

Foot and Mouth Disease: Informing the Community?

Briony J Oates

University of Teesside, Middlesbrough, United Kingdom

B.J.Oates@tees.ac.uk

Abstract

The 2001 foot and mouth disease (FMD) outbreak in the UK had a significant impact on the economic and social well-being of rural communities. This paper examines the FMD pages of four local government websites in Northern England: Cumbria, Durham, Northumberland and North Yorkshire County Councils. Each county was badly affected by FMD. The contents of the FMD webpages are analysed and compared: which audiences were addressed, what information was provided or omitted, and how well the audiences' needs were met. The study shows the breadth of audience types and information that *could* have been included, but no site covered all the necessary angles. Furthermore, the websites did little to address the psychological problems arising from FMD or to enhance participation and democracy in their local communities. By examining how the councils informed those affected, lessons can be learnt which are relevant to any future disruption to a community.

Keywords: foot and mouth disease, websites, World Wide Web.

Introduction

On 20 February 2001 foot and mouth disease (FMD) was confirmed in animals at an abattoir in Essex, UK. The suspected source was soon traced to Northumberland, but by then the highly infectious disease had already spread to much of England, Wales and Southern Scotland, and the outbreak is believed to be the worst ever in the world. Infected animals and those on neighbouring farms were slaughtered, animal movements were severely restricted, footpaths and visitor attractions were closed, local government elections planned for 3 May 2001 were postponed, the General Election was, allegedly, similarly postponed, community and major sporting events were postponed or cancelled, and the Army was called in to organise the slaughter and disposal of animals in the "biggest peacetime logistical challenge" it had had to face (the Prime Minister, quoted in the Daily Telegraph, 4 May 2001, cited in Lowe, Edwards, & Ward, 2001). As at 9 October 2001 9515 farms had had their livestock compulsorily slaughtered, over 5.5 million animals had been killed and 139,000 farms had been in designated Infected Areas, prevented from moving animals except for slaughter (DEFRA, 2001b, p. 13).

At the time of writing (late February 2002) the last known FMD case in the UK was on 30 September 2001. It therefore appears that the outbreak is now over, although its effects are still being felt, and it is time to ask what lessons can be learnt. Comparisons have been made with the last major FMD outbreak in Britain in 1967 (e.g. DEFRA, 2001a) and commentators have questioned whether lessons were learnt

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from then. One difference between 1967 and 2001, however, is the existence of the Internet and World Wide Web, offering a new means of informing people about a complex and changing situation. This paper therefore examines the websites of four local government institutions in Northern England: Cumbria, Durham, Northumberland and North Yorkshire County Councils. Each county was badly

affected by FMD. It examines which audiences were addressed, what information was provided or omitted, and how well the audiences' needs were met. It also discusses what information was not provided, and how the sites could have been better used to offer psychological support and as tools of e-democracy. By examining how the councils communicated with and informed those affected, lessons can be learnt which are relevant to any future disruption to a community.

Background Context

As noted above, the first case of FMD was confirmed on 20 February 2001. A ban on meat and live animal exports was imposed on 21 February and severe restrictions on animal movements (including a total ban for 10 days) were introduced on 23 February. Unfortunately, the disease had already spread widely, so that the number of cases reported daily continued to rise, reaching a peak of 50 new cases in one day on 28 March (DEFRA, 2001b, Annex D). Animals with the disease, and those on neighbouring farms, were slaughtered and either buried or burnt.

To help prevent the spread of the disease, the government and farmers' organisations asked people to keep away from the countryside and to be wary of holding countryside events or opening visitor attractions if there was any risk of contact with livestock. Local authorities (such as county councils) were given powers to make blanket closures of all footpaths in their area, which were quickly implemented. By early March almost all paths were closed, including those in towns and across woodland or arable land, which posed no risk to livestock (DEFRA, 2001b, pp 25-26). Most visitor attractions in the countryside were closed, as were car-parks, lay-bys and picnic-sites, to further discourage visitors. People duly stayed away from the countryside.

