The social impact of land contamination: reflections on the development of a community advocacy and counselling service following the Weston village incident

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Abstract
Five years ago the village of Weston in Cheshire was affected by one of Britain’s largest community-based land contamination incidents. The need for some form of community-based service incorporating social support and advocacy was identified and North Cheshire Health Authority in collaboration with the local community trust developed an advocacy and counselling service within the village. This article presents reflections on this highly complex service by reviewing the Weston incident, its management and possible lessons for public health practitioners dealing with similar incidents.

Keywords: environment, contamination, community, stress

Introduction
Numerous qualitative studies have identified the wider health and social impact of environmental contamination incidents and the need for a broad public health response in managing such incidents. Studies have identified factors that make the experience of living in an environmentally contaminated community particularly stressful. These include lack of personal control over events and confusing, inadequate or contradictory information about the pollution and the possibility of lasting harm or damage.1 Trust in ‘experts’ and government bodies is eroded.2 Incidents have been found to put stress onto marital relationships leading to an increased number of divorces and to put strain on other relationships within the family and with friends, relatives and work colleagues.3 Individuals often experience depression, helplessness and ongoing worries about their own health and their children’s health.4–6 Parents often report feelings of guilt in raising children in an area which they think might damage their long-term health.7,8 Studies have also shown a relationship between stress and damaging health-related behaviour such as smoking, poor diets, alcohol consumption, illegal drug use and the prescription of anti-depressives drugs.9,10

Community problems, including open conflict, are also frequently reported especially when strong differences of opinion exist about the potential risk to health or about relocation and compensation issues.11,12

Fewer epidemiological studies of psychosocial effects of such incidents have been reported. One such study explored the psychological impact of the Three Mile Island accident and found that biological signs of chronic stress, including blood pressure and levels of urinary cortisol and norepinephrine metabolites, were present at much higher levels in those living close to the incident compared with a control group.13 They also found that the pattern of anxiety, poor concentration, and biological indicators of stress in community members affected only returned to normal 10 years after the accident. Similar results were obtained in a recent study in Uzbekistan.14

Much less attention has, however, been devoted to the sort of services that should be provided in areas affected by incidents to minimize the social and psychosocial impact. A report compiled by the Agency of Toxic Substances and Disease Registry highlighted the importance of an holistic response to community-based environmental contamination incidents noting that ‘indirect effects of hazardous waste exposure (e.g. cultural damage, socioeconomic impacts and psychological distress) may have more severe health effects than the chemicals’.15 Becker has argued that teams tackling environmental contamination incidents should include professionals who have an understanding of the psychosocial impacts of such incidents and the sort of assistance that can be provided,16 whilst Couch goes further by suggesting that assistance to communities...
should come in the form of advocacy, either employing someone to act on behalf of the community or providing community groups with resources so that they can obtain the necessary expertise themselves or develop advocacy skills within their own community networks.17

Previous research has identified where lay people have, in the face of environmental threats to health, actively engaged in the process of both resisting how professionals define the problem and shape solutions. Sometimes referred to as lay health advocacy, it is part of what Brown describes as ‘popular epidemiology’ whereby communities collectively utilize political, judicial and epidemiological approaches in order to challenge traditional public health responses to environmental health threats.18 Lay advocacy has in the past been used to gain governmental and medical recognition of unrecognized or under-recognized diseases19 in addition to identifying the role of aetiological factors in unrecognized diseases20,21.

**Weston village incident**

The Weston village contamination incident made national headlines in 2000. A long-standing community close to Runcorn, Weston was an old-fashioned company town, a largely working-class community of some 500 houses, with village shop, post office, primary school and church and many people employed in the large ICI plant nearby. Then within a few days of the millennium, ICI revealed to the community that the toxic chemical, hexachlorobutadiene (HCBD), had been identified seeping from a former sandstone quarry that had been used for the disposal of chemical waste a few decades earlier. This chemical is a waste product of the chlorine industry and has been linked to kidney damage in animal based studies.22 A few weeks later the chemical was detected at levels considered a risk to health in 21 houses adjoining the quarries (although some distance from the main part of the village) and most of the people occupying these houses were evacuated to local hotels, whilst health concerns were investigated. ICI designated the whole of Weston village as its communication zone and so the whole village came to be associated with the incident and stigmatized. Colourful headlines followed in the national press including ‘Village in the Shadow of Death’ in the News of the World and ‘Village of the Damned’ in the Guardian. A BBC Panorama documentary also focused on the incident. Clinical tests carried out on people who lived in houses affected by HCBD identified abnormalities in kidney function, which were thought likely to have been caused by prolonged HCBD exposure.23 Follow-up tests carried out 10 months after the exposure ended, found that results for most had returned to normal suggesting that ending exposure had been beneficial. Epidemiological studies carried out by the Small Area Statistics Unit suggested that the whole wider Runcorn area had elevated rates of kidney disease. However, rates in Weston did not appear to be particularly elevated compared with other areas in the Borough.24

The Weston incident possessed all the ‘fright factors’ highlighted by the DOH in its document on risk perception.25 ICI, facing damaging media stories almost daily, responded rapidly by offering to purchase the houses of almost all owner-occupiers in the village who wanted to leave. However, this appeared to cause more problems than it solved. Although some were undoubtedly relieved to be given a way out, others decided to move because they saw ICI’s action as a sign that things were much worse than they were being told. Others were worried that ICI’s offer could be withdrawn, leaving them with houses that could potentially be without any value, and others who were determined to stay became isolated and increasingly depressed as neighbours moved away. Within months large parts of the village resembled a ghost town.

