

Post Implementation Review- Care OnLine

Dr David Poulson, Zaheer Osman, ESRI

1. Executive Summary

1.1 Introduction

Care OnLine (COL) has been a two year pilot project finishing in June 2003, exploring the use of Internet based technology to support care service delivery to elderly and other vulnerable people in the Market Harborough district of Leicestershire. By the end of the project COL had succeeded in installing 39 computers in volunteers own homes, and in addition supported another 11 volunteers with their own computers. There were also an additional 26 users at 5 locations with shared computer access.

1.2 Strategic Issues

This project fits in well within national and local e-Government strategies. The use of ICT to reduce exclusion and to provide stimulation and improved quality of life is now central to national policies. The project is also in line with wider policies aimed at promoting independent living and the empowerment of individuals, and would fit in well with the future re-shaping of home care service along these lines. The project fits well into the Better Care Higher Standards Charter (2000-2002) for Leicestershire in that interagency working is promoted by the COL project, and in addition the project helps people to be as independent as possible, and providing access to information.

The project has also changed the way that Leicestershire Social Services think about providing services to the public and has identified the desirability of supporting service users at their point of need rather than convenience to service provider. The project has been of considerable value in raising the awareness of disability issues within the County Council, and bringing accessibility issues into the forefront of Council thinking.

Findings - Strategic Issues

- Pilot projects have a role to play in exploring future scenarios for service provision. However, there is also a danger that they can get tied up with unwieldy agreements and bureaucracy. Pilot projects should therefore move towards establishing more informal agreements between agencies.
- The project lacked a champion in some of the organisations involved in the project, and this may have limited the involvement of these agencies. This may well be a reflection of COL initially not being seen as a core project by all the partners involved.
- The project would have benefited from a clearer vision of the shortfalls in existing service provision, and areas where service improvement were needed
- The cost savings aspects of the COL project are virtually impossible to estimate within the constraints of a pilot study. Many of the potential cost savings relate to

improved service efficiency between partner agencies, and this in turn relies on a critical mass of users and service providers to be connected to the COL system.

1.3 Partnership / Project Management

The COL partnership has been led by Leicestershire County Council and has involved collaboration between Leicestershire Social Services, Harborough District Council, and The Melton, Rutland and Harborough Primary Care Trust. Other long term partners in the project have included MOSAIC (formerly the Guild of Disabled People), South Leicestershire Council Voluntary Service, the software developer Sopra Group and ESRI (The Ergonomics and Safety Research Institute) at Loughborough University. The project team has consisted of Project Manager (drawn from a social services background), Technical project manager (Project management, consultancy and IT background from outside Local Government), IT Trainer, and project administrator. The project team have followed a well recognised project management methodology (PRINCE2), and have been trained in its use. The project has also been steered on a day to day basis by a Project Board and at a more strategic level by a Strategic Management Group.

Findings- Partnership Issues

- The COL project has illustrated the complexity of developing multi agency partnerships, and the difficulties of reaching agreement. Legal issues such as partnership agreements need to be resolved early on in projects, as otherwise they continue to be debated throughout the life of a project.
- The project has been of value to Leicestershire Social Services in demonstrating how charities can be effective partners in social service initiatives. Further discussion is needed to develop effective ways of involving charities. Consideration needs to be given to what additional funding might be needed for project specific activities (e.g. attending meetings, carrying out project work etc).
- A technical partner with a proven track record was selected to work on the project, and this proved to be an effective strategy.
- It is important to ensure that before a project starts there is a clear understanding of how mature each of partner organisations are in the use of technology.
- Limited involvement of service users took place in developing the project, and this could have been a more structured activity in order to reach common agreement between the agencies involved. One mechanism that could be explored for future developments are technical project workshops, focussed on reaching consensus between interested parties

Findings- Management/ Design Issues

- It has proved to be a very effective strategy for the COL project to employ a full time project team working solely on the COL project.

