MATCH MOBILISING ADVANCED TECHNOLOGIES for CARE at HOME



MATCH WORKSHOP

"Including Stakeholders in the Design of Home Care Technology"

23rd October 2007, Glasgow



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1 EXECUTIVE SUMMARY

Venue

Tuesday 23rd October, 2007, Level 5, Computing Science Building, Lilybank Gardens, University of Glasgow.

Support

This event was supported financially by the Lloyds TSB Foundation for Scotland and endorsed by the Royal Society of Edinburgh. It was held within the MATCH project (SFC MATCH Project Grant Number: HR04016).

Focus

The theme of this MATCH workshop was to explore the benefits of including a variety of stakeholders in the design of home care technology.

This workshop was an opportunity to bring together stakeholders associated with home care to come together with a focus on how home care technology can support health and social care delivery at home. It provided a rare insight into alternative views and practices that could enhance the experience of designing, implementing, or using home care technology.

The event included a panel of invited presentations from experts in each of the stakeholder categories, followed by a group design exercise. The workshop concluded with an interactive session on the lessons learned within and between the stakeholder groups.

Target Audience

This event was aimed at those who considered themselves to be involved or interested in home care technologies, including:

- people living at home receiving formal or informal care (with or without technology)
- people who care or help to care for someone, whether formally or informally
- health professionals
- social care professionals
- technology manufacturers or providers
- technology researchers and designers
- policy/decision makers involved in making financial or legislative decisions regarding the use of home care technology.

Aims

The aims of this event were:

- to bring together the full variety of stakeholders in home care technology
- to identify and understand the full range of home care technology needs and goals
- to engage in a design exercise that demonstrates the potential of including stakeholders in the design of home care technology.
- To identify the main barriers and facilitators to the uptake of home car technology

2 PREPARING AND RUNNING THE WORKSHOP

SFC MATCH Project Grant Number: HR04016

Workshop Funded By: Lloyds TSB Foundation for Scotland Funding awarded by: The Royal Society of Edinburgh Funding awarded to: Dr Marilyn Rose McGee-Lennon Organised by: M. McGee-Lennon, J. Clark, M. Wolters, L. Docherty, N. Gil Hosted by: The University of Glasgow and MATCH (http://www.match-project.org.uk)

Report compiled by: Marilyn McGee-Lennon and Julia Clark, Dec 2007

The preparation of the workshop was executed by the workshop team within MATCH. This was led by Marilyn McGee-Lennon and included Julia Clark, Maria Wolters, Liam Docherty and Nubia Gil. Other MATCH members who assisted on the day included Evan Magill (group facilitator) and Chris Martin (Video Recordings).

The local facilities and catering were organised by The University of Glasgow and Marilyn Rose McGee-Lennon.

2.1 Participants

The invitation to the workshop was extended to:

MATCH academics MATCH board members MATCH external partners MATCH users (older people and informal carers) and UK based academics UK based carer groups Local older people UK based Health and Social Care professionals and practitioners

Attendance was free but registration was required and numbers were limited to 40 to ensure interaction. A good representation of all the possible stakeholder groups was desired in order to gain a rich, representative overview of the barriers and facilitators to the successful design and uptake of home care technologies.

Attendance reached 40 and the split of attendees was as follows (see appendix 5.2 for full delegate list):

Social	13
Health	4
Research	10
Policy	4
Technology	5
Cared/Carer	4
Total	40

2.2 Workshop Programme

The workshop was made up of a stakeholder panel, design exercise and questionnaire which are described below (see Appendix 5.4 for the agenda).

2.2.1 Expert Stakeholder Panel

There were 5 short position statements given at the workshop from experts representing each of 5 different stakeholder groups within home care. Each panel member was asked to discuss what they believed to be the main barriers and facilitators to the uptake of home care technologies from their stakeholder perspective (see 4.1 for results). A short bio is given below for each speaker:

Nigel Barnes leads the Telecare research group within BT's Pervasive ICT research centre at Adastral Park near Ipswich. He has been involved in telecare research at BT for the last ten years, focusing on the use of non-invasive monitoring to provide proactive alarm and long term wellbeing monitoring solutions. He has led the Liverpool Telecare Pilot that BT has been operating with Liverpool City Council and Liverpool Direct Ltd. for the past three years. He now leads BT's involvement in the DTI collaborative project called SAPHE (Smart and Aware Pervasive Healthcare Environment).