North Cheshire Health Authority recognised the need for a rapid piece of research to investigate the extent of anxiety in the community and a health needs assessment was commissioned.26 This study reached three main conclusions:

1. Many people were experiencing enhanced levels of stress and a small number were severely distressed and experiencing grief-like symptoms. Relationship problems were also frequently reported.
2. The main cause of stress was the decline of the community, including the loss of neighbours and friends and uncertainty about the future.
3. Local primary care services were unable to respond effectively to psychosocial and community problems in Weston and supported the development of a support service.

The Health Authority responded positively to this research and ICI were asked to provide resources to introduce an advocacy and counselling service. Such a service appeared to be what the people of Weston wanted and also reflected the needs identified in the literature review. Funding was secured to second a health authority representative part-time to develop the service (GB) and to employ a qualified counsellor (ST) for 1 year.

**Development of an advocacy and counselling service**

There were no models for the sort of service that we hoped to develop in Weston. Advocacy is not generally associated with the public health response to a chemical incident in this country. The management of such incidents is considered by many in health protection to be purely a scientific discipline. The contaminant is established, its physical properties and potential impact on health are identified, and an assessment is made of the risk to human health. Based on this, objective decisions are made about how to protect people. This may involve removal of the contaminant, blocking its movement, or removal of the people whose health could be damaged. This model, although valuable from a scientific perspective, is lacking in one respect. It generally ignores the damaging impact that environmental contamination incidents have on individuals and communities irrespective of the physical qualities of the contaminant. So in developing an advocacy service in Weston we wanted to
develop a mechanism to ensure that the views of residents were always in the forefront of the minds of professionals when discussing the complex issues around the incident and that any decisions taken should consider the wider health impacts of these decisions. Whilst providing resources directly to the local residents action group to develop their own lay advocacy was considered too radical by ICI and public sector organisations, we aimed to ensure that the Weston Residents Action Group (WRAG) were directly involved in decisions about the development of the service and that they should set the agenda for advocacy in the community. WRAG were therefore invited to attend planning meetings whilst GB was invited to all WRAG meetings to share and discuss ideas for the service.

The counselling component of the service presented fewer complexities. The needs assessment clearly identified that many residents were disenchanted with the service provided to them in primary care, which mainly consisted of the prescription of antidepressants. Many simply wanted to talk to somebody at length about their concerns, which was not possible in the modern general practice environment. It was also clear that psychological therapeutic interventions were generally not wanted by residents. This view was supported by a local clinical psychologist who carried out a preliminary study of the psychological impact of the incident on residents and concluded that few would experience post traumatic stress disorder or long-term adjustment problems. Local GPs also supported the proposal, believing it could take some of the strain from their services.

Weston Community Liaison and Counselling Service
The service was established with the following five objectives.

(1) To provide psychosocial support to people affected by the incident.
(2) To provide a centrally located facility where information related to the incident could be obtained.
(3) To provide an outreach approach, making contact with families and community organisations.
(4) To work with relevant organisations to develop a community revitalisation strategy in Weston.
(5) To provide an advocacy service to individuals and groups in the community so that concerns could be efficiently conveyed to relevant organisations.

ICI provided a vacated property in the centre of Weston, close to the post office, as a base for the service. People were able to access the service by dropping in, by self-referral or by referral from their GP and the service was free of charge.

In order to reflect the principles of lay advocacy we took the view that the advocacy service should reflect the objectives of WRAG who were widely accepted as the representatives of the community in the village. The central aim of WRAG was that the village and the amenities within the village should survive. To achieve this their objectives were: that businesses and local amenities should be maintained during the disruption; that a decision about demolition of houses, remediation of contaminated land and further health monitoring should be made quickly to bring an end to the uncertainty; and that if and when the area was designated as safe, all possible efforts should begin to repopulate the village.

To bring these objectives to fruition much depended on the outcome of geological monitoring to establish potential future risk associated with the quarries. Eventually consultants contracted by ICI concluded that most of the village was not at risk. A technical presentation of the results was provided for expert parties and on the advice of the advocacy service this was followed by an open day for members of the community, where the consultants were made available to answer queries from residents.