- It has proved to be an effective strategy to have the project lead by service professionals rather than by IT. Having separate project and Technical managers has worked well in this case.
- Following the PRINCE2 methodology has proved to be an effective replacement for the Managing Smaller Projects methodology mandated in the PID.
- User involvement has been an important part of the COL project, ranging from the involvement of charities in the steering of the project direction, and consultation with potential end users throughout the development process.
- A rapid prototyping or RAD approach to design was adopted by the project and was considered essential given the project timescales and costs. This has worked well and all parties have been satisfied with this. However this has been a departure from the more traditional and formal approaches to design used by the County, and further discussion is required in house to reach agreement on the appropriateness of this approach, its strengths and potential weaknesses.
- It proved difficult for service users to indicate requirements for products and services and their input proved to be more useful in the trial phase of the project when they were able to provide more structured feedback.
- Early consideration needs to be given as to how project closure will take place. This includes the sustainability of projects and disposal of equipment.
- There was mixed opinion as to the value of adopting a management structure based on a Project Board and Strategic Management Group, and there were some practical difficulties due to membership of these groups not being optimal.

1.4 Evaluation

The bulk of the projects evaluation work took place as late as possible in the project (April-June 2003) in order to maximise volunteers experience of using COL. However throughout the life of the project other expert and user based evaluation activities took place.

Findings- Evaluation

- Evaluation has taken place throughout the life of the project as part of an iterative development cycle and this has worked well.
- Within the constraints of a pilot study evaluation has been by definition relatively short in duration. It is considered important to assess the long term impact of the COL project, as even at the end of the project many volunteers were still learning to use the computer and receiving training support. For this reason it is recommended that some post implementation evaluation take place with volunteers some time in the future
- The evaluation has included limited objective information, and in hindsight there was a need to plan well in advance how objective usage statistics could be gathered. In

retrospect early discussions should have taken place with the Internet service providers regarding the feasibility of account monitoring.

1.5 Service provision in the home

The project has demonstrated that electronic service provision in the home is possible, and that the Internet is a viable mechanism for providing access to services for elderly and disabled clients. The PC has proved to be the most effective means of delivering these services. Attitudes to the project and the COL website have been very favourable;

- 97% of volunteers reported a favourable or very favourable experience with the COL project.
- 69 % of the volunteers said that they had no prior intention to connect to the Internet and would have not got connected without the COL project.
- 76% said that COL had made a positive impact on their daily lives.
- 58% volunteers perceived that COL also had a positive impact on people close to them
- 94% rated the website as either reliable or very reliable
- 91% reported a high level of level of satisfaction with the COL website
- The majority (88%) found the information useful
- All of the volunteers found the information on COL clear to read
- 50% of volunteers said that they used the Internet almost everyday

Some of the reasons to why COL had a positive impact are listed below:

- Access to a lot of useful information – makes users feel secure and independent
- An excellent hobby and interest – especially for users with problems getting around
- Allows social interaction – users have made new friends and met new people through COL and the Internet
- Keep up to date – many of the older volunteers felt that knowing about the Internet and information through COL has made them feel like they have something in common with the younger generation (i.e. grandchildren)
- Enhances communication – can write both via email and using a word processor
- Increased motivation – for users who live alone COL has proved to be a lifeline and a reason to carry out daily activities

The COL project has demonstrated that for a significant number of disadvantaged clients, access to the Internet and e-mail services has the ability to transform their lives, providing a new interest, reducing social isolation, and providing a much needed contact with the outside world. A number of people who would otherwise have not gained access to the Internet have been stimulated to become computer users. It is also significant that out of the 50 remaining

home volunteers (two were lost due to bereavement), only 1 has elected not to continue now that they have to pay for access to the Internet. Seven volunteers have also elected to keep the second telephone line specifically installed to allow them Internet access in the project.