David Boddy is a Research Fellow in the Department of Management at the University of Glasgow. He teaches courses for experienced managers on organizational behaviour and on the management issues raised by computer-based systems, which has bee the main focus of his research. Books include Management: An Introduction (2008, 4th edition); Management Projects: Building and Leading the Team (2002, 2nd edition), and Management Information Systems: An Organisational Perspective (2008, 3rd edition). He has recently published in the Journal of General Management, Journal of Management Studies, Journal of Information Technology, and in New Technology, Work an Employment.

Margaret Gray is an active, independent older user of technology and has vast experience in informal care of friends and neighbours. She will endeavour to give an insight into the users' perspective.

Kathryn McNab is an occupational therapist and registered manager. She currently works with West Lothian Council as Team Leader of the Home Safety Service. The team provides a technology service to around 3000 clients of all ages who are vulnerable and living in the community and who have an assessed need for the service. The job constitutes an interesting mix of direct client contact, staff support / management and operational management / development.

Claudia Pagliari is a Senior Lecturer in Primary Care at the University of Edinburgh, where she chairs the eHealth Interdisciplinary Research Group. She is involved in a broad programme of research on healthcare ICT, including horizon-scanning reviews, qualitative and survey studies and clinical trials. This includes studies of remote telemonitoring and telehomecare for the management of chronic disease, amongst other related topics. She is interested in the implications of emerging ICT for the organization and delivery of healthcare, and for society as a whole, as well as their impacts on healthcare quality and safety and patient-centred outcomes. She has recently been appointed as academic director of the new international MSc in Healthcare Informatics run jointly by the University and the Royal College of Surgeons of Edinburgh.

2.2.2 Design Exercise

The afternoon session included a collaborative design exercise. We were interested in a multidisciplinary group approach to the task and therefore participants were split into mixed stakeholder groups for the purpose of the design exercise. In total there were 4 groups, each with 9/10 participants. The groups were each asked to read a scenario (see appendix 5.5) and to work as a team to:

- Come up with a concept/idea/prototype for home care technology
- Collaborate with a variety of stakeholders to try to reach a negotiated solution
- Reflect on the design process when multiple stakeholders are involved

Each group were asked to clearly present their concept/prototype/idea by:

- Giving details of design decisions made (even ideas that were rejected)
- Describing the collaborative design process followed

And to consider the following main issues:

- Identify the 3 most important functions/services the system should provide
- List three problems you anticipate that the project might encounter trying to design and implement your idea
- Rank the following issues (you can of course add your own) in order of importance for the success of the system: Aesthetics, Cost, Ease of use, Functionality, Obtrusiveness, Privacy, Reliability, Security, Others.....

The main findings from the design exercise can be found in Section 4.2

2.2.3 Stakeholder Group Questionnaire

Following the expert panel presentations and collaborative design exercise participants were grouped into their single stakeholder categories to:

- Reflect on the design exercise
- Identify the advantages and disadvantages of working in mixed stakeholder groups to design home care technology
- Identify ways of collaborating or negotiating conflicting goals or priorities in home care technology

These views/responses were collected using a questionnaire (see appendix 5.6) and the results are summarised in section 4.3.

3 Presentations at The Workshop

3.1 A Technology Research Perspective – Nigel Barnes

Barriers and facilitators to the uptake of home care technologies

Nigel Barnes, BT



Barriers

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- · Lack of continuity across 'supply chain'
- · Lack of awareness
- Lack of cost benefit





Lack of awareness

- · Care providers are not aware of what is possible.
- · Immediate focus / fire fighting
- · Budget constrained
- Technology unaware
- Protective

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- Need reorganisation
- · Need cross sector working integration

Lack of cost benefit

- Where is the proven cost benefit in home care technologies?
- 1st generation accepted by default
- 2nd generation?
- 3rd generation????
- Telecare = social care provision
- · Preventative = health care benefit

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Facilitators

- · Education and awareness
- · Integrated care provision and budgets
- · Large scale trials
 - Whole System Demonstrators
- Development continuum
 - All discipline collaborations

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Target users...

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- · Are we targeting the right group of users?
 - Should we adopt a longer term view?

Today's users

- Embedded within system
- Complex cases
- Technology unaware

Tomorrow's users?

