

The organisation of local authority pest management services in the UK

Dr Gai Murphy¹, Dr Stephen Battersby² and David Oldbury³ MCIEH

¹ Built and Human Research Institute, University of Salford.

² Visiting Senior Fellow, Robens Centre for Public and Environmental Health, University of Surrey.

³ Group Manager, Pest Control Services, Manchester City Council.

Correspondence: Dr G Murphy, Built and Human Research Institute, University of Salford, SALFORD, M5 4WT. Telephone: +44 (0)161 295 5574. Email: R.G.Murphy@salford.ac.uk

Abstract

The National Pest Advisory Panel (NPAP) of the Chartered Institute of Environmental Health (CIEH) in the UK was established in 2001 to advise the CIEH on its pest control policy. As part of its work, a pest survey was developed to investigate the way in which pest management services within local authorities were operationalised and delivered in the UK. Questionnaires were distributed to all local authorities in England, Wales and Northern Ireland and a response rate of 67% was achieved. Although there is no statutory duty on local authorities to provide pest management services, only three of the local authorities that responded did not provide one. The survey found considerable variation in the way pest management services were organised and delivered, staffing levels, approaches to contracting out services, staff training and the assessment of service provision. In the UK, local authorities and water authorities should share responsibility for the control of rats in sewers. This survey found considerable variation in these relationships. The impact of these findings on the management and delivery of pest control services is considered.

Key words: Environmental health; Infestations; Local government; Pest management.

Introduction

The World Health Organisation's recently published report on the Public Health Significance of Urban Pests (Bonnet et al., 2008) highlights the continuing threats posed by urban pests across the globe and the need for effective policies to control pest species. Within the UK, the management and control of pest species falls under the remit of a number of local authority (LA) activities within the environmental service, not just those relating to 'pest control'. For example, the control of pest species forms an important element within the food safety regime, the regulation of health and safety at work and the regulation of conditions in residential accommodation.

In the United Kingdom, the National Pest Advisory Panel (NPAP) was established to provide advice and guidance on pest control policy to the Chartered Institute of Environmental Health (CIEH). Its first meeting took place in May 2001. Part of its mission was to ensure that pest management is undertaken or managed by its members in a professional way. The NPAP also exists to enable the CIEH to provide the necessary leadership and guidance to those in charge of LA pest control departments.

The objectives of NPAP are to:

- raise the profile of pest management in the UK, leading to better understanding of the need for good pest management.
- establish channels of communication throughout industry, government, local authorities and academics, leading to a greater awareness of problems and the need for priorities.
- improve the standards of pest management throughout the UK by promoting good practice, leading to reduced pest levels and pesticide use.
- provide expert advice to government departments and agencies via CIEH.
- identify and promote research needs into pest management issues.

The need for reliable data about the way in which LA pest management services across the UK were operationalised and delivered was clear. The NPAP commissioned a survey of LAs to establish the operation and management of pest control services. There is considerable variation in the pest management services provided by local authorities and provision is often related to local (often historical) views on the resourcing of the service. There was often a mixture of in-house services (both public health and commercial), contracting out, referral to third parties, the provision of advice only and/or enforcement action, depending on the pest species involved and the type of premises (e.g. private/council dwellings, other council properties, commercial food/non-food) where the infestation was found. This paper examines these complexities in relation to rodent control.

Methods

The NPAP questionnaire was divided into five main sections, dealing with:

- General characteristics of the LA
- Training and qualifications of pest control staff
- Pests treated
- Sewer baiting
- Membership of Pest Liaison groups

The questionnaire was sent to all chief officers in England, Wales and Northern Ireland (n = 402) during

Table 1.0
Response rates
from the 14 CIEH
centres

CIEH centre	No. respondents	Total no. within the centre	Response rate (%)
North West	42	43	98
Yorks/Humberside	19	21	91
Northern	20	23	87
Southern	25	30	83
North Home Counties	22	28	79
Western	14	20	70
South East	25	37	68
Midlands	22	34	65
Eastern	12	20	60
South West	15	25	60
Greater London	19	33	58
East Midlands	21	40	53
Wales	10	22	45
Northern Ireland*	9 (5)	26	34
Total	271	402	67

* Five authorities combined their individual responses into a single return.

