



Chartered
Institute of
Environmental
Health



The Perfect Storm

This need not be the end of a golden age of public health protection!

February 2012

“We are being hit by a perfect storm”

“On the one hand, we have better climate conditions which not only enable existing pest populations to survive and reproduce faster than they have in the past but also for new pest species to become established.

“On the other hand, there is a widening gap in health inequality because poorer families are getting poorer, for many, living conditions are deteriorating and preventative public health interventions are being reduced.

“We are rapidly getting to a point where this explosion in factors will negatively affect public health improvement in the population, unless we address it now!

“Public health is concerned with all aspects of our living environment. This publication addresses one of those facets; pest control and the need for a more harmonised and strategic approach to its management and control.”

To address the problem CIEH believes:

- Public health authorities would benefit from improving their capacity to identify pest related risks
- A well trained public health force is required to be maintained to protect the public from the threats associated with urban pests in food establishments, domestic dwellings and public areas.
- Information should be developed for the public to raise their awareness on how to protect themselves through simple hygiene and behavioural measures. This would allow them to gain the knowledge needed to take a pro-active approach to pests that complements the work of pest control professionals.
- Pest management has an impact on health, housing, the workplace and the environment. Clear cross Government leadership on pest control strategy is badly needed and CIEH stands ready to assist in addressing this vital public health issue that has been so neglected.

Graham Jukes

Chief Executive of the Chartered Institute of Environmental Health



1.0 Introduction



“Reducing health inequalities is a matter of fairness and social justice. In England, the many people who are currently dying prematurely each year as a result of health inequalities would otherwise have enjoyed, in total, between 1.3 and 2.5 million extra years of life.”

Marmot report, 2010

Today’s society has caused many of our current environmental health problems and if present and future generations are to enjoy a healthy and sustainable life, we need to address the broad range of environmental health problems that face us and deal with them before they become unmanageable.

The evidence base tells us that by improving conditions in which we live and work; we can reduce disease and enhance well-being through effective environmental health intervention.

To achieve this we need to ensure that adequate tools and techniques are available and applied appropriately to make possible these aims.

During the latter part of the 20th century up to the present day, the Chartered Institute of Environmental Health (CIEH) has become increasingly concerned about the lack of a joined up and comprehensive approach to policy creation especially with regard to pest control.

Results obtained by the NPAP surveys of 2002 and 2009 show a worrying reduction in pest control services provided by local authorities and a decline in the qualifications, technical expertise, knowledge and understanding of pest species among those responsible for public health.

Pests spread disease and cause unhealthy living conditions, which is why their control has been a fundamental part of public and environmental health for over 150 years.

Local authorities have a legal obligation to keep their districts free from pests and, although they are not required to actually provide a pest control service themselves, many have traditionally provided an in-house service, to ensure that treatment can be provided to all who need it across the social and wealth spectrum of society. This has always been a core element in the fight to protect public health from growing pest problems.

However, recent changes to the structure of public health pest control provision are putting our health at serious risk. In some parts of the country, we predict that we will see conditions return that we have not seen for many years. The recent rise in bedbug infestations, tackled to great effect over the past 50 years by local authorities is an illustration of the problems to come.

A number of local authorities have introduced significant charges for their pest control services which could adversely impact on their ability to deliver pest-free, healthy living to their communities. Many other local authorities are electing to significantly reduce or disband their existing in-house services; externalise the service to a commercial contractor; or dealing with pests by enforcement only.

At the same time, Government agencies are failing to acknowledge the problems that pests can cause and the introduction of the Government's comprehensive spending review in 2010 has further impacted on the provision of pest control services.

This is in spite of the fact that:

- According to research by the World Health Organization, living in a pest-infested environment can result in poor health
- Poor health results in lost working days, dependency on benefits, higher use of medical resources and an inability to contribute to the economic health of the community
- Pest problems are increasing as a result of the effects of climate change and the increased movement of goods, animals and people
- The majority of emerging diseases are expected to be zoonotic based
- The threats from pests will accelerate unless there is a strategy in place to deal with their impact on the health of the general public and the environment.



“Reducing health inequalities will require action on six policy objectives:

- *Give every child the best start in life*
- *Enable all children, young people and adults to maximise their capabilities and have control over their lives*
- *Create fair employment and good work for all*
- *Ensure healthy standard of living for all*
- *Create and develop healthy and sustainable places and communities*
- *Strengthen the role and impact of ill health prevention”*

Marmot report, 2010

2.0 Why are pests such a problem?



The World Health Organization defines health as:

“A state of complete physical, mental and social wellbeing, not merely the absence of disease or infirmity”-

Pests are known to carry and spread a wide range of disease-causing pathogens and, because of improvements in modern health care, people with physical limitations, illness or medical conditions, are living longer. As a result, human populations can become more fragile and more susceptible to the diseases which can be transmitted by pests.