- More accepting
- Self managing
- Technology aware

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Challenges of HCT

- Designing applications which meet the interests of stakeholders sufficiently well to ensure they use their power to support, rather than to block, implementation
- Managing the barriers to implementation which arise from
 - the surroundings (immediate and wider)
 - the processes of implementation

Stakeholders' interests

- 'people or groups who have a claim on an organisation or who are affected by it'
- must be at least minimally satisfied with a policy or project, or it will fail
- projects most likely to succeed if promoters:
 - attend to the interests of stakeholders whose support they need
 - design to diminish barriers and encourage facilitators



e.g. an Electronic Patient Record project

- Sponsoring hospital high interest but low power to implement
- Pharmacies and GPs low interest but high power to block
- · System not accepted: implies identifying
 - interests what is their interest (e.g.) in home care technology
 - power what is their power to affect implementation?

As stakeholders, how would HCT support your interests?

- What are your goals the end-point of your work? How do you, or others, assess the quality of patient care at home?
- What aspects of home care help you to achieve those goals (the things you focus on)?
- Which are the (3) most important of those aspects to you?

How could HCT support care?

- What information helps you measure those aspects of patient's care needs?
- How do you receive it now?
- How might HCT improve the flow of that information?
- How would you like to receive it?
- What specifically would you hope for from an HCT project?

HCT and other stakeholders

- Which other stakeholders will your proposal affect?
- Do you expect them to support the idea, or to try to block it?
- To what extent will they be able to block a proposal which they oppose?
- How might you be able to deal with that, and gain their support?

HCT in its surroundings

- How might the surroundings facilitate, or obstruct, HCT implementation?
- Immediate factors (this unit)
 - E.g. Competing priorities, professional cultures, finance, working processes, user involvement
- Wider factors (trust, national)
 - E.g. Senior management support, technical developments, finance, ethical policies



3.3 An Older User's Perspective – Margaret Gray

Not available for this report.

3.4 A Social Care Perspective – Kathryn McNab



CURRENT POSITION

3000+ service users with core package of technology at home. 300+ clients with additional technology
Team of 8 support workers to process new applications and support existing service users. A tall order!
61 households for whom we provide emergency response

HISTORY

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- Began with pilot project of 75 clients
- Mainstreamed service and implemented charging policy
- Financial assessment
- £4.87 per week
- In 2006 service went free of charge

23.10.2007

23.10.2007

MAIN BARRIER TO THE UPTAKE OF TECHNOLOGY

- In our experience it was cost to the service user.
- People were refusing the service
- Concerns about people being vulnerable
- So service was made free of charge
- Criteria had to be implemented



- Word spread like wildfire!
- Immediately less complaints on the application process
- Applications increased significantly both from individuals and professionals

23.10.2007

23.10.2007

- Now average 70 applications per month
 - Resources (staff, equipment, etc.) under pressure to cope with the demand

CONCLUSION

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- It would appear that making the service free to those in need has vastly increased its' profile amongst service users and professionals alike.
- This is supported by the rate of applications doubling since January 2006.

3.5 A Health Research Perspective – Claudia Pagliari



Intervention (technology, objective)

Context (structures, processes, incentives)

People (needs, roles, motives)

Time (stage of development, stage of integration into self care)



 Research may take place at many stages during the planning for, design, assessment and implementation of new assistive technologies, each of which presents different challenges for stakeholder engagement

Multiple research questions

- Is there a need for this technology?
- Does the technology fit users' needs and lifestyle requirements?
- In what ways might it influence their lives?
- How receptive are the target users to technology (attitudes)?
- What processes may need to be redesigned to accommodate it?
- Is it easy to understand and operate (usability)?
- What is the uptake of the technology? (implementation and use)
- What people & organisational factors hinder the change & adoption process? (including influence on power dynamics)
- What processes are required to maintain usage?
- How does it influence the lives of target users? (Daily routines, activities, communication, relationships with others)
- How does it influence the people/system around them? (processes, interactions)
- How reliable/dependable is the system? (+ other technical & maintenance challenges)
- What impacts does it have on objective outcomes? (e.g. clinical, cost)
- What impacts does it have on subjective outcomes? (e.g. enablement, quality of life, attitudes, satisfaction)
- What are the unintended consequences (negative & positive)?