Findings- Service Provision in the Home

- TV Internet technology was explored as option in the project in order to reduce the costs of COL service provision, but proved to be an immature technology to use. Current technology imposed significant limitations on the web pages that could be accessed via such means, and poor product reliability also proved to be a limiting factor in its use
- The COL website has proved to be a valued resource, particularly for those users with higher levels of disability. However it also has to be acknowledged that for volunteers in COL, providing access to computers has been the most significant benefit of the project, enabling volunteers to access the Internet and e-mail services.
- COL may be of limited benefit to some users, unless a variety of age ranges and interests are covered. Currently COL appears as being primarily targeted at the older computer user.
- More interactive services are likely to be needed in order to sustain long term use, along with the need to deliver services/information that would be difficult to obtain otherwise e.g. those not available through friends and family.
- Volunteers in COL have set up several informal e-mail and discussion groups, but more assistance could be provided by the COL project in this area. Mechanisms that could be explored in this context would be to support web site development by volunteers, and to help volunteers set up their own chat rooms.
- Volunteer confidence proved to be an important factor in computer usage, with some volunteers showing very low levels of confidence in their abilities. Considerable effort is therefore needed in providing reassurance and encouragement for some volunteers as well as developing the practical skills needed for access.
- The results indicated that whilst confidence in using computers was generally high within the COL sample, there was a significant effect of age, with the younger volunteers being more confident in use than their more elderly counterparts. Volunteers over the age of 40 were significantly less confident.
- A number of volunteers had their own computers prior to the COL trials, but there were very few differences between them and those volunteers provided with computers as part of COL. There was some indication that attitudes towards computers were slightly more positive amongst those volunteers who owned a computer prior to the project, but apart from this there was little difference between the two groups.

- There was evidence that many of those with their own computers needed considerable levels of support. Prior computer ownership amongst volunteers was therefore not a good predictor of their training needs.
- The COL project made a decision not to exclude volunteers motivated to take part in the project. This placed a support demand that was difficult to satisfy, with some volunteers having a continued need for support throughout the life of the project and beyond.
- The project has clearly demonstrated that the capabilities of users should not be underestimated, as with a suitable investment, those who are suitably motivated can be facilitated to become computer users even if they have significant levels of disability. However;
 - Many volunteers lack confidence and will need long term support and encouragement in order to learn to use computers.
 - Considerable time may be needed for users to learn the basic skill they need to access a computer, and this is likely to be particularly the case when specialist software is also needed
 - Low levels of literacy and cognitive skills were clearly a counter indication for independent usage, along with living alone or not having access to visitors who can provide assistance when needed. This may be a significant barrier where COL is extended to include volunteers with English as a second language.
 - It is relatively easy to support volunteers who have single impairments, and for whom suitable specialist adaptations can be found. However, Supporting people with severe disability requires specialist knowledge and it is unrealistic to expect that one person can provide the range of support provided to deal with all types of disability.
 - The project bought in specialist training services where needed, and in some cases a number of days of specialist training was required. The feasibility of providing this level of support in a wider implementation needs to be explored, as this was a cost intensive exercise within COL.
- It is important to consider the role of family members and friends in facilitating or discouraging usage. In a number of cases the person with a disability may not be a direct user, even though they are the primary recipient of its benefits. For this reason the usage context as a whole needs to be assessed rather than focussing exclusively on the individual receiving services.
- The decision was made in the project to cover all of the costs of Internet access for volunteers for the duration of the trials. This was considered important to ensure that service cost did not impinge on volunteer's motivation to experiment with the system, and proved to be an effective strategy in stimulating usage.

- It is estimated that approximately 1/3rd of the volunteers were operating their computers with less than ideal working postures. Guidance on this topic is considered important to include in the future.
- Most volunteers used the COL computer in an appropriate way, but there were some exceptions, highlighting the need for an acceptable use policy. Whilst machines were protected to some extent by anti virus software from the most serious consequences of misuse, further education of users was clearly needed.
- There is a need for an Advice/Support Centre where future computer users can get advice about computers and software, as people lacked basic advice on computers and adaptations. It was suggested that such an advice centre should be considered in a future project in this area.