2002/03. Following this initial posting, a reminder was sent to all non-respondents.

Results

Two hundred and seventy one LAs returned completed questionnaires, providing a response rate of 67%. Response rates varied with 72% of English authorities and 45% of Welsh authorities responding. In N. Ireland establishing the response rate was more complex as five authorities combined their individual responses into a single return. Thus the five questionnaires returned from Northern Ireland represented nine of the 26 authorities (34%). At the time of the survey, local authorities in England, Wales and Northern Ireland were organised into 14 CIEH centres¹ (now Regions). Response rates from the local authorities within these CIEH centres are presented in Table 1.0.

Responses from the CIEH centres ranged from 34% (N. Ireland) to 98% (North West centre). The lowest

response rate in England was from the East Midlands centre, with only 52% of LAs in that region responding.

LA size

Populations within the LA boundaries ranged from 10,000 to 1,000,000, with a mean of 149,000. The majority of LAs (58%) had both rural and urban areas within their boundaries. Twenty four percent of respondents stated their authority area was entirely urban and 18% stated it was entirely rural.

Organisation of pest management services

Although there is no statutory requirement placed on LAs to provide pest management services, only three respondents (two district councils within the South West centre and N. Ireland centre and a unitary council from the Southern England centre) did not provide one. All three of these LAs confirmed that they dealt with pest problems by giving advice and where necessary using

¹Since this work the CIEH has reorganised the 14 centres into 11 regions reflecting government regions

The organisation of local authority pest management services in the UK

	Range	Mean no.	Extrapolation for all LAs
Full-time managers	0 – 2	0.26	105
Part-time managers	0 – 2	0.71	285
Full-time supervisors	0 – 4	0.32	129
Part-time supervisors	0 – 4	0.30	121
Full-time operators	0 – 23	2.83	1138
Part-time operators	0 – 7	0.56	225
Full-time administrators	0 – 6	0.57	229
Part time administrators	0 – 11	1.57	631
Estimate of full time staff			1601
Estimate of part time staff			1262
Estimate of total number of full time and part time staff			2863

Table 2.0
Staffing levels within LA pest management operations (n = 266)

enforcement action. Seventy-eight percent of those LAs that did provide a pest control service, did so in house, 13% contracted out this service and 9% had a mixture of in-house and contracted-out services.

Respondents were asked about the organisation of their pest management services. Eighty-one percent of LAs confirmed that pest control was a stand alone service operating within the environmental health department. Nineteen percent stated that it was run as part of another service (such as animal welfare, cleansing and commercial services).

Only a small proportion (12%) of those LAs that provided in-house pest control services were fully supported by LA funding. The more common model (in 88% of cases) was one where pest control activities were either partly or fully underwritten by charged for pest control activities.

Fifty-nine LAs contracted out their pest control operations. Of these, 56% had fixed term/fixed price contracts, 30% had contracts based on the jobs done/number of properties treated and the remainder (14%) had a mixture of these two. Those with contracted-out operations were asked about the frequency with which these services were audited. Thirty-eight per cent stated that they were audited randomly, 13% were audited annually, 13% were audited quarterly, 13% had other arrangements in place and 22% stated that they did not audit the service.

Where auditing did take place, only 25% used personnel with a specific pest management qualification.

