

The Use of Social Media by UK Local Resilience Forums

Julia Meaton¹
The Business School
University of Huddersfield
Queensgate
Huddersfield
West Yorkshire
HD1 3DH
j.meaton@hud.ac.uk

Lisa Stringer
Public Health England
Northern EPRR Team
Blenheim House
West One
Leeds
LS1 4PL
lisa.stringer@phe.gov.uk

ABSTRACT

The potential uses of social media in the field of emergency preparedness, resilience and response (EPRR) are varied and interesting. The UK government have produced guidance documents for its use in the UK EPRR field but evidence of use is poorly documented and appears sporadic. This paper presents the results of a survey of Local Resilience Forums (LRF) in the UK on their use and engagement with social media. The findings suggest that the level of application of social media strategies as emergency planning or response tools varied significantly between the LRFs. While over 90percent of respondents claimed that their LRF used social media as part of their strategy, most of this use was reactive or passive, rather than proactive and systematic. The various strategies employed seem to be linked most strongly to local expertise and the existence of social media 'champions' rather than to the directives and guidance emerging from government.

Key words:

Social media; Local Resilience Forums; crowdsourcing; crowdmapping

¹ Corresponding author

INTRODUCTION

Social media is a rapidly developing communication tool that has become embedded in society, culture and everyday life (Paslawsky, 2012; Hughes & Palen, 2009). Individuals, groups, businesses and organisations use social media to collaborate and share various types of information. The number of people who now carry a phone or device capable of capturing images and connecting to the internet is growing, making anybody carrying such a device a potential 'reporter' with a far reaching internet audience. The power to capture information and share it in real time has been demonstrated on many occasions in recent times, during disasters such as Haiti, and in times of political and social change, such as the Arab Spring (Cottle, 2011). When governments place bans on live reporting and censor the mainstream media, social media provides a platform where information can still be shared (Doyle et al, 2013) and some argue that social media's greatest contribution to modern democracy has been in making information so readily available (Allafrica.com, 2012).

The potential for using social media in the field of emergency preparedness, resilience and response (EPRR) is broad and far reaching, providing opportunities that include assisting during the mitigation, response and recovery phases.

Palen et al (2009) point out the significance of photographs taken by eyewitnesses and shared using social media on disaster response are no longer regarded as personal accounts but as evidence that is often requested by formal disaster response agencies. During emergencies the public actively seek information and the photographic evidence posted on image sharing websites such as Flickr can help people to make sense of the event. The photographic image itself can become a 'community' where people come together to share and comment on the content. Tobias (2011) emphasises the power of the eyewitness 'citizen reporter' who will usually be at the scene of an incident long before the traditional media (and even emergency services) arrive. For example, the iconic photograph taken of the plane ditching in the Hudson River and tweeted within minutes of the incident helped to provide information about the incident before the emergency services or the media arrived. Such citizen reports can involve large numbers of people and are capable of covering large geographical areas out of reach of conventional media

reports (Heinzelman & Waters, 2010), something recently witnessed in the hunt for the missing aircraft MH370) where a crowdsourcing platform was activated and the public were asked to scan satellite images to assist in the search for the missing plane. Within the first hour 60,000 people visited the site (The Guardian, 2014).

The process of collecting information and presenting it geographically has been termed 'crowdmapping'. Software has been developed to assist in the process, born from the earlier deployments of Google maps (and others) that were then utilised within the social media community to create a representation of events. The information is often displayed in the form of flags displaying the location of the incident/source on a map. Software has been created to do this in a structured and controlled manner, with Ushahidi being one of the most widely used platforms (Ushahidi, 2012). Such 'Crowdmapping' was demonstrated following the incident at the Fukushima Nuclear Power Plant where radiation maps were produced in Japan and the US (Saenz, 2011). In Oregon, USA, when a web developer heard a loud 'boom' he created a Google Map and asked people to plot on the map what the explosion had sounded like from their location. Within an hour 100 people had placed colour coded pins on the map representing the various noise levels heard within the area. The police were able to use this information to identify the source of the noise, an exploded pipe bomb (Tobias, 2011).