Challenges around demonstrating cost: benefit

- General lack of information about cost-benefits
- Implementation often highly pragmatic, not designed around evaluation, no outcome assessment, no base lining
- Study numbers often small
- Evaluation often conducted at the end & with satisfaction measures or interviews
- Outcome measures poorly defined & inconsistently applied
 - Some have argued for a standard taxonomy (e.g. Jutai)
- However, RCTs may be unfeasible

Challenges for product quality & evaluation

- Insufficient involvement of end users in technology design, but questions around how best to do this
- Methods for eliciting needs in such a complex setting are relatively under-developed.
- Lack of full understanding of home life, patterns of care services and how the technology will interact with these
- Different stakeholders have a different experience of the technology (it serves different functions for e.g. social workers, the patient, the GP, call centre)
- Even within stakeholder groups different individuals have unique needs (cognitive, experiential, attitudinal, physical)
- Just as technologies change during the design-evaluation life course, users' needs change over time & a challenge is finding ways for research and development to understand & respond to these

Methodological challenges

- Practical, attitudinal and ethical challenges to conducting research in people's homes (obtrusive).
 - Ethnographic methods developed in workplace research may not be appropriate in the home setting
- Just as technology can enable users it can also be the cause of disablement and low self-concept (dependency)
- Need for new methods of user-engagement & user-evaluation
- Poor stakeholder communication/mutual understanding client, developer, researcher (also different users/stakeholders)
- Different incentives e.g. of developers (commercial models) & evaluators which can compromise the quality of evaluation (and hence design). Need for interdisciplinary working
- Considerable overlap in methods & concepts across developers and researchers (e.g. in healthcare) – promote shared language & joint working

4. Conclusions of The Workshop

The domain of home care technology is complex. There are many different types of technologies and many different possible types of intervention available. Through presentations and discussion at the workshop, we compiled a set of important research questions for the development and implementation of home care technology (4.1). We then present the main barriers to the development and uptake of home care technology (4.2) and finish with some suggested facilitators to overcome some of these challenges (4.3).

4.1 Important Research Questions

- Is there a need for this technology?
- Does the technology fit users' needs and lifestyle requirements?
- In what ways might it influence their lives?
- How receptive are the target users to technology (attitudes)?
- What processes may need to be redesigned to accommodate it?
- Is it easy to understand and operate (usability)?
- What is the uptake of the technology? (implementation and use)
- What people & organisational factors hinder the change & adoption process?
- What processes are required to maintain usage?
- How does it influence the lives of target users? (Daily routines, activities, communication, relationships)
- How does it influence the people/system around them? (processes, interactions)
- How reliable/dependable is the system? (+ other technical & maintenance challenges)
- What impacts does it have on objective outcomes? (e.g. clinical, cost)
- What impacts does it have on subjective outcomes? (e.g. enablement, QOL, attitudes, satisfaction)
- What are the unintended consequences (negative & positive)?
- What information helps you measure those aspects of patient's care needs?
- How do you receive it now?
- How might HCT improve the flow of that information?
- How would you like to receive it?
- What specifically would you hope for from an HCT project?

4.2 Challenges of Home Care Technology

4.2.1 Multiple Stakeholders

There are many stakeholders in home care all with different needs, roles, and motives.

Stakeholders are 'people or groups who have a claim on an organisation or who are affected by it'. All the stakeholders must be at least minimally satisfied with a policy or project, or it will fail. Indeed, projects are most likely to succeed if promoters attend to the interests of stakeholders whose support they need and design to diminish barriers and encourage facilitators.

Lack of continuity

Care providers

Focussed on immediate delivery Fire fighting Lack of incentive Lack of power Technology unaware

Manufacturers

Short term focus Current products Sector alignment Lack of innovation Standards Risk Pragmatic

Researchers

Long term focus Idealistic Outside of deliver mechanisms Integrated sector vision Technology driven

Users

Lack of understanding Lack of options Technology unaware



4.2.3 Lack of Awareness

Care providers are not always aware of what is possible. Often, their priorities are safety and security rather than prescribing technology that can enable or empower. Social care budgets are often constrained which limits the resources they have to spend on acquiring newer technologies and finding out about those technologies.

Need cross sector working - integration

Benefits of sharing knowledge and working together (stuff from design exercise?)

4.2.4 Demonstrating Cost Benefit

It is desirable but difficult to demonstrate the cost benefit of HCT projects and implementations. Implementations are often highly pragmatic and not designed around evaluation. If there is no real outcome assessment, and no base line measurement, it is very difficult to demonstrate cost benefit.

Study numbers often small Evaluation often conducted at the end & with satisfaction measures or interviews Outcome measures poorly defined & inconsistently applied Some have argued for a standard taxonomy (e.g. Jutai) However, RCTs may be unfeasible

Lack of cost benefit

Where is the proven cost benefit in home care technologies? 1st generation – accepted by default 2nd generation? 3rd generation????

Telecare = social care provision Preventative = health care benefit

Cost to the service user. People refusing the service Concerns about people being vulnerable

 \rightarrow make service free (West Lothian)

 \rightarrow resources under pressure to cope!