Initially FMD was seen, therefore, as an animal health problem, but the response to it as such quickly led to a significant impact on activities other than livestock farming, especially countryside recreation and tourism (DEFRA, 2001b; Devon, 2001; Haskins, 2001; Lowe et al., 2001). When the wider impact on the rural economy was recognised, the Government and other agencies changed their advice, saying, "the countryside is open", and that only paths passing across farmland where animals had been infected need be closed. However, many local authorities were slow to re-open footpaths, perhaps wanting to be ultra-safe (DEFRA, 2001b, p. 27), and some visitor attractions were also slow to re-open. Tourists, both foreign and domestic, were still put off visiting the countryside, by worries there would be nothing to do, by fears of catching FMD themselves (which was highly unlikely) and by TV and newspaper pictures of huge pyres of burning animals (DEFRA, 2001b; Lowe et al., 2001).

Many non-farming businesses have therefore been adversely affected, particularly those in the tourism sector (e.g. pubs, hotels and restaurants, stately homes and other visitor attractions) and those which depend on access to the countryside (e.g. fishing waters, riding stables, tackle shops, outdoor clothing manufacturers and saddlers). The effect on farming and these businesses then had a knock-on effect on other businesses which serve them, such as plumbers, painters and decorators, car and machinery suppliers, livestock hauliers, laundry services and food wholesalers (Countryside Agency, 2001; DEFRA, 2001b). Estimates suggest the cost to the national economy is over £3 billion (DEFRA, 2001b, p. 12). Rural economies in general, and hill farming of sheep and cattle in particular, were in trouble before the FMD outbreak, so that the impact on people living and working in the countryside has been very painful (Haskins, 2001, p. 4). Furthermore, the impact on those living and working in the countryside was not just financial but also psychological, as they saw animals culled and transported away, or buried or burnt, farmers and businesses suffering and their way-of-life significantly altered. For example, in March 2001 the Rural Stress Information Network took 2,700 calls, compared with 143 in March 2000 (Countryside Agency, 2001, p. 40)

County councils are the highest tier of local government in rural England (major towns and other parts of the UK have different systems). Their responsibilities include education, social services, planning, high-

ways and transportation, housing, leisure and amenities, environmental issues and generally promoting and developing the local economy. During the FMD outbreak their additional responsibilities included deciding on the closure or re-opening of footpaths and car-parks, installing disinfectant mats on roads and issuing animal movement licenses. County councils therefore were the only bodies with accurate knowledge of the FMD and footpath situation in their area – the websites of government agencies and tourist information organisations could only provide links to the county council websites for up-to-date information on open and closed footpaths. County councils also had a duty to promote and develop the economic and social well-being of their communities, parts of which were suffering badly, as this section has explained. This research examined the websites of the four neighbouring and northernmost counties in England: Cumbria, Durham, Northumberland and North Yorkshire, to see how they used their web sites during the FMD outbreak, which audiences were addressed, what information was provided or omitted, and how well the audiences’ needs were met.

	As at 11 Aug 2001		As at 23 Feb 2002	
	Number of FMD outbreaks	Last outbreak	Number of FMD outbreaks	Last outbreak
Cumbria	839	11 Aug 2001	893	30 Sept 2001
Durham	92	03 June 2001	85	04 Sept 2001*
Northumberland	56	22 May 2001	88	29 Sept 2001
North Yorkshire	133	07 Aug 2001	133	29 Sept 2001
UK	1941	11 Aug 2001	2030	30 Sept 2001

Table 1: FMD outbreaks

(Source: DEFRA: UK Government’s Department for Environment, Food and Rural Affairs – www.defra.gov.uk)

* Apparent reduction due to DEFRA recalculation.

The worst outbreak of FMD was in Cumbria (nearly half of the UK cases), but the other three counties studied here were also badly affected (see Table 1). Areas hit within these counties are particularly dependent on countryside tourism, such as the Lake District in Cumbria, the North Pennines Area of Outstanding Natural Beauty in Durham, the Northumberland National Park, and the Yorkshire Dales and North York Moors National Parks in North Yorkshire. However, this paper will show that although these counties were similarly affected by FMD, their council websites varied greatly in the audiences addressed and the type and amount of information provided.