It is estimated that common house fly populations will increase by 244 % by 2080. Any increase in the number of flies significantly increases the reservoirs available to carry pathogens and since they move from filth to food indiscriminately, they are potential vectors of micro-organisms such as salmonella and campylobacter.

Recent research has identified the ability of house flies to carry the potentially life threatening methicillin resistant *Staphylococcus aureus* or MRSA and they are a suspected mechanical vector of *E. coli* O157: H7.

Research has also discovered that flies could be a bridge vector between birds and humans resulting in the possible transmission of the H5N1 virus.

However, not all pest problems are disease related. The presence of pests in a dwelling has a considerable impact on the lives of the inhabitants, particularly the more vulnerable members of the community – specifically the elderly, the very young, the disabled and those suffering from long term health problems.

In 2002, the WHO organised the LARES survey into the effects of unhealthy housing in Europe. The survey showed that 60 % of dwellings had been infected by at least one pest in the previous year and that living conditions in pest infected premises can seriously affect the health of the residents.

- The presence of rats and mice within a dwelling can trigger psycho/social stresses on people of all ages and backgrounds
- Bedbugs, lice, fleas: all feed on humans and can cause a distinctive bite pattern on the skin from the body's reaction. These pests can impact on the mental wellbeing of the sufferer, causing anxiety and embarrassment.

The survey showed a clear association between pest-infested premises, depression, migraines, allergies and asthma.

In particular, people living in a dwelling where mice are present are over twice as likely to suffer from depression. They are also nearly twice as likely to suffer from migraine and frequent headaches and if the dwelling is a flat, this increases to eight times more likely.

When cockroaches are present in a dwelling, the occupants are over three times more likely to suffer from headaches. If mites are present in a dwelling, occupants are over twice as likely to suffer from asthma and even flies can increase the chances of asthma by 175 %.

This is not to say that rats, mice, cockroaches, mites and flies cause depression and ill health, however, it does represent clear evidence that people are more likely to suffer from these conditions if they live or work in pest-infested environments.

This can be linked with:

- The anxiety of having a pest problem where you live
- Lack of sleep from being kept awake by noise or worry
- Allergic reactions in relation to fragments of the pest and excrement

All of these conditions result in a loss of physical and mental well-being which is fundamental to good health.



"Asthma is an allergic disease for more than 50% of adults and 80% of children. In an urban environment, sensitization to pests, including rodents, cockroaches and dust mites, is common among asthmatics.

The quality of the indoor environment is especially important, because 75% of children between the ages of 5 and 18 years spend 16 hours or more in the home. Consequently, conditions that contribute to cockroach infestations and control measures to eradicate them will greatly impact children living under conditions of poverty."

Public Health Significance of Urban Pests – WHO 2008

3.0 What is going wrong?

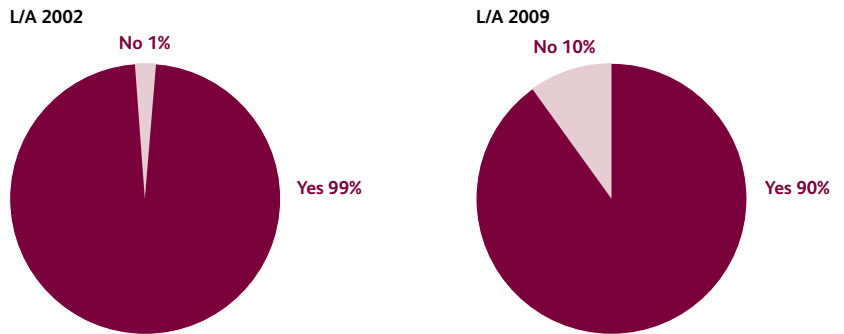
“There is a social gradient in health – the lower a person’s social position, the worse his or her health. Action should focus on reducing the gradient in health.”
Marmot report, 2010

Local authority pest control

The current economic climate is having a detrimental impact on the strategies and capacity provided by local authorities in the provision of public health services.

The NPAP survey found that the provision of pest control services provided by local authorities has fallen from 99 % in 2002 to 90 % in 2009.