4.2.5 **Product Quality and Evaluation**

Insufficient involvement of end users in technology design, but questions around how best to do this Methods for eliciting needs in such a complex setting are relatively under-developed.

Lack of full understanding of home life, patterns of care services and how the technology will interact with these

Different stakeholders have a different experience of the technology (it serves different functions for e.g. social workers, the patient, the GP, call centre)

Even within stakeholder groups different individuals have unique needs (cognitive, experiential, attitudinal, physical)

Just as technologies change during the design-evaluation life course, users' needs change over time & a challenge is finding ways for research and development to understand & respond to these

4.2.6 Methodological Challenges

Practical, attitudinal and ethical challenges to conducting research in people's homes (obtrusive). Ethnographic methods developed in workplace research may not be appropriate in the home setting Just as technology can enable users it can also be the cause of disablement and low self-concept (dependency)

Need for new methods of user-engagement & user-evaluation

Poor stakeholder communication/mutual understanding – client, developer, researcher (also different users/stakeholders)

Different incentives e.g. of developers (commercial models) & evaluators which can compromise the quality of evaluation (and hence design). Need for interdisciplinary working

Considerable overlap in methods & concepts across developers and researchers (e.g. in healthcare) – promote shared language & joint working

4.3 Facilitators for Home Care Technology

Reduce /eliminate cost (McNab)

Stakeholder Engagement (David Boddy and McGee-Lennon) Education and awareness (Nigel Barnes and Clark and McGee-Lennon) Integrated care provision and budgets (Barnes) Large scale trials Whole System Demonstrators Development continuum All discipline collaborations

- Target the right users...Are we targeting the right group of users?
 - Should we adopt a longer term view?
 - Today's users •
 - Embedded within system
 Complex cases
 Technology unaware
 - Tomorrow's users? ٠

 - More acceptingSelf managing
 - Technology aware

4.4 Stakeholder Group Questionnaire

Group	Category	Experiences of working with other stakeholder groups			
1	"Players"	Interesting Different experiences/ideas useful useful to get up to date information [useful] getting information on using the technologies for different client groups			
2A		Unaware of level of technology available in market today very person centric approach very frustrated with lack of framework to deliver appropriate services very aware of barriers of [???] systems - which would prevent routes to market/delivery we need to high [???] and benefits Vs technology features Stakeholders looking for solution nowtechnologists generation ahead Is technology always a solution?			
2B	Service Managers	Strong personalities made it difficult to be heard Personalised agendas of individuals no problem in each person being heard Good to share different perspectives on situation / case study			
3A	OTs	Came hoping to get information Different priorities Wherever in the process is different Multi-agency assessment			
3B		Important that users are at the centre of assessment process users should be at centre of social network assessment process to include all relevant disciplines (social, medical, technical)			

4	Service Users	 For a straight of the straight of			
5	Researchers	Too much 'today' - not enough 'tomorrow' Need to look to the future more Need more research into what the problems are Need to recognise diversity Need to predict future lifestyles and issues Researchers need to change start viewpoints - not technical - as this can avoid current issues Other stakeholders need to know what is [technically] available Need to look at new uses for existing technology			
Group	Category	Differences between stakeholder groups			
1	"Players"	Yes Technologists look at it from the technology side and practitioners see the assessment first before considering the technology Different levels of technology depending on where you are Some practitioners are unsure of what is available The main differences of HCT is not about the HCT but more about the ethics around consent and the purpose of using information collected from technology			
2A		Developers look at needs of groups of people (to make it cost effective) Carers (e.g. social workers) look at individual needs (to make it meaningful) Technologies are part of overall care model we sell solutions - should be toolkit Carers not really aware of how to maximise technology into solution responsibility of individual is a care manager and it is key that technology providers work with them to position technology appropriately in the [care] model			
2B	Service Managers	YES Business perspective Cost benefits Varying knowledge of what assistive technology is available Those suggesting assistive technologies should be aware of assessment process and what's available			
3A	OTs	YES Technologists think more about implementing the technology and the wonderful things it can do OTs think about how it can help more			
3B		Home care staff see it as a possible threat to jobs Medical staff see assessment as social work task			