Assessing levels of infestations

In many areas of environmental health work, LAs are required to make detailed returns about the inspection and enforcement activities they undertake. There are a number of common data platforms utilised for the management of this data, for example Northgate Environmental Health, Civica Public Protection (formerly Flare), and Uniform Environmental Health from CAPS Solutions Ltd. Such programmes allow for the reporting of returns and activities to government agencies (such as the Health and Safety Executive (HSE), the Food Standards Agency (FSA), the Environment Agency). Data from LAs are uploaded and aggregated, allowing transparent evaluation and review of environmental health activities. Pest management has been a neglected area of public health policy since the role of central government was reduced in the early 1980s. Until that time LAs were required to make an annual return to the Ministry of Agriculture, Fisheries and Food on their pest management problems and activities. While some of the data management programmes used by LAs often include the capacity for recording data on pest control, many LAs do not routinely collect this information locally. This is, in part, because there is no requirement to report pest management activities to central government departments and no common platform via which this information is recorded, making comparisons with other

Table 3.0

Analysis of EHO involvement in the pest management services within different authority types (n = 171)

Authority Type	EHO involvement		% without EHO involvement
	Yes	No	
London Borough	9	7	44
Unitary Council	23	14	38
Metropolitan/City Council	23	10	30
District/Borough Council	116	19	14
Total	171	50	23

Table 4.0

Percentage of respondents with a structured training programme in place (by type of service/authority (n = 255))

Type of service	%	Type of Authority	%
In house	74 %	London Borough	83 %
Both in-house/contracted out	40 %	Metropolitan District	80 %
Contracted out	23 %	Unitary Council	76 %
		District Council	58 %

authorities problematic. LAs reported that the most common means by which they assessed levels of infestation was by monitoring the number of enquiries made *and* the number of service requests (53%). Forty three percent monitored only the number of service requests and 2% monitored only the number of enquiries. The remainder either did not assess the levels or used other means (e.g. number of premises treated or the number of confirmed infestations).

Performance criteria

Respondents were asked about the performance criteria they used to judge the success of the pest control measures undertaken (n = 270). While two thirds did have measures in place, a sizeable proportion did not (34%). The use of performance criteria was consistent irrespective of the nature of the service provision (in-house – 66%; contracted-out – 60%, and services with a mixture of in-house and contracted-out – 64%). The two most common means of measuring performance were re-treatment visits and customer satisfaction surveys.

Staffing

Two hundred and thirty six respondents provided details about their staffing arrangements and results are presented in Table 2.0.

The number of staff working in LA pest management services varied considerably from a unitary authority with one part time operator and a part time administrator to a metropolitan authority with 27 full time staff. In order to establish an estimate of the total number of staff working within LA pest management services, a crude extrapolation of the means was calculated and suggested that approximately 1,601 full time and 1,262 part time local authority staff worked in pest management.

Respondents were asked about the number of EHOs that were directly involved in pest management services within their authority. Again, a crude extrapolation of the mean numbers suggested that in the 402 LAs in England, Wales and N. Ireland, 433 EHOs were directly involved in pest management. However, 50 of the authorities that had provided details about their staffing reported that they had no EHOs directly involved in this service (see Table 3.0).

Further analysis of this data confirmed a significant relationship between the type of LA and EHO involvement ($\chi^2 = 17.1$; $p = 0.001$). EHOs were least likely to be involved in pest management services in the London Boroughs and unitary councils.

The survey also explored LA approaches to staff training in pest management and results are presented in Table 4.0.

The organisation of local authority pest management services in the UK

Organisation undertaking sewer baiting	No.	%
Local Authority	93	52
Private contractor (for WA)	33	19
Water Authority	25	14
Other*	15	8
Don't know	7	4
Private Contractor (for LA)	5	3
Total	178	100

Table 5.0
Organisation(s) undertaking sewer treatments to control rats (n = 178)

* In most cases a combination of LA/WA/contractor(s)

Two thirds had a structured training programme in place for their staff. Both the type of service offered (in-house/contracted out/both) and the type of authority (London Borough/district Council/metropolitan/unitary council) had a significant influence on whether structured training programmes were present (Type of service: $\chi^2 = 34.2$; $p < .0001$; Type of Authority: $\chi^2 = 12.1$; $p = .007$).

