after quality, safety and efficacy. The headroom method aims to turn this fourth hurdle into the first.

At such an early stage, clinical data verifying the effectiveness of a device will not exist. What the innovator *will* have, however, is an idea of what the device could achieve for patients (impact on health) and for the NHS (cost impact for services).

From this, we can estimate what the NHS would be willing to pay for the product, if it works as we hope it will. This maximum reimbursable price is our 'Headroom'. Does this represent a feasible price for the product, including the need to recover the sunk costs of development? By asking this question early on, the commercial viability of the product is ascertained. Its main advantage is to identify and thus halt the development of devices for which the opportunity for reimbursement in the future will never be sufficient to cover the costs of development and production.

As well as testing the headroom method as a useful way for businesses to make early investment decisions, researchers within MATCH are also exploring its wider application, across the whole development cycle. One such avenue is to articulate the uncertainty we have about certain parameters in our headroom calculations, and updating these as we start to learn more about the effectiveness of our product. This (and the ability to resolve this uncertainty in the future) can affect the attractiveness of a development decision. Additionally, the headroom concept can be applied very intuitively to pricing decisions, once a fully developed product exists, as well as exploring strategic pricing for different market segments.

For industry to prosper and for the NHS to maintain quality of care whilst facing constrained finances, innovative and cost-effective solutions to current clinical problems must be sought. The device industry plays an important role here, but business decisions must be mindful of demand-side conditions, something that is often forgotten in such a high-tech and dynamic industry. The headroom method offers a framework for industry to help *inform* these key decisions.

Over the past decade, the UK's growing health budget has supported the development of many innovative technologies from our medical devices industry. In light of the economic downturn and tightened public spending that has followed, the NHS is now expected to make £20 billion of savings by 2014 – labelled the 'Nicholson Challenge'. This places unprecedented strain on healthcare resources and activity, but industry has an important role to play in ensuring that these savings are made through the increased efficiency of spending, and not at the expense of the quality of care received by patients. The discipline of health economics has never been so relevant as it is today.

The Headroom Method is a simple tool developed by MATCH to help manufacturers determine the *commercial viability* of a new medical device, by applying the principles of health economic evaluation early on in the life cycle of a product. Economic evaluations are now practiced widely across the globe, as a way for purchasers to determine whether a new healthcare intervention represents value for money. In the UK, the National Institute for Health and Clinical Excellence (NICE) considers evidence for a new product relating to its effectiveness and cost impact as compared to current practice, and makes recommendations for its use in the NHS based on this analysis.

The Headroom method offers a way to incorporate this demand side reimbursement process (decision to buy) into supply side investment decisions (decision to develop). Through a series of interviews with its industry partner base, MATCH found that very few of the companies questioned had utilised health economics in their decisions to develop, and none amongst the SMEs and start-ups¹. This is surprising given the

¹Craven M.P, Morgan S.P, Crowe B, Lu B. First experiences from deploying a spreadsheet tool for early economic value assessment of medical device innovations with healthcare decision makers. *Journal of Management & Marketing in Healthcare* 2[3]. 2009. 11-3-2010.

MATCH Implementation Project

Dr Dorian Dixon



The MATCH implementation project is coordinated by the University of Ulster with researchers in Brunel, Nottingham and Ulster. The project is concerned with the assessment of medical devices which have a disruptive influence on the way in which care is delivered. It also involves developing ways to assess medical devices in the early stages of their development.

The methods employed use both direct studies of clinical scenarios, and software and flow chart techniques to model and assess the clinical pathways for products such as point of care diagnostic devices or home-based telemonitoring equipment. Examples of recent assessments that have been conducted include:

- orthopaedic referral pathways;
- support for dementia sufferers and their carers;
- outpatient dermatology reviews;
- and chest pain diagnosis in A&E using point of care testing (POCT)

In general, it has been found that pathway modelling is a very useful way to measure the effects of such technologies.