Before turning to the analysis of the websites, the next section explains the research method.

Research Method

The study can be seen as four case studies using electronic “documents”, i.e. publicly available webpages, as the data resource. Each county council website had a link on its homepage to its FMD pages. This link was followed, and all the subsequent pages analysed. However, it is inherent in the nature of the Web that one page can have links to another, which can have links to another, and so on, meaning that an analysis of one website could potentially lead to an analysis of the whole World Wide Web. To avoid this, only the pages hosted by a county council were analysed, links to other sites were not followed.

Websites change frequently. The FMD situation was also changing, as new cases were reported or new paths opened. This posed problems for an analysis of websites that might require several weeks. All four

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websites were therefore examined and copies taken (paper and electronic) on the same day: 11 August 2001. This date was chosen because:

- By that date the FMD outbreak had lasted almost 25 weeks, so that the websites should have been well-established.
- It was known that the footpath situation was still complex, indeed Durham opened a fresh batch of footpaths only on 11 August 2001 (linked to the grouse shooting season starting on 12 August). Each county still had a mixture of open and closed footpaths.

The main research questions driving the research were:

- Which FMD-affected audiences were addressed by each site?
- What information was provided for each audience, and what omitted?
- What general lessons could be learnt?

Analysis of Websites

Analysis of the content of the FMD websites showed five different types of audience were addressed: *farmers, walkers, other visitors, local business owners* and *other members of the community*. The information provided for each type is discussed below. Three councils, Cumbria, Durham and Northumberland, also had *message boards*, enabling members of the public to exchange their own views, experiences and knowledge. These are also discussed below.

Cumbria

Farmers

For farmers Cumbria provided links to the DEFRA (UK Government's Department for Environment and Rural Affairs) website pages on biosecurity and the animal movements license schemes. For road safety reasons, farmers were not allowed to place disinfectant mats on main (A or B) roads, only on C or unclassified roads. Only Cumbria provided information on how to do this, including the size of mat needed and appropriate warning signs. If this information was not provided by the other three councils by any other means, then mats might have been poorly placed or signposted, with possible danger to road users. No other information was provided for farmers on Cumbria's website, despite the county having the highest number of infected farms in the UK.

Walkers

Unlike the other counties, Cumbria had already opened to walkers large areas of open fell. Initially this was via 29 disinfectant and fell-access-points (from early June), but from 1 August this restricted access was relaxed and three large fell areas and most of their access-points were re-opened. Cumbria provided maps showing the areas of fells where path closures had been lifted. There was also a database of open and closed paths throughout Cumbria, which could be queried by users via a clickable map and a form-based query. This query form allowed users to check details of paths using any combination of a range of attributes: owner, type, category, location, length, status, start point grid reference and end point grid reference. Further information on Cumbrian footpaths could be found via the discussion forum on footpaths (see below). Cumbria did not provide suggestions of road-based walks ('tarmac tourism') as alternatives to walks using footpaths, but perhaps did not need to because it had re-opened so much of its countryside. Its footpaths information was last updated on 6 August 2001 and was therefore fairly up-to-date.

Other visitors

For non-walkers wishing to find out what visitor attractions were open, Cumbria just provided links to other agencies, such as Tourist Boards and the National Trust.

Businesses

Cumbria provided a lot of information for the tourist industry and other affected businesses. This information had been produced in conjunction with a local accountancy firm, but it was provided on the Cumbria website, i.e. readers did not have to leave the site to access it. Standard letters were provided, with the names and addresses of appropriate recipients, for people to download and customise, to apply for deferment of rates payment, to change the accounting year end for tax purposes, and to request deferment of tax and National Insurance contributions. Two “Business Survival Toolkits” were provided, one specifically for tourism businesses and one for other types of business. These gave advice on, for example, the financial help available, cashflow management and costs control, alternative marketing strategies during the FMD outbreak, and the legal position if guests wished to cancel their holiday or if staff had to be laid off. A pro forma spreadsheet, with guidance notes, was provided for business owners to produce a cash flow forecast. Guidance was also provided on carrying out a risk assessment to judge whether a visitor attraction could be safely opened to visitors. This included a decision flow chart and a risk checklist for completion, and encouragement to discuss with others affected in the local community any plans to re-open.