Charging for pest management services

There was little uniformity in the way in which LAs dealt with their pest problems and the charges they levied for services. For example, 225 LAs offered treatments for domestic rodent infestations. Of these, 54% treated for rat and mouse infestations free of charge, 22% treated for rat infestations free of charge, but charged for services to eradicate mouse infestations and 22% charged for treatments to eradicate both rats and mice. There was evidence of differential charges depending on tenure and/or social circumstances. Previous research has highlighted the need for effective, consistent control strategies for rodents (Richards, 1989; Langton, 2001; Channon *et al.*, 2000; Battersby *et al.*, 2002; Murphy *et al.*, 2005). Charging for pest treatments proved to be a complex area with little consistency in the approaches adopted and/or the criteria used to determine the level of charging.

Sewer baiting

Although brown rats can inhabit a variety of habitats (such as open fields, hedgerows, woodlands and refuse dumps), they appear to be particularly suited to life in the sewers. Respondents were asked about the arrangements for the control of rats in sewers within their authority boundaries. Two thirds (65%) confirmed that

sewer treatments were undertaken, 27% stated that no sewer baiting was undertaken and the remainder (8%) did not know. In those authorities where sewer baiting was undertaken, respondents were asked to identify which organisation(s) carried it out and results are presented in Table 5.0.

Where respondents had identified water authorities (WAs) as being responsible, they were asked about how these treatments were undertaken. Just under half stated that the WAs contracted out their sewer baiting, a fifth did it in house and a third did not know about the arrangements WAs had made to bait the sewers. Where LAs carried out sewer baiting, WAs financed the operation in two thirds of the authorities, and in just under a third of LAs and WAs jointly financed it. Only 4% of LAs financed it solely themselves.

Respondents reported considerable variation in the amount spent on sewer baiting. Estimates of LA spending ranged from no spend to £61,000 per annum. WA spend ranged from no spend to £65,000 per annum. The data supplied were incomplete as many LAs were unable to provide information on spend by WAs. However, for those where data was available (n = 79) on both the size of the LA population and LA/WA spend on sewer treatments, the spend per capita ranged from 0.2p to 34p per annum with an average of 5p. Table 6.0 presents the variations in spend by CIEH Centre.

While the number of missing cases was large and some of the data provided on spending was incomplete, important information emerged. Sewer baiting carried out in the North West centre received the highest spend per capita per annum (8p) and those in the South West centre the lowest (0.9p). The amount spent in relation to

Table 6.0
Average per capita spend/annum by CIEH Centre (n = 79)

CIEH Centre	No. valid cases	Average spend/capita	Range
North West	24	8p	1.4 – 34p
Wales	5	6.7p	4 – 9.4p
Northern	14	6.2p	1.8 – 11.7p
Western	4	4.9p	1.8 – 10.4p
East Midlands	10	3.1p	1 – 4.5p
South Eastern	3	3p	1.6 – 5p
Midlands	9	3p	.2 – 5.9p
Yorkshire and Humberside	2	2.7p	1.4 – 4p
Southern	5	2.2p	.3 – 4.2p
South West	3	0.9p	.3 – 1.3p
Eastern	0	Incomplete data	
Greater London	0	Incomplete data	
Northern Home Counties	0	Incomplete data	
N. Ireland	0	Incomplete data	
Total	79		

the timing of the control did not vary greatly with those providing proactive baiting spending 6.6p per capita, those providing reactive baiting spending 4.6p per capita and those adopting a reactive and proactive service spending 5.1p per capita. These results would appear to contradict the findings presented in the UK Water Industry Research (UKWIR) report (2000), which concluded that proactive sewer baiting was five times more expensive than reactive baiting. Approximately twice as much was spent per capita per annum on controlling rats in urban sewers (8.2p per capita) compared to rural sewers (4.6p). In authorities with both urban and rural areas, the average spend was 4.6p.

The Water UK protocol provides a mechanism for improved communication and co-ordination between LAs and WAs on the control of rats in sewers. The protocol states that:

1. Where a Water UK member commences a new sewer baiting activity, it should inform the relevant local authority;
2. Where a local authority commences a new

baiting activity to combat rat infestation, it should inform the relevant Water UK member;

3. Where possible, sewer baiting to combat rat infestation should be undertaken in a complementary manner, by agreement between the local authority and the Water UK member.