Health organisations have widely used social media as a tool to broadcast public health messages and to educate the public. The Centres for Disease Control & Prevention (CDC) in the USA recognise the potential of social media to 'expand reach, foster engagement and increase access to credible, science based health messages' (CDC, 2010, p.1). Although social media is widely used for seeking out information relating to health, examples of cases taking full advantage of iterative social media to improve public health are few. However, some epidemiologists are attempting to use social media monitoring for accessing additional sources of data relating to flu-like illnesses (Corley et al, 2010). Health professionals at CDC have also used the online virtual world, Second Life, to facilitate training on H1N1 virus and to simulate mass prophylaxis sites and distribution of materials following an Anthrax attack (Crowe, 2011). Vance et al (2009) also discuss the use of Second Life for providing health support and advice to patients. More

conventionally social media can be utilised by health organisations to target specific groups. For example, a forum frequented by parents could be targeted as a community who may benefit from specific health advice relating to child immunisation.

The opportunities offered by social media as a 'two way operational tool' are great, but in the UK EPRR field there is a lack of evidence regarding the use of social media and it seems that there is limited recognition of its potential and poor understanding of the drivers (or barriers) to its greater utilisation.

SOCIAL MEDIA STRATEGIES

The success of social media use is dependent on a well-designed strategy. Crowe (2011) argues that social media has already impacted on emergency management and therefore it is imperative that emergency planning and response staff utilise the new technology in a proactive way. Lindsay (2011) states that while EPRR communities understand how they can develop strategies to harness social media that they also need to do so with some urgency. St Denis et al (2012) point out that as social media use grows in the public domain the pressure on emergency managers to use these communication channels for information distribution is also increasing. It is reasonable to consider that as social media becomes more embedded in society the urgency for the EPRR field to adapt its strategies for communicating with the public will increase. However, in developing a social media strategy, those responsible may face obstacles within their organisation at the strategic level.

Organisational 'buy-in'

It has been suggested that the effective utilisation of social media tools are dependent on leadership style (Denyer et al, 2011). Tobias (2011) suggests that a lack of organisational buy in could be due to a lack of confidence in the public generated information. Denis et al (2012) point out that adopting a social media strategy is challenging due to its steep learning curve. Tobias (2011) notes that emergency managers 'frequently mention methods for obtaining buy in from those in their organisations not familiar with social media' (p.220) which suggests that persuading the strategists within an organisation to develop social media plans may be difficult if the decision-makers do not understand, or are distrustful of the technology.

The UK Home Office have produced Social Media guidance documents such as the 'Social Media Guidance for Civil Servants' (Cabinet Office, 2012) and The Defence Science & Technology Laboratory (DSTL) 'Smart Tips for Category 1 Responders using social media in emergency management' (DSTL, 2012). Although this represents recognition that those responsible for EPRR would benefit from directives to standardise the utilisation of social media, it isn't a mandatory requirement for Category 1 responders.

Types of Strategy

Lindsay (2011) categorises the current use of social media into two broad categories, a passive approach to disseminate information and receive feedback, with this being the most common approach taken to date by emergency responders, and a second approach that involves the systematic use of social media as an emergency management tool.

The most obvious use of social media in relation to emergency management is to 'warn and inform'. As 60% of the public access the internet every day, social media tools should be used in every communications strategy for warning and informing the public. However, Edwards (2009) argues that EPRR can no longer just broadcast to individuals and communities and must instead devise strategies that are based on a two way model of communication that would allow iterative engagement. However, such developments require significant investment and Crowe (2011) found that small emergency planning departments may find it difficult to implement a full scale proactive social media strategy without additional resources. However, he also argues that the social media technology is a free resource which cuts out the 'middle man' (p.411) and could be an efficient way of maintaining and improving service levels where budgets are reduced. Further efficiencies could be made by recruiting volunteers to monitor social media during emergencies (Jennings, 2012).