Other community members

Cumbria gave advice for schools, explaining in which circumstances staff or children might need to be excused attendance. Cumbria also provided a summary of sources of financial advice for residents affected by, for example, being laid off from a job, such as the Government’s Jobseekers’ Allowance and crisis loans via the Citizens Advice Bureau. Further advice was provided to members of the public in the vicinity of FMD confirmed cases. This explained the (low) health risks to humans, when to cancel community events, and suggestions of how to support farmers e.g. by a telephone call or arranging to do shopping for them. There was also health and safety information, offering fact sheets and risk assessments concerning working on FMD sites, cleansing and disinfecting, and working with pyre ash (from the burning of carcasses). Information was also provided from the Department of Health about measures to minimise risks to public health from the slaughter and disposal of animals. This was supplemented by information from the local department of public health, with weekly updated data showing its monitoring of the incidence of gastro-intestinal infections, which might increase because of the burial of animal carcasses.

Message boards

Cumbria’s website had three FMD discussion forums: ‘access issues’ (footpaths, sites and roads), ‘economic issues’, and ‘other issues’. As at 9 October 2001 the access forum had received 852 messages, the economic issues forum 48 and the other issues forum 35.

The forum for walkers was clearly the most well-used. Participants were local residents, visitors and those considering visiting the area but worried about the FMD situation. Messages posted included:

- Asking whether a planned route was feasible.
- Asking whether off-road walks were possible in particular areas.
- Asking whether it was possible to avoid seeing pyres of burning animals.

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- Arguing about the need for path closures and discussing the lack of evidence that walkers provided any risk.
- Alerting others to farmers' home-made, illegal 'path closed' signs.
- Querying why particular paths were still closed.
- Suggesting areas where blanket closures could now be lifted.

The forum was also used by members of Cumbria's FMD Task Force, who could, for instance, inform participants about planned path openings before they became official. Officials from DEFRA, the Veterinary Service and other public authorities were also known to 'lurk' on the forum, so participants felt they could seek to influence their future plans. Messages posted indicate that its users found the forum a useful way of obtaining up-to-date, accurate information and sharing views.

The other forums were less well used. Messages included debating whether vaccination was appropriate and the difference in compensation for farmers and other businesses.

Summary

Cumbria therefore concentrated on providing information for walkers, business owners and other members of the community. Farmers and non-walking visitors were not well-served.

Durham

Farmers

Durham provided an annotated list of sources of help for farmers (25 entries). The list was wide-ranging, including sources for financial grants, advice, health support and counselling. However, Durham provided no other information for farmers.

Walkers

For walkers Durham provided a map showing two areas: "Almost all paths open" and "Exclusion zone: limited opening of paths across non-agricultural land" (e.g. woodland). This map was of too small a scale and was too vague to allow walkers to plan routes. As at 11 August 2001 55% of the Durham footpaths were claimed to be open, but the website did not provide a database or other means of finding out *which* paths were open. No tarmac walks were suggested. Its footpaths information was last updated on 9 August 2001 and so was up-to-date.

Other visitors

For other visitors Durham provided a list of *open* visitor attractions. However, this could cause confusion for visitors: was an unlisted attraction definitely closed, or just overlooked? The information was last updated on 17 July 2001 and so might not have reflected the current situation.

Businesses

Business owners were only provided with brief explanations of the 'rates relief for business' schemes, and the grants available from the Rural Business Recovery Fund, administered by the relevant Regional Development Agency, to help small businesses recover and rebuild after the FMD outbreak.

Other community members

Durham provided similar information to Cumbria regarding FMD's effects on schools. Somewhat bizarrely, it also provided three pages on its policy during the FMD outbreak regarding grass-cutting on school playing fields and verges and on highway construction and maintenance. This amount of information contrasts sharply with the lack of information or advice for, for example, local businesses. One explanation could be that the grass-cutting information was already available in electronic format and so easily incorporated into the website, whereas information for businesses was not readily available. No other information was provided for other members of the community.