Just over half of the 240 LAs that responded (52%) stated that they were aware of the protocol. However, a quarter (26%) were not and a fifth (21%) were unsure whether their LA was aware of it. A third of respondents reported that the water authority never liaised with them on sewer baiting. Where liaison did take place, a quarter reported regular, planned liaison, a quarter regular liaison as and when required and just under half stated it was irregular. The nature of the liaison between LAs and WAs was analysed and found to vary considerably between CIEH centres (see Figure 1.0).

Thus, in Yorkshire/Humberside 65% of respondents reported regular, planned liaison with the WAs. However, in Northern Home Counties, 65% reported no liaison with WAs.

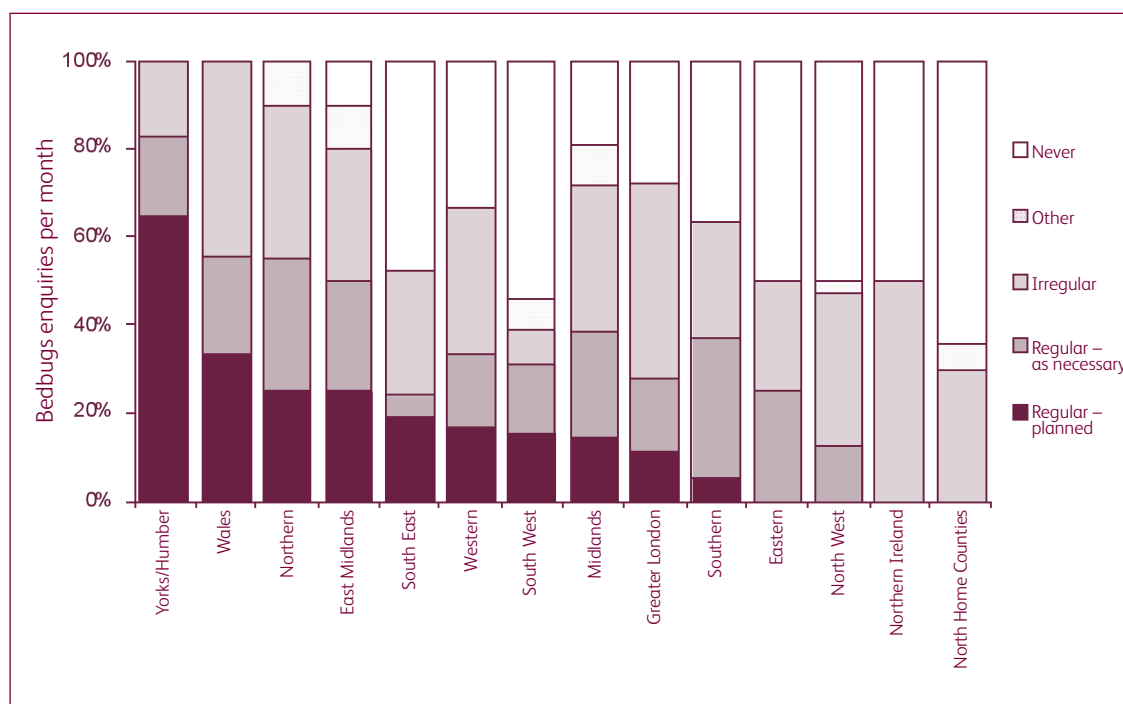


Figure 1.0
Variation in the nature of the liaison with WA by CIEH centres

Pest liaison groups

Pest liaison groups can provide a useful forum for LAs to discuss pest management issues, share good practice and ensure consistent and efficient delivery of services. Seventy percent of respondents (n = 266) reported that they were members of a pest liaison group. Membership within CIEH centres varied, with all respondents from the North West confirming they were members of a pest liaison group, but membership in the North Home Counties (45%) South West (36%) and Wales (10%) was low. Most (85%) of the authorities that were not members stated that they would like to join a pest liaison group.