THE CIVIL CONTINGENCIES ACT

The fields of social media and EPRR are both relatively new and developing arenas, and both are constantly changing to adapt to new emerging technologies and threats. In England and Wales, Local Resilience Forums have a statutory requirement under the Civil Contingencies Act 2004 which states that Category 1 emergency responders must:

"...establish and maintain effective multi-agency arrangements to respond to major emergencies, to minimise the impact of those emergencies on the public, property and environment, and to satisfy fully the requirements of the Civil Contingencies Act 2004". (Civil Contingencies Act, 2004) .

Part One of the Civil Contingencies Act also specifies that Category 1 responders have a number of duties with regard to civil protection, including to:

"Put in place arrangements to make information available to the public about civil protection matters and maintain arrangements to warn inform and advise the public in the event of an emergency" and to "Co-operate with other local responders to enhance co-ordination and efficiency" (Civil Contingencies Act, 2014).

The effective use of Social Media as a bi-directional tool has the obvious potential to assist Category 1 responders in their requirement to discharge the above duty to warn and inform the public. Barbier et al (2012) describe the technology as a facilitator of information sharing, interoperability and collaboration. Social media could therefore potentially offer major support for Category 1 duties. However, because the information generated by social media is unfiltered and not subject to the usual review, the public may not always get accurate and reliable information (Crowe, 2011).

Some organisations with an emergency response role are utilising social media platforms to develop strategies to broadcast their civil protection messages to the public, both in the planning and response phases. Organisations that monitor social media also benefit from the ability to correct any rumours or contradictory advice that may emerge following the broadcast of a public message. There is clear evidence that the potential exists for social media to assist during an incident response (Palen et al, 2009), and that utilising social media to engage with the public could provide a rapid understanding of a situation as it develops. However, Jaeger, et al, 2007) point out that before, during and after a major disaster, co-ordination of the response is difficult due to the number of individuals and organisations who work together and the interoperability issues that inevitably arise. For example, Barbier et al (2012) discuss the situation in Haiti when government and non-government organisations worked together but experienced difficulties coordinating the

response due to the lack of a common information system. This problem was initially addressed in the UK by the development of the National Resilience Extranet (NRE), which was established to facilitate information sharing between Category 1 organisations. However in order to use the NRE various licenses and training regulations had to be met and there was a danger that some responders would not have the experience or confidence to use the system in the event of an emergency. This has since been replaced by Resilience Direct, a network set up by the Cabinet Office, which has less barriers to its use. Nevertheless people using social media in their day to day lives maintain up to date knowledge of the applications and their developments without really thinking about it, and without the necessity of any training. Although information shared on social media may lack accuracy and privacy, the use of social media as a tool to share real-time, un-sensitive information between emergency planners could help them to co-operate and collaborate with each other.

PUBLIC EXPECTATION

The impact of social media on everyday life has led to the public anticipating that social media channels will be monitored by emergency response staff during an incident and in times of crisis. In America, a Red Cross survey (2010) found that 69 percent of those surveyed believed that emergency responders should be monitoring social media sites in order to deliver swift aid, and nearly half already expected that requests made via social media would receive a response. Tobias (2011) points out that there is an expectation amongst the public that information will be pushed to them immediately and Crowe (2011) found that they expect to get such information more quickly than through traditional channels. Since the public are now communicating with each other and sharing information in real time, there has grown an expectation that this will be the case in other aspects of their lives, including information from official channels.

