

to be dispersed. At the lower end of the scale, improving ventilation and sealing cracks in concrete floors may do the trick. With suspended timber floors the aim is to increase the flow of air beneath them—either passively through air bricks or by installing a fan. In houses with a concrete floor and higher radon levels it may be necessary to dig a sump—a small cavity beneath the floor—from which air is extracted, so removing any troublesome gas that might otherwise find its way into house.

Do these arrangements actually work? Passive systems are less effective and, although they have no moving parts to wear out, may still go wrong: airbricks blocked by vegetation, for example. Only a further radon test will reveal if there's been a failure. Active systems are better at removing the gas—but electric extractor fans don't last for ever. The National Radiological Protection Board (NRPB) has demonstrated their value² and also shown that fans reckoned to have a working life of no more five years may actually run for double that.³ So even householders too negligent to examine their extractor fans more than once a year still have much to gain.

One form of negligence that's harder to overcome is a disinclination to do anything at all. A brief review of domestic radon published three years ago by the Parliamentary Office of Science and Technology made gloomy reading.⁴ It reported estimates by NRPB that the gas significantly affects around 100 000 properties

in Britain. Of householders whose radon was above the recommended action level (200 Bq/m³), only about 10% were actually tackling the problem. NRPB says it has no reason to believe that the figure has subsequently improved.

Why the poor showing? The Parliamentary Office of Science and Technology identified four factors: a reluctance to do anything if the radon concentration is only slightly above the action level; a tolerance of "natural" radiation as opposed to its equivalent from the nuclear industry; inadequate access to reliable advice; and, of course, simple inertia.

Reflecting on his life's work, a distinguished radiation biologist once regretted that radioactivity was invisible. He'd always wished, he said, that he could paint it blue. Maybe our enthusiasm for home protection would get a boost if the gas percolating up through the floorboards had some equally eye catching colour.

Competing interests: None declared.

- 1 Darby S, Hill D, Auvinen A, Barros-Dios JM, Baysson H, Bochicchio F, et al. Radon in homes and risk of lung cancer: collaborative analysis of individual data from 13 European case-control studies. *BMJ* 2005;330:223-6.
- 2 Naismith SP, Miles JCH, Scivyer C. The influence of house characteristics on the effectiveness of radon remedial measures. *Health Physics* 1998;75:410-6.
- 3 Howarth C. Long term effectiveness of radon remedial actions. *Environmental Radon Newsletter* 2004;39:4.
- 4 Parliamentary Office of Science and Technology. Reducing radon risks in the home. www.parliament.uk/post/pn158.pdf (accessed 29 Nov 2004). doi 10.1136/bmj.38315.668009.63

A multiagency protocol for responding to sudden unexpected death in infancy: descriptive study

Anne Livesey

A working party set up by the Royal Colleges of Pathologists and of Paediatrics and Child Health has recommended introducing a national multiagency protocol for the management and investigation of sudden and unexpected deaths in infancy.¹

In 1999, a protocol embodying many of the features now recommended for the national protocol was introduced in Sussex, England.²

This report on how such a protocol works in practice and its findings have implications for the implementation of a national protocol.

Participants, methods, and results

I collected anonymised data from coroners' records on postmortem investigations and cause of death of all infants who were reported to have died suddenly and unexpectedly in Sussex (total population 1 500 000, 150 000 aged under 15) in the three years 2000-2.

I used postal questionnaire and semistructured interview to get information about the working of the protocol from professionals in the seven relevant disciplines and from parents (subject to their general practitioners' consent).

I identified 29 infants, aged 3 days to 8 months; adequate records for analysis were available on all but one. Eight of the 29 deaths were attributed to a specific natural cause, 16 to sudden and unexpected death in infancy or to sudden infant death syndrome, one to unintentional overlay (suffocation), and two to unnatural causes; two were classified as unascertained (table).

Implementation of the protocol varied considerably. The ambulance service had not implemented it. In accordance with the protocol, coroners or their officers sometimes refused permission for pathology samples to be taken immediately but could not always readily be contacted out of hours. Interagency discussions were held in all cases, but relevant professionals were not always invited to contribute. Joint home visits by police and paediatricians were generally not initiated. Most paediatricians had concerns about being available at short notice, and some were unwilling to visit the home. Despite the guidelines, some also expressed uncertainty about their role. The number of police involved tended to be disproportionate and some parental feedback on police involvement was negative.