Message boards

Durham's message board was called a 'guestbook'. It provided a facility for queries to be posted, with each receiving a reply from the web administrator. It was not, therefore, a forum for Durham people to communicate with each other. As at 11 August it had received 20 messages, none mentioned FMD.

Summary

Durham therefore provided only limited information for each type of audience, and no proper discussion forum.

Northumberland

Farmers

Northumberland provided no information for farmers.

Walkers

For walkers Northumberland provided a small-scale map showing "Areas where paths are open" and "Areas where most paths remain closed". This map was clickable, to enlarge to a segment of the Ordnance Survey map indicating areas of blanket closure. Again this was not detailed enough for walkers to plan routes. Some tarmac or open-footpath walks in Northumberland were suggested. Its footpaths information was last updated on 9 August 2001, so was up-to-date.

Other visitors

For non-walking visitors a full list and description of other visitor attractions in Northumberland, and their open or closed status, was provided, last updated 10 August 2001. There were also pages on cycling, riding, fishing, riding and sailing in Northumberland, but these sites did not mention FMD and the possible associated curtailing of such activities.

Businesses

Northumberland provided no information for affected businesses.

Other community members

Northumberland provided no information for other members of the community.

Message boards

Northumberland's message boards were not hosted directly by the council's website and so, strictly speaking, were outside the scope of this analysis. (They were divided by town or district (e.g. the Alnwick forum and the Lindisfarne forum) or by topic (e.g. employment vacancies or free classified advertisements). There was a section for 'sports and recreation' but this had only two forums – football and computers as a hobby – it was not used for walkers. On the boards only two postings were found which mentioned FMD but it was not the main focus of the messages.)

Summary

Northumberland therefore provided limited information for walkers, plenty for other visitors and none for other types of audience.

North Yorkshire

Farmers

North Yorkshire provided a number of pages of information for farmers, including how to protect their farms, how to inspect sheep for signs of FMD, how to protect the welfare of cattle under FMD movement restrictions and information on the license arrangements for moving livestock. Information was also provided for dog and horse owners, which could not catch FMD but could help to transmit it.

Walkers

For walkers North Yorkshire provided a map showing areas where all paths were closed and those areas that were "Open or being re-opened". Again, this information would not have been adequate for those trying to plan a walk. North Yorkshire did, however, provide details of over 20 walks on country lanes and re-opened footpaths, with details of public transport where available. Its footpaths information was last updated on 25 July 2001 and so was not up-to-date.

Other visitors

No information was provided for non-walkers on visitor attractions in North Yorkshire.

Businesses

North Yorkshire provided a 7-page guidance leaflet for owners of public and private amenities, explaining what precautions should be taken and in what circumstances the amenities could be open to the public. It also briefly explained that business rate payers could apply to defer or restructure payment of their rates bill, or claim hardship relief on the whole of their rates bill. A brief summary was also given of the help available via the Government's Small Firm Loans Guarantee scheme.

Other community members

North Yorkshire provided the full text (four pages) of a letter from its Chief executive, dated 6 July 2001, arguing against the government's planned revocation of blanket footpath closures. Whilst the argument may have been logical, inclusion of the letter on the website conveyed the message that walkers and footpath reopenings were not welcomed in North Yorkshire. This would be a source of dismay to walkers and tourism businesses, but probably reassured the farmers of North Yorkshire worried about possible risks from walkers. Including it did perhaps help to convey an impression of 'openness' by North Yorkshire. No other information was provided to other community members.

	Cumbria	Durham	N'land	N. Yorks
Farmers	Limited	Limited	None	Plenty
Walkers	Plenty	Limited	Limited	Limited
Other visitors	None	Limited	Plenty	None
Local business owners	Plenty	Limited	None	Limited
Other members of the community	Plenty	Limited	None	Limited
FMD discussion forums	Yes	No	No	No

Table 2: Amount of information for each type of audience

Message boards

The North Yorkshire website had no message board.