In order to ensure that any information flow between official organisations and the public is trusted it is important to foster good relationships prior to any incident. Crowe (2011) discusses the long standing issues around trust and the public regarding information received from government representatives and explains that social media creates a higher trust factor for information, as people view and share information within their common

network of friends, contacts or organisations. Jaegar et al (2007) point out that trust in information sources will influence the level of participation and action taken in response. Van Velsen et al (2012) concur source credibility is important for information to be respected and acted upon. Barbier et al (2012) point out that the level of trust in social media posts could be determined by fellow user feedback, for example the 'thumbs-up' or 'thumbs-down' along with user comments. Boulos et al (2011) reinforce this finding and argue that reputation and trust, from and between emergency management personnel and members of the public providing data are equally important.

The public perception of how emergency response teams utilise social media suggests that responders must quickly improve their engagement with social media in order to ensure the health and safety of the public. Consideration should also be given to the actions that responders can undertake to improve the communities' ability to self-respond to an incident and protect life. Inspired by the fact that following the Kobe earthquake 80% of victims were rescued by family and friends, Jaegar et al (2007) discuss the concept of Community Response Grids as a method of increasing community resilience. Facilitating channels for providing information to the public to aid resident to resident assistance is an important avenue of improving the breadth of reach of any messages conveyed via social media.

METHODOLOGY

Since there is so much potential for the use of social media within the EPRR community, it is important to know what policies and practices already exist within Local Resilience Forums and their partners. An online structured questionnaire was distributed to all Chairs of the thirty eight Local Resilience Forums (LRF) in November 2012. The Chairs were asked to cascade the questionnaires down to LRF partners at their discretion.

The questionnaire contained two sets of questions - 'Questions A' and 'Questions B'. All respondents were asked to respond to 'Questions A' on behalf of their organisation, and LRF Chairs were asked to respond for their LRF also by completing 'Questions B'. The respondents were asked to submit their answers on behalf of the LRF where they were the Chair and also on behalf of their organisation. Asking only the LRF Chairs to submit on behalf of the LRF ensured that numerous responses were not received from each LRF

therefore potentially providing a misleading representation of LRF activity. The LRF Chairs were asked to forward the questionnaire to all of their LRF members in order to capture organisational responses. To ensure anonymity, but to gauge the responses geographically, the respondents were asked to log their LRF by region but not to identify the specific LRF.

The survey sought to identify the current use of social media within Local Resilience Forums and individual organisations in terms of:

- Communicating with the public
- Sharing information with partners
- Strategies being driven by the organisation or a local champion
- Social media monitoring
- Crowdsourcing

FINDINGS

There were a total of 63 responses and all were complete and included in the analysis. Due to the anonymity of the responses and the number of LRF in each region, it is impossible to determine exactly how many LRF are represented by this data, although it can be assumed that a maximum of 18 LRF are represented.

A significant majority of responders (75 percent) said that they use social media to communicate with the public, but only 35 percent use it to communicate with their partner organisations. Of those responding on the behalf of their LRF 40 percent were less sure about the social media monitoring strategy, with only 20 percent reporting that it is used.

The LRF responders also reported that the majority (60 percent) have a strategy for social media use during an incident response, 25 percent reported that their LRF does not have such a strategy and the remainder were unsure. Of those using social media during a response, the majority use it to both broadcast and monitor. What isn't clear is the detail of the monitoring strategy. This could be monitoring the responses to their own broadcasts, or monitoring what is being said regarding specific incidents or issues, or even to defer the monitoring and broadcasting back to the individual responding organisation.

Where it was reported that social media isn't presently used by an LRF, 50 percent answered that they are 'Not Sure' or 'No' when asked if they had plans to implement in the future. The responses received on behalf of partner organisations showed that the majority were not sure how social media was being used. Although it is unreasonable to expect that all staff within an organisation will be aware of the social media activity, it would perhaps be useful to ensure that LRF representatives are aware of any activity to allow them to effectively contribute to any future LRF strategy. Table 1 summarises how social media is used by the organisations in the survey.