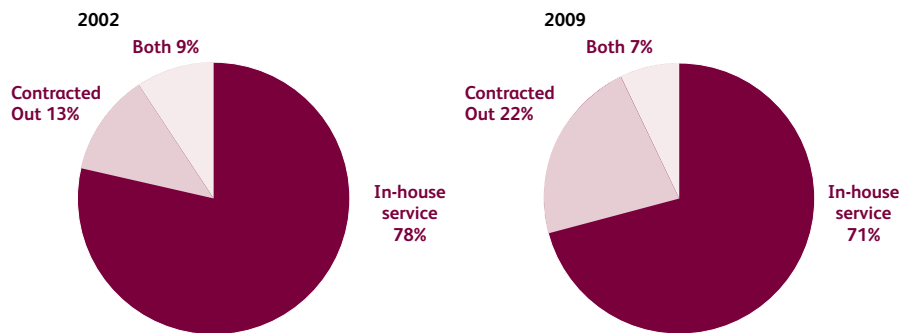
Question: Do you provide a pest control service?



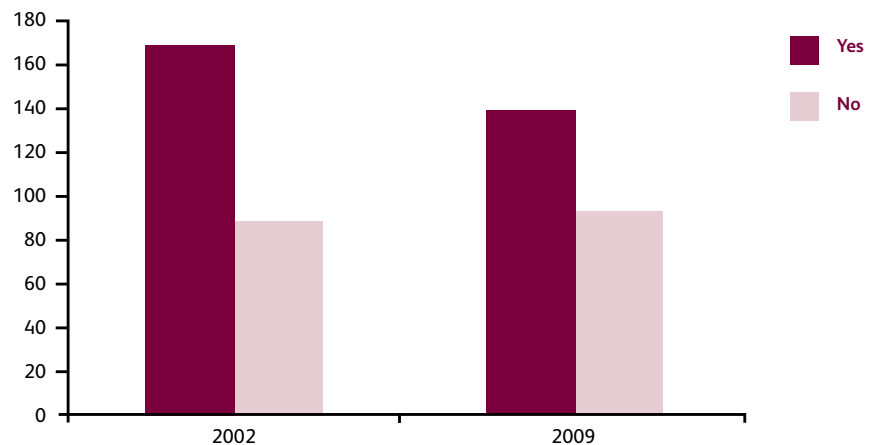
This result reveals worrying trends within the pattern of local authorities and the provision of pest management services.

Contracting out pest control services can lead to a loss of expertise within local authorities and can fragment the strategic management of environmental health services. Between 2002 and 2009 a reduction in services was identified:

Question: What type of service is provided?



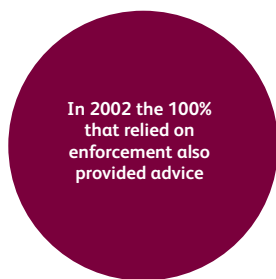
Question: Do you have specific performance criteria by which you can judge the success of pest control taken?



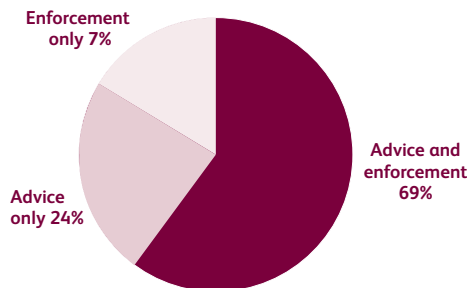
When an environmental health department loses its pest control service, other environmental health practitioners within the council will lack access to important knowledge and understanding of pests. Rather than developing interventions that would prevent infestations, they deal with the consequences of infestations by taking enforcement action against food premises, landlords and tenants to try and eradicate the infestations that are causing a threat to health.

Question: How would you deal with a pest problem?

Enforcement 2002



Enforcement 2009



This begs the question, is enforcement really the best way to deal with pest control issues within, commercial and residential premises covered by Environmental Health Departments?

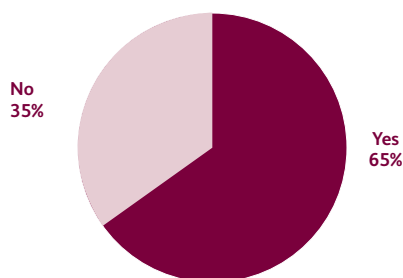
The loss of pest control services provided by local authorities not only puts urban areas at risk of pest infestations and their consequences but also means that a considerable number of experts are no longer working in the field – a real loss to the environmental health profession. Enforcement officers with specialist pest control training and knowledge will no longer be available owing to early retirements, redundancies and reduction in services.

The NPAP surveys conducted in 2002 and 2009 revealed some important results in relation to staff development and training, with a clear decline in the provision of staff training and development.