Summary

North Yorkshire therefore concentrated on information for farmers. There was little or none for other types of audience.

Discussion

Looking at the sites overall helps to convey the range of audience types and the breadth of information that *could* have been provided during the FMD outbreak. The amount of information provided for each audience type is summarised in Table 2. Clearly Cumbria provided the most information and Northumberland the least. However, no site provided plenty of information for all of the audiences.

Even though the FMD outbreak was initially seen as a farming problem, only North Yorkshire provided plenty of information for farmers. Walkers could gain the most information from Cumbria's site, and other visitors from Northumberland's. Walkers and other visitors will visit areas where they are confident of being able to do what they want to do. By not providing adequate information for walkers, it is likely the other three counties lost walkers to Cumbria. Similarly, the other counties could have lost other types of visitor to Northumberland. Lack of information provision can thus have an impact on a county's businesses. Reports into the FMD outbreak have highlighted tourists' and tourist related businesses' need for up-to-date information. For example:

“The difficulty that visitors experienced in obtaining detailed, accurate information – and the reluctance of many people to travel without it – was a significant lesson from the epidemic. In the early stages many information sources – including helplines – were vague and unsatisfactory. This resulted partly from absence of up-to-date information in a fast-moving situation, but was also because systems were not geared up to provide it.” (DEFRA, 2001b, p. 37)

As a result the UK's Countryside Agency is currently working on general standards for presenting footpaths information. Cumbria offers a good example.

It is well recognised that the FMD outbreak had a major impact on rural businesses, but only Cumbria offered them plenty of information. The other three councils did not use their websites well to support their local economy. Similarly, only Cumbria provided plenty of information for other affected members of the community (except Durham's grass-cutters!)

So far the analysis has concentrated on the information that *was* provided somewhere, but what was missing overall? There was very little content about *psychological support* to cope with the loss of animals and businesses and the distressing scenes. Almost all of the information was of a factual, often financial, nature (e.g. sources of financial aid). Cumbria did suggest people could contact farmers to offer support. Durham did provide a link to a self-help leaflet concerned with coping with stress, but this was “off-site” and the link was broken. It is the county councils who are responsible for the provision of social support services to their community (not, for example, the National Health Service). It is disappointing that the social services departments of the councils did not use the websites to help people cope. They could, for example, have provided advice on simple relaxation techniques, coping with insomnia or nightmares, and explaining slaughter and death to children.

Walkers used Cumbria’s ‘access issues’ forum for self-help: asking for and giving information about the paths situation and discussing the risk posed by walkers, even making initial plans for mass ‘trespass’. The other discussion forums could have been extended to provide a self-help virtual ‘place’ for community members to offer and receive support, possibly anonymously (see, for example, Burrows, Nettleton, Pleace, Loader, & Muncer, 2000). However, little evidence of this was found. Some contributors to Cumbria’s forums complained about their financial or otherwise distressing situation, and others would reply with a message of support, but nothing further. It seems social workers from the council were not reading the messages. If they were, they could have posted replies about sources for coping. They could also have posted messages encouraging social support through, for example, experience sharing and giving each other motivational support (Moursund, 1997). The councils did not therefore use their websites and message boards well to support the emotional and mental well-being of their community members. Equally, the community members chose not to use the message boards in this way.

Nor did the four councils use their websites as a means to *increase democratic debate* in their community. The information provided followed the official Government line without offering alternative views. For example, many people were questioning whether the animal culling policy was the best one, and whether vaccination would be a better strategy. However, the websites had no discussion of, or links to, the arguments for and against culling or vaccination.