1.6 Service Provision at Managed Schemes

The provision of computers at shared use locations has also been a positive experience for residents, notwithstanding that individual usage has been somewhat variable, with usage at one scheme in particular tailing off during the life of the project. By the end of the project it was calculated that there were 26 users at the five schemes, out of the 38 who had involvement in the project. In addition two participants had purchased their own computers as a result of taking part in the project and finding that they had a need for a computer.

The majority of people concerned (residents and managers) saw the value of having Internet and e-mail access at these schemes, and in no case has there been a desire to remove such access once installed.

Findings- Managed Schemes

- Individual usage at the managed schemes has been somewhat variable, with usage at one scheme in particular tailing off during the life of the project. It has proved difficult to identify the primary reasons for this. Explanations include;
 - a lack of need on the part of some volunteers to use computers
 - differences in the quantity and quality of support provided at the managed schemes compared to volunteers own homes.
- Support at the managed schemes was more group based, allowing individuals less time to practice using the computer with the support of a trainer. More reliance was also placed on a third party trainer to provide training, and this was of a more general nature rather than being specifically concerned with access to COL.
- The important role of scheme managers in promoting computer use was also identified. Whilst scheme managers were generally motivated to take part in the project, they lacked the time (and in some cases the skills) to support users effectively.

- Dial up services proved to be too slow at managed schemes. This in part was due to the lack of choice over when to use the dial up services, with Internet access slowing down considerably during the day. Broadband connections were therefore installed at two of the schemes
- Projects may need to consider providing complete services (installation of PC, provision of furniture, connection to Internet, specialist adaptations etc). Some minor problems were experienced due to unsuitable furniture being used, and poor location of equipment. Whilst accessibility was generally high, an adjustable height table to allow wheelchair access could be considered.
- Care is also needed to ensure that computers are located in places that facilitate usage, and it is important that practical implementation issues such as additional telephone lines and specialist furniture are considered.
- Shared usage limited the opportunities that individuals had to practice using computers, and was not an ideal scenario for long term usage. Lack of privacy in using shared computers was also highlighted as a possible limiting factor.

1.7 Use by Service Providers

COL explored the use of Internet based technology with service providers, developing a secure messaging system to improve communication between the different care agencies involved. This service was developed late in the project, and at the time of evaluation had relatively few users

Findings Care Staff Usage

- Usage of COL by care staff has been relatively low, and the demands of existing work made it difficult for care staff to explore the COL development. This was compounded by the COL service not being seen as being core or central to existing work practices.
- COL was seen as providing additional indirect benefits to Leicestershire Social Services in that it had established in house experience on accessibility issues and how to provide services in the home that could be applied in the future. This experience was also seen to be valuable in organisations learning how to support own staff with disabilities.
- Access to secure messaging services is likely to benefit service providers considerably, and there is universal agreement amongst service providers that these would be useful. However as noted, critical mass of users will be an important factor in its take-up. In addition ease of use and access to technology will also be critical determining factors. Integration with existing e-mail services is also clearly a preferred option for future developments.

- Videotelephony was a technology that was to be explored within the original COL bid, but was excluded for reasons of technical feasibility. Developments in broadband communication make it appropriate to reconsider the use of such technology in supporting future service delivery.

1.8 Support/ Training Issues

The project has demonstrated that it is possible to support users with a high degree of dependency in their own homes by one to one training. At the start of COL the degree of support that would be required to support service users in their own homes was not known, and one trainer was budgeted within the project. Training at shared usage schemes was group based rather than being one to one sessions.

Findings- Support/Training

- The COL project has revealed that many users required training in basic computing skills such as mouse and keyboard usage, and switching machines on and off. One way of optimising the limited resources in the project could therefore have been to delay setting up online connection to the Internet until users had achieved a certain level of competence in using the computer.
- A wide range of materials are available providing general introductions to computer usage and it is therefore not cost effective to develop these resources. It may therefore have been more cost effective for the COL project to provide volunteers with a suitable textbook, and focus the development of training materials on those aspects specific to COL.