		GPs appear lukewarm about telemedicine Mixed response from service users - some very positive			
4	Service Users	YES We all have pre-conceived ideas			
5	Researchers	Researchers work from the top down - is this the wrong way? Is their a middle ground between bottom up and top down design? There is a need for continuity			
Group	Category	Advantages working with other stakeholders			
1	"Players"	holistic approach multi-disciplinary approach better understanding of respective roles Increases trust between partners			
2A		understanding barriers understanding [???] systems understanding way systems need to [???] Real need for intervention is [???] just technology Processes and procedures to be removed more complete system understand the complexities around delivering individual healthcare Insight to background issues			
2B	Service Managers	Gives a better understanding of needs Flags potential Issues More readily Stakeholders need to be in the process Should get better information Ideas sharing Service user involvement can be promoted			
3A	OTs	Get a workable / useable product			
3B		If more people design the HCT the more likely to encourage it's use More people designing HCT will ensure that it's useful in helping a user			
4	Service Users	it brings viewpoints together makes you aware of things you did not know before (legal issues, economical aspects etc.) sharing the legal side of things especially			

		Different viewpoints Gain focus on real cases and scenarios - more accurate
Group	Category	Disadvantages working with other stakeholders
1	"Players"	Too many viewpoints can delay consensus Too complicated hidden agendas Who shares the information How objective is the process with the companies producing the technology/equipment
2A		Slows process up Stops innovation speaking different language and this can lead to confusion Fear, uncertainty and doubt about role of technology and impact on jobs unrealistic requirements - want to get them to [???] functionally
28	Service Managers	Individuals have their own agendas Some stakeholders lack of understanding of process can inhibit constructive discussion which may lead to realising outcomes Too large a group can become inhibiting
3A	OTs	Differences in opinion wrong group of stakeholders would equal not good system
3B		Trying to meet everyone's expectations runs the risk of meeting none and being very expensive and creates delays
4	Service Users	power struggle between each of the stakeholders fear to expose knowledge against people's knowledge
5	Researchers	It is very difficult Different languages Different Issues
Group	Category	Missing stakeholder groups?
1	"Players"	Users More health professionals Housing professionals

2A		Clinical NHS input Allied health care groups Technologists in NHS Environmental control BSc health group (health informatics) Telehealth community
2B	Service Managers	Service users People who use the technology People who don't use the technology
3A	OTs	Service Users Didn't get a list of all the attendees
3B		Budget holders Users and their social networks
4	Service Users	Specification of "service users" could have been made If you are planning to employ AT as tools for cognitive training you need to include neuropsychologists
5	Researchers	Carers and cared for (not just the elderly) were under-represented Future users

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Group	Category	Barriers to HCT
1	"Players"	Money
	-	Education/knowledge
		fear
		Acceptance
		Responsibility
		Joint working
2A		Technology providers need to take more ownership of understanding the support infrastructure the technology requires
		Current work practices
		Training
		The way technology is integrated into systems - the NHS model
	Service	
2B	Managers	Lack of knowledge / understanding
		accessing equipment
		assessment tools cannot be a replacement for people who have a

		working knowledge of the technology available and how it works Service users perceptions of their own care needs do not always match that of the assessor
3A	OTs	Finances
3B		Government cut backs Evidence of cost benefits Lack of understanding of implementation issues
4	Service Users	costs acceptance by the users (e.g. elderly) who don't think they need AT Technical issues of ASR, Speech Synthesis etc. AT aren't personalised enough to be easier to accept
5	Researchers	Ways of thinking Lack of consistency (assessment, advice, technology)

Group	Category	Change to remove barriers
1	"Players"	Training Knowledge and education Involving more professionals (GPs etc) Joint working
2A		Total restructure of the NHS Pro-longed co-operation between stakeholders pressure to standardise systems fast track assessment process Education across all carers programmes Communication channels strengthened
2B	Service Managers	Awareness raising Ongoing training for assessors

		more money more trained staff
ЗА	OTs	Increase in resources - money and technology
3B		More informed decisions made by involving front line staff More education about the potential of equipment by interactive websites
4	Service Users	have technologies available for hire rather than buy where possible, present AT to relatives - it is them that might be able to convince the real users that AT are useful / needs etc for them try to come up with products designed to be easily personalised
5	Researchers	Ways to interpret between thoughts Provide common guidelines

4.5 Summary of Main Findings

Home care technology solutions should not be arrived at within a vacuum, and the importance of multiple stakeholders collaborations to help identify issues and work towards appropriate technology solutions was explored. While the stakeholder panel was beneficial to highlight the main issues faced by each stakeholder group in the design and implementation of AT – opportunity for panel question....but in larger workshop group perhaps inhibition to raise issues. this was information giving. Whereas the collaborative design exercise also gave an opportunity for awareness building between participants within the groups. For example, an intervention/ solution that would benefit one stakeholder group many negatively impact upon other stakeholder groups. Exploration of requirement issues that are interrelated across stakeholder groups can also be identified.