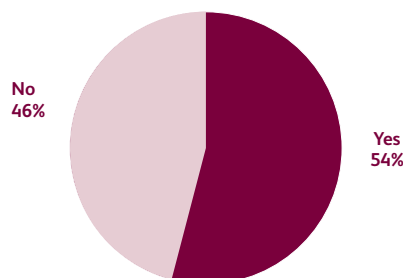
Perhaps more worrying is the fact that when a local authority has externalised its pest control service, how closely is the contractor monitored.

Question: Do you have a structured training programme for your staff involved in pest control activities?

Structured training 2002

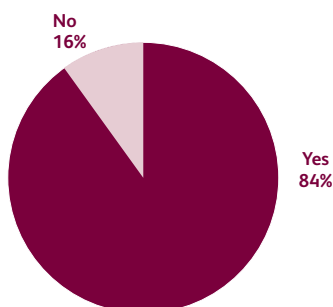


Structured training 2009

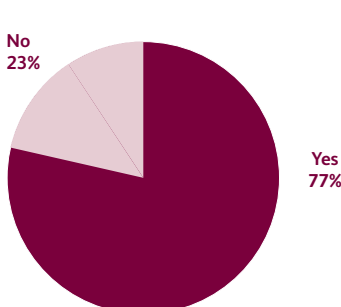


Question: Do you require formal qualifications for supervisors and operators, in addition to on-the-job training?

2002



2009



“Delivering these policy objectives will require action by central and local government, the NHS the third and private sectors and community groups. National policies will not work without effective local delivery systems focused on health equality in all policies.”

Marmot report, 2010

4.0 Amateur use of pest control products



The inappropriate or illegal use of rodenticides by untrained or non-professional users can pose a considerable danger to humans and non-target species. Any increase in DIY treatments makes the risk of this more likely.

When local authorities introduce charging for pest control services or refer callers to a commercial pest control company, many residents switch to buying amateur use products from local suppliers or the internet and carry out the work themselves.

This can lead to unsafe or ineffective treatments which can increase the risk of secondary poisoning to non-target animals; the development of resistance; or increased danger to householders.

Based on the experiences of local authorities, it has been estimated that the introduction of charging for pest control services would create a 33% decrease in demand for pest control. However, in a report to Sheffield's Culture, Economy and Sustainability Scrutiny Committee on the effects of the introduction of charging for domestic rat treatments, the pest control officer identified that

"Charges for pest control services in 2010, when broken down into "domestic only" rat complaints, show a drop in demand of over 55% when compared to the similar period the previous year. The fall in demand for the service may reflect an increase in DIY treatments using over-the-counter products

DIY pest control carried out by homeowners greatly increase the risk of areas of infestation going untreated as there is always a danger that treatments will not be carried out effectively.

It is possible that when a homeowner treats the pest themselves, they could create greater problems. According to the results of the LARES survey, homeowners who treat their homes for pests are:

- 17 percent more likely to have allergies
- 27 percent more likely to suffer wheezing and breathing problems
- 30 percent more likely to suffer from inflamed eyes and sight problems
- 39 percent more likely to suffer from recurring headaches

"...the fall in demand for the service may reflect and increase in DIY treatments..."

A report to Sheffield's Culture, Economy and Sustainability Scrutiny Committee, 2011

pest control

Scat a Cat

£2.99 £4.99 £1.99 £3.99 £3.99 £4.99 £2.99 £4.99 £4.99 £6.98 £4.28 £5.98

Raid

£2.99 £4.99 £5.98 £4.28 £5.98 £9.98

Raid

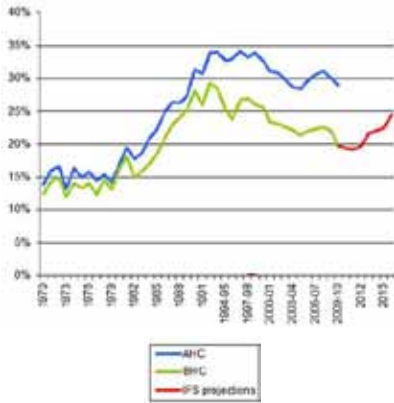
£3.99 £2.99 £4.99 £2.99 £3.99 £3.99 £4.49 £11.98 £7.98

ZERO INSECT KILLER

VALUE VALUE

5.0 Why does it matter?

Percentage of Children living in poverty in recent years



“Action taken to reduce health inequalities will benefit society in many ways. It will have economic benefits in reducing losses from illness associated with health inequalities. These currently account for productivity losses, reduced tax revenue, higher welfare payments and increased treatment costs.”