Findings- Support in the home

- A personal and somewhat informal approach to training has taken place at volunteers' homes, and the personality of the trainer is likely to have been a significant factor in the success of this approach. Selection of trainer for their caring attitude is therefore likely to be a significant as their technical skills in providing support to users.
- It is estimated that a full time trainer could only support approximately 30 volunteers at any one time, based on the expectation that approximately four volunteers could be assisted every working day, and that some time would also be needed for administrative activities. The geographic dispersal of volunteers within the county was clearly a factor in this as well, with time being needed to travel from one volunteer to another as well as the time needed for training sessions .
- Analysis of training data revealed that older volunteers also required significantly more training sessions than their younger counterparts. Volunteers received on average 12 hours training each, but the amount each person required varied considerably. On average those over 60 required nearly twice as many training sessions as their younger volunteers.
- A small number of volunteers required a disproportionate quantity of the resources available to the project in terms of continued need for training, specialist adaptations, and support. Whilst this strategy was possible to explore within a pilot study, it is clearly not sustainable for a larger scale project. Strategies to explore for dealing with this include;
 - Establishing some minimal selection criteria for whether a person is likely to benefit from such a scheme and can be supported within the constraints imposed.

- Imposing some limit on the support resources to be allocated to each individual, with some formal review process being established for reviewing individual cases when these resources have been exceeded.
- Volunteers valued being given a training certificate at the end of the project.

Findings- Support at Managed Schemes

- It was reported that training at some managed schemes could have been made more interesting and motivating for users. The focus was on COL rather than basic computing skills and there was also an emphasis on serious applications for users. Motivation to learn could be facilitated by exploring with user what they would like to do with the computer, and adjusting training accordingly.
- Group training sessions with users sharing a machine did not work particularly well as it gave limited opportunities for individuals to try things out for themselves. There is therefore a need to ensure volunteers are trained as individuals rather than as a group (each volunteer should have access to their own PC if group training takes place).
- It had been anticipated that users trained to use COL at managed schemes would support others in learning to use the system. This proved to be a somewhat naive assumption within the constraints of a short term project, though by the end of the pilot this had started to take place at one location. This indicates that facilitating computer usage by this means is likely to be a slow and long term process, unless the volunteers concerned already have some prior computing experience.

1.9 Portal Development

Volunteers have praised the quality and content of the COL website, and the demonstration portal has been developed to follow high standards of accessibility.

<http://www.leicscareonline.org.uk/careonline/default.asp>

This has been largely achieved with the site exceeding the minimum W3C conformance levels. An iterative approach to development has also been followed, leading to its refinement throughout the life of the project.

Usage statistics have revealed that the COL site was being accessed in excess of 1000 visits per month from the UK, and in the last three months of the project averaged over 40 visitors a day.

Findings- Portal Design

- Whilst current usage of the COL information service remains high, it is considered likely that it will drop over time for individual users unless more interactive services requiring repeat visits are developed. However, the importance of the site as a starting

point for further web browsing should not be underestimated as the COL site is a 'safe haven' for users, providing them with a safe environment to develop their skills and explore further web surfing.

- The strategy of content being developed by a small project team is not sustainable. Strategies therefore need to be developed to ensure that up to date and accurate information can be provided by external agencies
- There was some evidence that developing a text only version of the site created some difficulties for subsequent development. It may have been a more effective use of resources to develop a single accessible site for all users rather than a text only version (particularly as considerable design effort was invested in making the main site accessible).
- A number of aspects of web accessibility are open to debate and these need to be discussed further within Leicestershire County Council to ensure that a County wide perspective is taken on accessibility issues.
- Responsibility for content should be transferred from the central team to relevant services. This will become increasingly important if the project is extended to other partner authorities in the Leicestershire area
- The portal is not readily visible to potential users who are not already aware of its existence and location. Whilst such promotion was not explicitly part of the COL pilot, it needs to be considered in the future.