The individual's needs come first, technology comes second. Determining those needs is what is really tricky, and the information that can be given in a short case study is often insufficient. Technology needs to fit into assessment procedures, and the mapping between particular individual needs and recommended technologies need to be clear.

Barriers

Firstly there is the ceaseless question of cost benefit. There is a lack of quantifiable evidence for the benefits offered by the deployment of home care technologies that is attributable to the technology itself. This is due to various factors; the small scale of telecare trials is often cited but there are also more complex issues such as the need to change care provision practices to accommodate the use of technology. The resultant changes in practice are often beneficial in their own right and hence the benefit from technology cannot be shown in isolation. This leads to difficulties in creating a business case for the technology investment. However this does offer an opportunity; most would agree changes in care delivery practices are required and the introduction of technology may be used as a spur to necessary change.

The other complexity with cost benefit is related to integrated care provision. Telecare is typically seen as a social care (community alarm) technology and yet one of the greatest potentials it has is in a preventative role to detect, for example, changes in behaviour that may be indicative of a change in wellbeing. In this role the benefits stack up heavily in favour of health care services with little additional benefit to social care. Telecare should therefore be seen as both a social care and health care service that requires integrated working and budgets.

The second area I shall briefly mention is the need for education and development along the 'supply chain'. There is a need to raise awareness of the short term and longer term capabilities and benefits Telecare may

offer throughout all stakeholder groups. We should move beyond Telecare being seen by care providers purely as what they can buy today from community alarm manufacturers. End users and providers should be educated to be able to request what they really want and need, with manufacturers and researchers working together to develop and bring to market those solutions for today and tomorrow.

4.6 Future Plans

Flexible integration of technology (both existing technology and technological advances) with integrated models of care delivery.

Importance of working with care researchers and health psychologists to achieve holistic picture and address management-level barriers.

ISCED LEVEL 3

5 Appendixes

5.1 Workshop Flier



5.2 Delegate List

Surname	First Name	Position	Organisation	City	Category
Anderson	Sandy				Research/Cared
Bhachu	Amrit	Research Assistant	University of Dundee	Dundee	Health/research
Barnes	Nigel		BT Exact		Tech/Res/Des
Bissell	Rona	OT	NHS Tayside	Dundee	Health
Boddy	David		University of Glasgow	Glasgow	Policy
Cassidy	David	Services Manager	Glasgow City Council	Glasgow	Tech/Social
Cavina	Laura			Edinburgh	Cared
Clark	Julia	Research Fellow	University of Stirling	Stirling	Research
Cleary	Chris	Social Care Organiser	Dundee City Council	Dundee	Social
Docherty	Liam	Research Student	University of Stirling	Stirling	Research
Duncan	Alan		Dementia Support Project	Glasgow	Policy/Social
Forsyth	Molly	MECS	Falkirk Council	Falkirk	Social
Gil	Nubia	Research Student	University of Dundee	Dundee	Research
Gray	Margaret	Informal Carer		Borders	Cared
Hatton	Eve		SURE	Stirling	Tech/Research
Kominos	Andreas	Lecturer	Caledonian University	Glasgow	Research
Lang	Alistair	Services Manager	Glasgow City Council	Glasgow	Tech/Social
Laughlan	Alison		North Lanarkshire Council	Motherwell	Social
Leavett	Rosie		Age Concern Scotland	Aberdeen	Policy
Lesslie	Karen		Dundee City Council		Social
MacIntyre	Geraldine		The Highland Council	Fort William	Social
MacKenzie	Moira	Telecare manager	Joint Improvement Team	Edinburgh	Policy
Madden	Joan		The Highland Council	Fort William	Social
Magill	Evan	Lecturer	University of Stirling	Stirling	Research
Martin	Chris	Research Assistant	University of Dundee	Dundee	Research
McDade	Elizabeth	Development worker	VSA Carer Centre	Aberdeen	Cared
McGee-	Marilyn	Research Fellow	University of Glasgow	Glasgow	Research
Lennon McLoughlin	Donna	Head Occupational	NHS Tayside	Dundee	Health
McNab	Kathryn	Team Leader OT	West Lothian Council	Edinburgh	Social
Murray	Pauline	Housing and Social work Dept	Falkirk Council	Falkirk	Social
Ohare	Robert	Information Officer	West of Scotland Seniors Forum	Glasgow	Cared
Pagliari	Claudia	Senior Lecturer	Primary Care, University of Edinburgh	Edinburgh	Health/Research
Pollard	Amanda		North Lanarkshire Council	Motherwell	Social
Smart	Gayle		The Highland Council	Fort William	Social
Sproul	Debbie		North Lanarkshire Council	Motherwell	Social
Thomson	Grace	Project Manager	Glasgow Social Work Dept	Glasgow	Social
Wang	Feng	Research Associate	University of Stirling	Stirling	Research
Webster	Billy	Social Care Organiser	Dundee City Council	Dundee	Social
Wignall	Bernard		Halliday and James		
Wolters	Maria	Research Fellow	University of Edinburgh	Edinburgh	Research