The acceptance of the validity of the results enabled the advocacy service to work with WRAG, ICI and the Local Authority towards the revitalisation of the community. A community revitalisation committee, chaired by a member of WRAG, was established to plan initiatives that could reverse the negative publicity associated with the area. This was backed by ICI funding and led to improvements to the school, such as new IT equipment, the development of a child play park and landscape improvements. The outcome of this was that, gradually, improved relationships were established between residents and ICI managers. Although conflicts undoubtedly remained, especially about compensation (the residents strongly believed that those who stayed in the village should receive comparable compensation as those who had moved away), all agencies were able to support the principle objectives of the residents. Although many believed it would prove impossible to repopulate a village that had been so badly stigmatised, ICI in fact reported that they were inundated with requests from people wishing to rent and buy its empty properties. The reality was that in an area blighted with housing estates with well-documented social problems, Weston with its amenities and pleasant outlook remained a desirable place to live for many people on low incomes. In addition, some of those who had moved away in the middle of the initial crisis wished to return.

In addition to the main strategic approach of the advocacy service, we were also approached by individuals and groups in the community to advocate on their behalf with organisations in the incident team. Examples of such requests include the following.

(1) Obtaining commitments from ICI about how long they would maintain the house value protection policy.
(2) Working with ICI to improve the clarity of communication for residents.
(3) Working to improve security in abandoned areas of the village.
(4) Ensuring that these areas were kept tidy and conveyed the appearance of occupancy.
(5) Ensuring that policies for the resale of empty houses were acceptable to residents.
(6) Ensuring the extension of commitments to protect local businesses.

(7) Enabling a family to sell their house to ICI in one part of the village in order to move to a house further from the quarries.

Information about the counselling component of the service was confidential but the main issues reflected concerns identified in the needs assessment. Overall, 20 people formally accessed the service for counselling sessions related to the incident and over 40 others attended drop-in sessions. An evaluation, which involved a questionnaire being sent out to every household in the village, suggested that 27 per cent of households had accessed the service in some form between November 2000 and November 2001. The evaluation also found that 74 per cent of households believed that the service had been a positive initiative. Most of those who doubted its value indicated that they thought it had been introduced too late to make a substantial impact. This was probably true and reflects a weakness in the ability of public health organizations to respond quickly to unexpected incidents such as this. Without the resources provided by ICI it is unlikely that any such service would ever have been provided. This is something that the Health Protection Agency (HPA) should consider when planning how it should respond to issues of chronic chemical contamination.

Consultants eventually concluded that major remediation in Weston was not practical given the volume of contamination within the quarries. Instead the decision was taken to demolish those houses where HCBD was detected along with others nearby thought to be at risk. This work was completed during 2003. Today Weston has regained a degree of normality that was barely imaginable during 2000; the main issue affecting the village in 2004 along with many other communities across Britain was the decision to close the local post office.

Conclusions

So what do the Weston studies tell us about the appropriate public health response to community chemical contamination? They certainly tell us a great deal about how to run a successful epidemiological investigation exploring potential health harm resulting from land contamination. Fortunately there is no shortage of expertise available to deal with this side of the problem. By contrast there is a distinct lack of expertise in dealing with the social dimensions of these incidents. Community-based chemical contamination will always be a social issue and therefore needs to be handled sensitively, recognizing that the health of people in the area may be affected at least as much by the worry, uncertainty and upheaval associated with the investigations as it is by land contamination. Possibly the biggest mistake that was made in Weston was to allow the whole village to be associated with, and stigmatized by, an incident that ultimately was restricted to around 30 houses in one corner of the village. That happened because ICI chose the whole village as its communication zone before tests had been done to identify the extent of contamination. Ironically there were houses far closer to the quarries, in a neighbouring village, than the majority of houses in Weston, which did not become associated with the incident.

Health protection teams dealing with these types of incident therefore require social scientists who can advise on the best communication approach, identify necessary research and work alongside communities to identify their needs. Such experts should ensure that meaningful community engagement is a significant part of the health protection response in chemical contamination incidents. This may point to the adoption of a popular epidemiological approach alongside traditional approaches used in health protection. This is a process whereby lay people and community groups are involved in identifying both the physical and social impacts of the environmental contamination alongside experts, and are involved in shaping and implementing solutions. By combining both popular and traditional epidemiological approaches, Moffat et al. asserts that both the objective and generalizable knowledge and the situated subjective knowledge are utilized, thus resulting in a better chance of identifying solutions that are acceptable both to experts and the affected community. In Weston it was only after WRAG had become fully engaged in the decision-making process, facilitated in part by the advocacy service, that decisions were reached about the future of the village which reflected the wishes of the community.

The legacy of Britain’s industrial heritage means that there are almost certainly other Weston’s out there waiting to be discovered. The NHS and the HPA, therefore, have much work ahead of them in the coming years in monitoring and responding to patterns of poor health or evidence of environmental contamination. However, the lesson of Weston is that this response must always be considered in the widest social context. Ensuring the active involvement of the community at an early stage and facilitating advocacy within the community can help to ensure that decisions are reached which reduce the overall negative health impact of these incidents.

References


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