The councils also did not use their websites and ICT to *encourage active citizenship*, finding ways to engage and empower their community, by, for example, soliciting views and recording preferences about issues (for similar findings on parliamentary websites see Taylor & Burt, 2001). For example, it has been noted that UK tourism needs stronger and more coherent voices (DEFRA, 2001b). A county could have used its website and message boards as tools of e-democracy to develop the ‘voice’ of the tourist businesses in its community. Only Cumbria’s ‘access issues’ forum demonstrated both community participation and opportunities to influence public policy. If we take levels of governance as information, communication and participation, then the sites concentrated on information provision, with some communication channels (except North Yorkshire) and only limited participation. Similar findings concerning lack of interaction and openness have been found in national-level public agency websites around the world, suggesting the Web is viewed primarily as a publicity outlet, not an interactive means of service provision (La Porte, Demchak, & Friis, 2001).

Since the WWW and websites are still new, it is not surprising that they were not used to their full potential. Research indicates that the longer a country’s public agencies have been on-line, the more likely they are to be more transparent and interactive (La Porte et al., 2001). It has also been suggested that public agencies have tended to look to the websites of commercial organisations for exemplars, which are not always appropriate for them (La Porte et al., 2001). However, the sites might have been improved over time if the web developers had *sought feedback* from their audiences. Each site had a ‘contact us’ button on its home page, but there was no encouragement to use it on the FMD pages. The discussion forums provided a possible feedback mechanism, but other on-line possibilities include questionnaires and virtual ‘interviews’ and focus groups.

It must be remembered that there were many other websites with information or discussion forums about FMD. However, some information, particularly up-to-date information on footpath closure or re-openings, was *only* available from the county councils. County councils also have a statutory duty to support the economic and social well-being of their communities – they cannot just leave this to other websites. It must also be recognised that councils' web sites were not their only means of providing information and support, other means included via the telephone, leaflets or face-to-face. However, websites do offer a relatively cheap, quick and effective means of providing up-to-date information and support which can be accessed at a time of the reader's choosing, rather than that of the information provider. Of the four sites examined Cumbria's was the best example of what could be done, but its site still had much room for improvement.

Conclusion

This paper has summarised the 2001 FMD outbreak in the UK and its impact. It has described a study of four county council web pages on FMD, analysing which audiences were served, what information was provided and what was omitted. The study shows the breadth of audience types and information that *could* have been included, but no site met the information needs of all the audience types. In particular, there was little attention to meeting the psychological needs of the communities and to enhancing democratic debate and active citizenship by making the websites tools of e-democracy. The work is significant in highlighting how websites were used, and also how they could have been better used, to inform the four communities in Northern England.

Each county had the same role and faced the same FMD problem, yet the websites were all different. The analysis therefore demonstrates that the use of technology cannot be inherent in the technology itself, but must depend on the social or organisational context (Bijker, Hughes, & Pinch, 1987). Previous research has shown that the nature of public agencies' websites is also strongly affected by the personality and political acumen of the web developer (La Porte et al., 2001). Further research could therefore use interviews with the organisational members of the four counties, to investigate the social and political context of development, which may explain *why* the sites were as they were.

Communities could face similar crises to the FMD outbreak in the future – for example, further disease outbreaks (animal or human), or biological or nuclear terrorist attacks. County councils would again be responsible for, and have detailed knowledge of, road and path closures, and emergency planning and operations in their area. Websites can provide a mechanism for communicating quickly dynamic information to a variety of audiences. Each council needs, however, to recognise where its information provision was inadequate on this occasion, and ensure that provision of information via its website is included in its contingency planning for the future. Council website developers should also be encouraged to find a mechanism for sharing best practice in the design and content of their sites.

However, the mere provision of information is not enough. The councils could go further and use their websites to provide support and enhance democracy in their communities. As Brigadier Alex Birtwhistle, the commander of the troops supervising the FMD animal slaughter and disposal strategy in Cumbria, said on BBC radio (Birtwhistle, 2001):

“We need to connect with people, not just communicate, *connect* ...”

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Biography

Briony J Oates holds a BA (Hons) in the humanities, an MSc in Information Technology, and a PhD in Information Systems. She is a Senior Lecturer in the School of Computing & Mathematics, University of Teesside, and a member of CIRA, Teesside University's Community Informatics Research and Applications Unit. Her research interests include theoretical and methodological aspects of systems development, especially the development and evaluation of interpretive methods for systems analysis and design and for web development, community informatics and e-democracy.