

Commentary

Obstacles to adopting access grid technology in UK primary care research networks

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The electronic Primary Care Research Network (ePCRn) is a collaboration between the universities of Birmingham, UK and Minnesota, USA, that aims to develop software for the recruitment of subjects for and management of trials in primary care. Over the past three years this collaboration has been facilitated using the Access Grid (AG). Weekly team meetings have been held face to face across the Atlantic, enabling far richer communication than audio alone. In fact it would be hard to imagine how the project would have progressed without this facility. The US Federation of Practice-Based Research Networks (FPBRNs) have also taken up the challenge of AG for their weekly director's meetings, but in the UK AG remains very much a tool for computer science departments in universities, and has not been widely taken up. It is worth considering why this might be and whether the obstacles are insurmountable.

The Technology Acceptance Model¹ is an extension of Fishbein's Theory of Reasoned action.² It postulates that actual system use will be determined by behavioural intention to use, itself determined by perceived ease of use and perceived usefulness. In the case of AG, existing technologies (the phone and travelling for a face-to-face meeting) have a very widespread use and perceived ease of use. AG, and similar Video Over Internet Protocol (VoIP) services have many barriers to surmount before they will be perceived as easy to use as the telephone. Nagykaladi *et al* describe many of these barriers, in particular the need to negotiate a way through firewalls and institutional security policies. In addition, running a personal AG node requires a knowledge of drivers, audio device settings etc that would be well outside the familiarity of an average PC user.³

An alternative strategy is to invest, not only in the hardware, but in the expertise required to install and maintain it. Within the context of a high-profile international project, this is not a major issue, but

with research networks and practices, this can present an insurmountable barrier. In the USA, the much larger distances preclude frequent face-to-face meetings, without adding the additional factors of carbon emissions and the sheer hassle of flying with today's security problems. AG offers a much richer experience than a phone conference, with the ability to share presentations and documents, as well as picking up non-verbal cues essential to proper discourse in a larger group.

Within the UK, the NIHR National School for Primary Care Research is now supporting the development of the ePCRn in the UK. As part of this, the use of VoIP for training and supporting practices over a network would be advantageous. We have conducted some experiments with VoIP via the Universities Joint Academic Network (JANET) and the NHS N3 network. Firewalls, lack of adequate bandwidth to many practices, lack of multicasting and poor IT support in practices are currently insurmountable problems. In future, the development of telemedicine services that require a better infrastructure may enable use of VoIP for research purposes. At present AG will likely remain a tool for managing regular meetings between research groups with well-supported infrastructure in universities.

REFERENCES

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- 3 Nagykaladi Z, Fox C, Gallo S *et al*. Improving collaboration between primary care research networks using Access Grid technology. *Informatics in Primary Care* 2008;16: 51–8.

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