“Economic growth is not the most important measure of our country’s success. The fair distribution of health, well-being and sustainability are important social goals. Tackling social inequalities in health and tackling climate change must go together.”

Marmot report, 2010

The problem and consequences associated with poor housing and pest control still persist in the 21st century. Poorly constructed and maintained properties often become infested with rats, mice, flies, bedbugs and cockroaches. All of these pests deprive us of complete physical, mental and social wellbeing.

Changes in the provision of public health protection are currently being discussed at Government level but few if any of the medical staff, who will dominate the various local committees, understand the impact that pests have on unhealthy housing conditions.

Why should they, when during their training, they only receive a few hours on pest related diseases and conditions?

“Fair Society, Healthy Lives” The Marmot Review (Strategic Review of Health Inequalities in England post-2010) recorded that there is a social gradient in health – the lower a person’s social position, the worse his or her health. Action should focus on reducing the gradient in health. It concluded that reducing health inequalities will require action on a number of policy objectives which include; ensuring a healthy standard of living for all; creating and developing healthy and sustainable places and communities and; strengthening the role and impact of ill health prevention. Marmot also said that national policies will not work without effective local delivery systems focused on health equity in all policies. Those lower down the socio-economic scale will suffer disproportionately more than the higher social classes as the result of the changes in local authorities and pest management.

If urban rodent infestations are a reflection of a degraded environment then the social gradient in health will be increased in the “perfect storm” and the direction of travel will be completely opposite of what Marmot calls for.

It is difficult to assess the annual cost to the UK economy of ill health associated with pests but, in any community, people who are unable to work or need regular time away from their jobs as a result of pest related illnesses are likely to be a burden on the local economy.

On the one hand, they will need to draw on medical resources and be in receipt of benefits.

On the other hand, they are unable to contribute to the economic health of the community through paying taxes or by being able to support local businesses.

Fortunately, the way in which the world thinks about health and well-being is changing. Governments now agree that to reduce health inequalities and enhance well-being, the emphasis should be on prevention rather than cure.

We need to see a greater awareness regarding pests and the need to control them at a public level in order to prevent this repetitive “circle of life” cycle.





Sheffield City Council
sheffield.gov.uk

6.0 Conclusion

Pests spread disease and cause unhealthy living conditions, which is why their control has been a fundamental part of public and environmental health for over 150 years.

The control of pests needs a sustainable approach which is based not only on a professional level of expertise but also on a good working knowledge of the problem areas within our cities and towns.

The fundamental objective of a pest management programme is to reduce the conditions that encourage the presence of pests and allow infestations to become established.

Achieving this will often require an intervention by a qualified officer working for the local authority.

The contracting out of pest control services by local authorities to commercial companies is becoming more prevalent and future trends show this will increase. This means that the strategic approach to control will not be taken as the underlying and expert knowledge needed to prevent unhealthy housing and unsafe public areas is being lost.

This will inevitably lead to two major and undesirable effects.

- There will be an increase in pest problems leading to more unhealthy living conditions and degraded environments
- More treatments will have to be undertaken once the problem has been allowed to become established than would have been the case if routine preventative measures were in force.

CIEH recognises the need for local authorities to live within their budgets but failing to recognise problems now will only lead to higher costs later. That is a false economy which will simply pass the problem onto the next generation and increase health care costs in the present

It recommends therefore that a structure must be developed whereby local pest management expertise and strategic control programmes are retained within local authorities, even if a local authority pest control department has to bring in outside contractors from time to time to assist. Pest infestations are no respecter of boundaries and local authorities must work in partnership with their neighbours,

This would enable local authority public health departments to stay on top of any developing pest issues that may need intervention or control and ensure that they are dealt with in a correct and sustainable way.

Without this, the perfect storm really is coming and with it the end of the golden age of public health protection and a reduction in the health of the nation.



“Health inequalities result from social inequalities. Action on health inequalities requires action across all the social determinants of health.”

“Focusing solely on the most disadvantaged will not reduce health inequalities sufficiently. To reduce the steepness of the social gradient in health, actions must be universal, but with a scale and intensity that is proportionate to the level of disadvantage. We call this proportionate universalism.”

“Effective local delivery requires effective participatory decision-making at local level. This can only happen by empowering individuals and local communities.”

Marmot report, 2010



Chartered
Institute of
Environmental
Health

The National Pest Advisory Panel
Chartered Institute of Environmental Health
Chadwick Court, 15 Hatfields, London SE1 8DJ
Telephone 020 7928 6006 **Fax** 020 7827 5831
Email npap@cieh.org **Web** www.cieh-npap.org