Editorial by Platt

Department of Community Child Health, South Downs Health NHS Trust, Royal Alexandra Hospital for Sick Children, Brighton BN1 3JN
Anne Livesey
consultant community paediatrician

anne.livesey@southdowns.nhs.uk

BMJ 2005;330:227-8

This article was posted on bmj.com on 13 December 2004: <http://bmj.com/cgi/doi/10.1136/bmj.38323.652523.F7>

Compliance with protocol for responding to sudden unexpected death in infancy

Protocol requirement	Total cases	Cases complying
Baby transported to hospital (not direct to mortuary)	28	26
Pathology samples taken in emergency department	28	10
Joint home visit by paediatrician and police officer	28	1
Early interagency strategy discussion	28	28
Postmortem examination by paediatric pathologist (or general pathologist with a special interest)	28	27
Postmortem examination included:	28	27
Skeletal survey	28	25
Toxicology	28	10
Frozen section of liver (metabolic)	28	19
Cultures	28	24
Police attendance minimised	28	*
Diagnosis of SIDS/SUDI after early metabolic investigations	15	5
Diagnosis of SIDS/SUDI after abnormal toxicology excluded	15	6

SIDS=sudden infant death syndrome; SUDI=sudden and unexpected death in infancy.

*Data incomplete, but no more than five officers present.

Although postmortem examinations were done in all but one case by pathologists with training, or a special interest, in paediatrics, the transport of bodies to a specialist centre for autopsy contributed to delays of three or more days in investigations in 13 cases. Delays can affect results.³ Diagnoses of sudden infant death syndrome sudden and unexpected deaths in infancy were made without consistent investigations.

Comment

The implementation of a multiagency protocol for managing sudden and unexpected deaths in childhood had serious deficiencies. These may have arisen from a lack of overall leadership and responsibility, failure to anticipate its implications, and non-compliance by some individuals. This occurred even though it had been drawn up in consultation with all the relevant disciplines

The wrong time and place

As doctors, we are constantly faced with intense, sometimes unbearable, pressures, and we use various strategies to cope. One preferred method is sharing our experiences with colleagues. We are able to acknowledge horrendous scenarios, justify our errors, and forgive our mistakes by making a situation light hearted. Too often we forget that in the world beyond the hospital walls this can sometimes be considered callous and disrespectful.

One Saturday night I was out with some friends from medical school, and among us was the token "non-medical" friend—the friend every doctor needs to keep our heads out of the clouds and, as far as possible, our feet grounded. As with all medical reunions, the topic of conversation quite quickly turned to our misadventures at work. On this occasion, the conversation turned to the increasing frequency of nursing staff failing to notice patients who had died on a ward until a daily house officer review or, worse still, the weekly consultant ward round. I have to admit that these stories did amuse me. It felt good to be among colleagues who understood, and could find humour in the appalling situations we were all familiar with.

Later that night, while discussing the inequalities in reward for different professions, the non-medical friend said to me, "I don't

mean any disrespect to your job because I think you all do fantastic work, but the jokes made earlier—I just didn't find them funny, I laughed because everybody else did. These are real people with real families, and I can't see how that is funny."

There is no disputing that doctors have to unwind, but we should be careful when using coping strategies to deal with the stress of our profession. As the saying goes, "there's a time and place for everything," and it should ring true for all of us.

Rubeta Matin *senior house officer, Southampton General Hospital, Southampton (mhmatin@hotmail.com)*

We welcome articles up to 600 words on topics such as *A memorable patient, A paper that changed my practice, My most unfortunate mistake*, or any other piece conveying instruction, pathos, or humour. Please submit the article on <http://submit.bmj.com> Permission is needed from the patient or a relative if an identifiable patient is referred to. We also welcome contributions for "Endpieces," consisting of quotations of up to 80 words (but most are considerably shorter) from any source, ancient or modern, which have appealed to the reader.

What is already known on this topic

A uniform system for the care and investigation of sudden unexpected death in infancy is recommended in a national protocol

What this study adds

Implementation of this multiagency protocol had serious deficiencies; strong and clear lines of responsibility within and between the agencies are needed

and was approved by coroners, area child protection committees, and senior managers.

Although numbers were small, reflecting the rarity of these deaths, and though responses were incomplete, more than half the parents and professionals contacted responded, and coroners provided access to all relevant data. Parents provided valuable feedback on local practice; this will be useful in future evaluations.

Effective implementation of a national protocol will need strong lines of intra-agency and interagency accountability and may need statutory backing.

I thank parents in Sussex, the Sussex Coroners, Edmund Hick (Sussex Police), Eleanor Ennis and Chris Bacon (Foundation for the Study of Infant Deaths), and Rachel Taylor and Ann Skinner. Contributors: Eleanor Ennis interviewed some of the parents. AL is the sole author.

Funding: Foundation for the Study of Infant Deaths.

Competing interests: None declared.

Ethical approval: Given by all local research ethics committees.

1 Royal College of Pathologists and Royal College of Paediatrics and Child Health. *Sudden unexpected death in infancy*. London: RCP and RCPCH, 2004. www.rcpath.org/resources/pdf/SUDI%20report%20for%20web.pdf (accessed 7 Dec 2004).

2 Unexplained child death protocol. www.sussex.police.uk/foi/downloads/557_appendixH.doc (accessed 25 Oct 2004).

3 Sadler DW. The value of a thorough protocol in the investigation of sudden infant deaths. *J Clin Pathol* 1998;51:689-94. (Accepted 2 November 2004)

doi 10.1136/bmj.38323.652523.F7