Conclusion

The findings of the NPAP survey and the detailed responses given by the respondents have provided a rich source of information on the way in which pest control is managed and operationalised within LAs across England, Wales and N. Ireland. The findings confirmed that a large number of personnel were involved in the operation and delivery of pest control services within LAs. However, that does not always mean that there is

effective pest management. While there were many examples of good practice and commitment to staff and clients, there were also areas of concern. Attempts to establish the consistency and effectiveness of the approaches adopted to pest management are problematic and at odds with the approach championed by Sir Peter Gershon (2004) where he recommended:

- simplification and standardisation of policies and processes
- adoption of best practice within each function
- sharing transactional support services to achieve economies of scale through clustering

Within pest management services, moving towards these principles has been thwarted by absence of a statutory imperative, resulting in a patchwork of local arrangements and policies with differing approaches to the management and auditing of provision. The first NPAP survey has highlighted a number of concerns that require further investigation, including:

- The nature and impact of an apparent decoupling of pest control services from core EH activities in some local authorities;

- The considerable variation in the provision of a structured training/development programme for staff;
- The complexities of the charging policies adopted for pest treatments;
- Assessment of the procedures and policies relating to contracted-out pest control services;
- The apparent variations in the nature and extent of the liaison between WA and LA to control rats in sewers;
- The inconsistencies in funding arrangements between WA and LA for sewer baiting;
- The variability in the membership of pest liaison groups.

While historically pest management has been viewed as a core function within environmental health departments, this view appears to be changing. Until the early 1980s MAFF provided advice to LAs and disseminated good practice. However, this has lapsed and the Department for Environment, Food and Rural Affairs (DEFRA) does not provide such advice. The provision of a pest management service that goes beyond a reactive treatment regime to include reactive and proactive environmental management is essential if the principles of integrated pest management outlined in the WHO report (Bonney, 2008) are to be achieved. The rigour adopted in the approaches to the management, delivery and auditing of food safety and health and safety functions is at odds with the plethora of strategies and arrangements in place to provide pest management.

NPAP is intending to repeat this survey in 2009. This second survey will provide an updated snapshot of approaches to pest management across the UK and facilitate a review of how pest management services have changed since the last survey.

Acknowledgements

The authors thank the members of NPAP for their support and guidance during the development of the questionnaire and the analysis of the results. We are also grateful to the local authorities who participated in this research.

References

- Battersby S A, Parsons R, Webster J P** (2002). Urban rat infestations and the risk to public health, *Journal of Environmental Health Research*, 1 (2): 57- 65
- Bonnefoy X, Kampen H, Sweeney K** (2008). Public Health Significance of Urban Pests. World Health Organisation (available on-line at <http://www.euro.who.int/document/e91435.pdf> [accessed 04/02/09].
- Channon D, Cole M, Cole L** (2000). A long-term study of *Rattus norvegicus* in the London Borough of Enfield using baiting returns as an indicator of sewer population levels. *Epidemiology and Infection*. 125: 441-445, Cambridge
- Gershon P** (2004). Releasing resources to the front line. Independent review of public sector efficiency, HMSO.
- Langton S D, Cowan D P, Meyer A N** (2001). The occurrence of commensal rodents in dwellings as revealed by the 1996 English House Condition Survey, *Journal of Applied Ecology* 38 (4): 699-709 London: British Ecological Society.
- Murphy R G, Williams H and Hide G** (2005). Population biology of the urban mouse (*Mus domesticus*) in the UK. In: Proceedings of the 5th International Conference on Urban Pests eds Lee C Y and Robinson W H. Singapore. pgs 343-349 (Contribution 70%)
- Richards C G J** (1989). The pest status of rodents in the United Kingdom. In: Putman R J, ed, Mammals as pests. London: Chapman & Hall Ltd.
- UK Water Industry Research (UKWIR) Ltd** (2000) Rodent Control in Sewers, Report Ref No 00/WM/07/4, London.