Table 1: Use of Social Media in Organisations

| Social Media Activity | Yes | No | Not sure |
|------------------------------------|-----|-----|----------|
| Incident Response | 59% | 27% | 14% |
| Monitoring data | 37% | 19% | 44% |
| Broadcasting information | 92% | 8% | - |
| Provision of Social Media Training | 38% | 49% | 13% |

The survey responses suggest that the while most organisations are using social media as a broadcasting tool, far less are also monitoring the responses and providing training for staff. When asked what defines the organisational social media used, the majority cited the organisation, but a significant number (33 percent) stated that their strategy is driven by local champions or experts.

While the data collected via the survey identified some interesting patterns, there are several factors that should be taken into consideration when interpreting the results. Firstly the survey was voluntary and therefore not all LRF were represented. The LRF chairs / sub chairs are most often blue light responding organisations, and it appears that some LRF chairs submitted responses on behalf of the LRF themselves (without

disseminating onto colleagues). As such it is likely that the organisational response was not a balanced representation of the partner organisations.

DISCUSSION

This study has successfully identified a number of potential opportunities, issues and risks relating to the use of social media by the EPRR health community in England.

Although implementing a full scale social media policy to support EPRR would be a positive development, it is likely to be resource intensive. Realistic and manageable strategies, in line with the available resources need to be developed as poorly developed or unsupported strategies could lead to greater risks to public health and safety and could undermine the reputation of the organisation. Therefore it is recommended that social media strategies should be realistic and allowed to evolve incrementally, particularly where issues surrounding technological understanding are present. One approach could be to use the technology to 'Warn & Inform' in line with the Category 1 responder duty, while crucially ensuring that the expectations of the public are being met. Measures to address resource issues in more ambitious strategies could involve the use of volunteers as in the VOST project and during the crowdsourcing response to the Haiti earthquake (Jennings, 2012). It could be suggested that an LRF or EPRR organisation could factor monitoring and crowdsourcing into their social media strategy by implementing a similar volunteer team.

The study has evidenced clear benefits and the potential of crowdmapping within EPRR strategy, but the lack of implementation appears to be due to low levels of understanding by those responsible for developing the strategies. Confident use of the technology is important, as it would be risky to rely on the deployment of a system if the skills and knowledge required to utilise the technology were not evident in those required to use it.

The resources required to implement a social media strategy lie mainly in the form of people as opposed to purchasing additional physical technology. Many monitoring applications are free and have the potential to improve situational awareness for incident managers during a response. However, embedding these into existing plans will be challenging. The research found that social media champions are responsible for driving

approximately a third of the responding LRF strategies, which could reflect a lack of understanding by those involved in strategy development. To provide assurance, a social media strategy should not be dependent on the efforts and advice of local champions. These champions are important, but there needs to be a systematic method of cascading that information within organisations. Training is therefore a key issue that needs to be addressed before social media can be used reliably and effectively. It would certainly be a risk to rely on a strategy where those responsible were not competent or confident to follow the plan; equally it would be inefficient to train staff to use an infrequently employed technology that they may then forget how to use.

CONCLUSION

This study has found that the use of social media in LRFs has grown gradually and organically, reflecting the nature of the technology, which itself changes and develops on an almost daily basis. The study highlights the importance of individuals engaging with social media and identified champions as key drivers for its use. Since greater use of social media in all aspects of modern life will increase, the EPRR sector needs to engage with this rapidly evolving technology. There is consequently an imperative for LRFs, and their partner organisations, to develop strategies for enhancing social media competency. Although directives for such engagement should be top down it is important that they facilitate true engagement and allow LRFs to build their competence through training and day to day use. This will be best achieved if an evolutionary, bottom up approach is encouraged and supported.

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Julia Meaton is the course leader of the MSc in Risk, Disaster and Environmental Management and is co-director of the Centre for Sustainable and Resilient Societies at the University of Huddersfield. j.meaton@hud.ac.uk

Lisa Stringer is an Emergency Preparedness Manager based in the North of England. She has a background in IT which has framed her interest and approach to the application of technology in supporting emergency preparedness. lisa.stringer@phe.gov.uk