5.3 Budget Summary

Lloyds TSB Foundation for Scotland donated, and The Royal Society of Edinburgh awarded £2500 for the running of the workshop.

5.4 Agenda

09:30 10:00	Registration Overview of Workshop Introduction to the MATCH project	
10.15	Stakeholder Experiences with Home Care Technology	
10:30	Stakeholder Panel	
	Stakeholder-Inclusive Design of Home Care Technology	
11:35	Introduction to Design Exercise	
12:00	Lunch	
12:30	Design Exercise in Mixed Stakeholder Groups	
14:00	Coffee Break	
14:15	Group Presentation of Design (5 mins per group)	
15:15 16:00 16:30	Stakeholder Group Discussions <i>(separate)</i> Lessons Learned (report back per stakeholder group) Workshop Ends	

5.5 Design Exercise

A Company has commissioned the manufacture of a system to support older residents living at home with care needs. Your job is to serve as consultants to the development team. You must provide a report outlining the main features of the new home care system. You have been provided the following scenario:

"Sheila and Charlie are both 72 and live an active life in their own home. Sheila has developed arthritis and is finding it difficult to operate devices due to mobility problems. Charlie on the other hand is still very agile but has increasing difficulty remembering things – especially remembering appointments and sequences of actions required to operate things around the house. Charlie also has his blood pressure checked regularly by the community nurse when she visits their home or at his own GP. Friends and family often pop by for visits. Lately friends and family and even the community OT have mentioned home care technology and how it might help both Sheila and Charlie and keep them as active and independent as they would like".

This design exercise should be carried out in your mixed stakeholder groups.

The aims of the exercise are to:

- Come up with a concept/idea/prototype for home care technology
- Collaborate with a variety of stakeholders to try to reach a negotiated solution

• Reflect on the design process when multiple stakeholders are involved

The output should be a prototype or ideas that you can present or pitch to the rest of the groups later this afternoon. You can do this presentation how you like but it should only take a few minutes to communicate all your main ideas.

For your group presentation you should consider the following:

Each group should clearly present their concept/prototype/idea by:

- Giving details of design decisions made (even ideas that were rejected)
- Describing the collaborative design process followed

NB - To structure the exercise you should to address the following main issues:

- Identify the 3 most important functions/services the system should provide
- List three problems you anticipate that the project might encounter trying to design and implement your idea
- Rank the following issues (you can of course add your own) in order of importance for the success of the system: Aesthetics, Cost, Ease of use, Functionality, Obtrusiveness, Privacy, Reliability, Security, Others.....

If you have time you may also want to:

- Name your product
- Sketch a rough prototype of the device(s) or system
- Come up with an advertising slogan
- Describe how you will market it

Stakeholder Category:

What were your experiences of working with other stakeholder groups towards producing a solution in today's design exercise?

Do you think there are any differences in between stakeholder groups and their conceptions of home care technology?

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What *advantages* do you see in different stakeholder working together in the design of home care technology?

.....

What *disadvantages* do you see in different stakeholder working together in the design of home care technology?

.....

Were there any stakeholder groups that were not represented at this workshop?

.....

What do you think the current barriers are to the successful implementation of home care technologies?

.....

What changes do you think will have to be made for these barriers to be removed?

.....

5.7 Workshop Photos



Marilyn McGee-Lennon (University of Glasgow) introducing the workshop aims



Margaret Gray (end user), Kathryn McNab (West Lothian Council), David Boddy (University of Glasgow), Claudia Pagliari (University of Edinburgh) and Nigel Barnes (BT) participating in a panel discussion



Breakout group including Evan Magill (Stirling) and Nubia Gil (Dundee) from MATCH



Andreas Kominos (Glasgow Caledonian University), Marilyn McGee-Lennon (University of Glasgow) and Julia Clark (University of Stirling) presenting results of stakeholder design exercise