The team has a wealth of relevant experience and an extensive publication record, this is the result of working with clinical staff in the NHS and overseas, a wide range of industrial partners and undertaking work for NICE. Ongoing research includes the modelling of NICE treatment pathways by Dr Julie Eatock a researcher based in Brunel. This work is part funded by a Medical Research Council (MRC) grant and builds upon existing work on the modelling of A&E, dementia and dermatological pathways.

A typical project undertaken by the team concerns the assessment of a POCT diagnostic product. The impact of adopting this device which assesses patients with suspected cardiac chest pain was led by Ulster

researcher Francis FitzGibbon. The majority of patients presenting in A&E with chest pain are non-cardiac, yet many are admitted at significant expense to the NHS as insufficient evidence is available to enable their discharge from A&E. POCT measures blood markers with the aim of rapidly ruling out those patients who have non-cardiac chest pain, allowing early discharge.

The diagnostic pathway which includes POCT differs from standard laboratory marker testing, both approaches use protocols that include medical history, ECG measurement, and chest x-ray. The MATCH team worked with clinical staff to collect information on how 140 patients with chest pain progressed through the A&E system and produced a clinical pathway model for the process. While the POCT based assessment protocol requires two tests 120 minutes apart, it was found that only 8% of patients received the two tests. The majority of patients were either admitted prior to the second test or discharged to visit their GP or to a chest pain clinic. The data further highlighted the central role of clinical judgement with some 32% of patients being admitted despite normal ECG and marker levels. The use of a clinical pathways model is an important tool in considering the value of a new medical device.

The Nottingham team developed the Health Economic Evaluation Tool, an Excel based tool which can be used early in the development of a medical device, to aid developers to compare the cost and utility of a device at the development stage with current treatment. The tool is available to download from the MATCH website www.match.ac.uk and training workshops are held in collaboration with BITECIC across the UK. Nottingham based researcher, Dr Mike Craven using the Health Economic Tool technology has been involved in conducting a number of technology appraisals for NICE and is currently working on a guide for medical device producers on how to prepare data for submission to NICE.

About MATCH

MATCH is a collaboration in the field of healthcare technology assessment involving four leading UK universities 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.

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How can MATCH help my business?

Professor Steve Morgan



Outline:

MATCH aims to transform the medical devices sector by using research to develop, test and make available methods that cut the time, cost and risk involved in introducing innovations at every stage of delivery, from the original concept through to continuous improvement of products and services.

In doing this, MATCH supports device users, the medical device industry, regulators, reimbursement agencies, and healthcare providers such as the NHS.

MATCH operates an affiliate scheme that brings together healthcare suppliers, developers and users in order to benefit from MATCH research, whilst sharing ideas, learning new skills and maintaining valuable business contacts. Joining this scheme lets you access experts who can help transform your competitive performance by embedding flagship techniques, derived from best-practice in healthcare technology assessment and user needs analysis. Joining the scheme will help you focus more effectively on achieving tangible business returns

Benefits:

By participating in the affiliate scheme, you will benefit from:

- access to guides based on MATCH methods for showing the value of healthcare innovations, which will benefit companies selling into the NHS, or those whose innovations are assessed by NICE;
- access to MATCH guides about methods for incorporating the needs of users in the device development process, as well as guides about conforming to human factors regulations and using social media to assess users' needs;

- access to MATCH software applications, such as health economic tools and tools for eliciting users' needs;
- invitations to send delegates to two 'MATCH members only' events a year, themed around topical areas of healthcare technology and service innovation;
- the opportunity to take part in two MATCH training webinars a year;
- opportunities to participate in MATCH research and to co-author research papers with MATCH academics;
- quarterly newsletters, containing topical editorials and articles.
- updates on MATCH research developments and useful networking information; and
- licensed use of internationally registered MATCH branding on your website and stationery.

Cost per annum:

Up to 250 employees	£ 300.00
Above 250 employees	£1,200.00



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