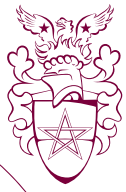

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EDITORIAL

Editorial board

Julie Barratt

Julie is the Director of the Chartered Institute of Environmental Health Wales, with responsibilities including liaison with the National Assembly for Wales, local authorities and non-governmental organisations, promoting and representing the CIEH's policies, and generally seeking to raise the profile of Environmental Health in the Principality. She has had close involvement in a number of high-profile campaigns, including the ban on smoking in public places, the trade against illegal meat and, most recently, the Tattoo Hygiene Rating Scheme. She is a regular contributor to BBC radio and television on consumer and environmental health-related issues and writes extensively on these. Julie is a visiting lecturer in law and legal practice at Cardiff Metropolitan University.

Dr Chris Day – Editor

Chris qualified in Environmental Health in 1979 and after eleven years of working as an EHO set up as a freelance trainer and adviser, before taking up an appointment as a lecturer at King's College London, eventually leading the accredited MSc Environmental Health programme. Chris's teaching and research interests have spanned the field of Environmental Health, though his particular research interest lies in the epidemiology of infectious intestinal disease and the role performed by surveillance in informing (and sometimes misinforming) the aetiology of food-borne illness, which was the subject of his doctoral thesis. Chris's appointment as Education Officer of the CIEH in January 2011 has provided new challenges including the editorship of JEHR and with it the profession's wish to encourage greater research activity and publication amongst students and EHPs.

Dr Jill Stewart

Jill Stewart's environmental health and housing career began in local government, leading to her current post as Senior Lecturer and Research Lead in the School of Health and Social Care at the University of Greenwich. She teaches at undergraduate and postgraduate levels across public health, environmental health and housing subject areas. She is a Chartered Member of the CIEH, a Member of the Chartered Institute of Housing and Fellow of the Royal Society for Public Health. Her main research interests include evidence-based practice

and the effectiveness of front-line strategies and interventions. In this field she recently developed the CIEH's Private Sector Housing Evidence Base working collaboratively with a wide range of practitioners and academics around the country. She is currently involved in researching public health history.

Dr Marie Vaganay

Marie is a lecturer at the University of Ulster and the course leader for the Masters in Environmental Health Management programme. Marie has diverse research and teaching experience but her main interests lie in epidemiology and public health. Over the years Marie has lectured, supervised, reviewed and published widely on these subjects and is a member of several review panels and government committees. She holds a doctorate in accident prevention. Marie is the immediate past Editor of the JEHR.

AIMS AND SCOPE

The *Journal of Environmental Health Research* is a peer-reviewed journal published online.

The Journal publishes original research papers, review articles, literature reviews, commentaries on technical and professional matters, book reviews, workshop/conference reports and short communications covering the diverse range of topics that impinge on public and environmental health. These include: occupational health and safety, environmental protection, health promotion, housing and health, public health and epidemiology, environmental health education, food safety, environmental health management and policy, environmental health law and practice, sustainability and methodological issues arising from the design and conduct of studies.

A special category of paper – the 'first-author, first-paper' – is designed to help build capacity in environmental health publications by encouraging and assisting new authors to publish their work in peer-reviewed journals. Here the author will be given active assistance by the editors in making amendments to his or her manuscript before submission for peer review.

The Journal provides a communications link between the diverse research communities (academics, students, practitioners and managers) in the field of public and environmental health and aims to promote research and knowledge awareness of practice-based issues. Beyond this it aims to highlight the importance of continuing research into environmental health issues.

Editorial correspondence
Items for publication, letters and comments on the content of the Journal and suggestions for book reviews should be sent to the editors, by email, to c.day@cieh.org

Details regarding the preparation and submission of papers ('Notes for Authors') can be found at the back of this issue and at www.jehr-online.org

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Chartered Institute of Environmental Health

EDITORIAL

Welcome to the 'real world'

by Dr Chris Day, editor, CIEH

In prefacing the third issue of the *Journal of Environmental Health Research* under my editorship, I would wish to begin with an apology and finish with some acknowledgements. My apology is for making this the first and only edition of JEHR in 2015. I sincerely hope to report that we manage two editions in 2016, and it is certainly my aim that the Journal should appear on a quarterly basis before too long.

Naturally, work in the JEHR should reflect good scholarship, particularly when the research behind it is more fundamental and less applied. However, the JEHR is particularly keen to publish and promote the work of those in environmental health who are actively working in the field. Such papers add to the body of knowledge on a subject and serve to establish the impact of interventions that are so vital in demonstrating the professional worth of the profession and its practitioners.

On behalf of the Editorial Board I should like to encourage those who have not yet considered writing about their experiences and the insights gained from 'doing the job' to do so and to seek publication here in JEHR. For, it is through research in these naturalistic settings, that we are enriched and enlightened, and ultimately we can build the firm evidence-base so important to improving the health and well-being of others.

As we are especially keen for practitioners to see this journal as the place where their research should find expression, it needs to be emphasised that it is through putting work into context that allows it to be of value to the wider profession (and hence suitable for publication). For many, this process will not present a problem, but where the practitioner is unfamiliar with the world of research and publication, and they are intent on becoming a 'practitioner-researcher', there would seem to be a solution.

This is simply to make contact with an academic at a local university or college with experience of developing research projects and a 'track record' of writing papers or articles that have been accepted for publication. They may, or may not, wish to co-author the paper with you, but this is accepted practice in

academe and will not detract from your achievement when your work is published. Of course, this process is mutually beneficial since the practitioner in the field can assist the academic to ground their research in the 'real world', where the practitioner is likely to be much more familiar.

Mention of this brings me on to a reference book entitled: *Real World Research* by Colin Robson, which I have in its third edition published by Wiley in 2011. If you are seeking to obtain a grasp (or better grasp) of the discipline, it is simply the one book to buy. Its many reviewers consider it to be the best of its kind and I can give it no higher praise. However, please note that a fourth edition is due to be published in January 2016, again by Wiley, this new edition being co-written by Robson and Kieran McCartan (ISBN: 978-1-118-74523-6).

This seems an appropriate place to express my appreciation of those who are quietly working away behind the scenes to help their peers become 'research active'. It would be invidious to mention them by name but they are responsible for the valuable work coming out of the CIEH's Research Strategy Group, organising conferences and seminars through the Education and Research Special Interest Group (SIG) and, most recently, setting up a 'mentoring scheme' for practitioners to realise their dream of becoming 'practitioner-researchers'.

Finally, I should like to thank the contributors to this edition of the JEHR through whose efforts we can appreciate, a little better, the challenges of the real world.

Chris Day – 14 October 2015

Journal of Environmental Health Research

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PAPER

'Inspector of Nuisances' to 'Environmental Health Practitioner': a case study of title change in the professionalisation process

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ABSTRACT

Drawing upon archival research, this paper contributes to the professional history of the environmental health practitioner by exploring how, over 150 years, the designation 'Inspector of Nuisances' successively changed to 'Sanitary Inspector'; back to 'Inspector of Nuisances'; then 'Sanitary Inspector' again (at first only in London); 'Public Health Inspector', and 'Environmental Health Officer' to today's 'Environmental Health Practitioner'. Few occupations can have endured so many changes. The first two changes were not influenced by the inspectors, but the subsequent changes were junctures in the inspectors' professionalisation project as they pursued an occupational designation that accurately conveyed their full role and function. Title change became a battlefield for boundaries and power as the medical officers of health (MOHs) sought to sustain their occupational dominance, while the employing local authorities attempted to suppress the status and thereby the salaries of the inspectors.

Key words: Inspector of Nuisances, Sanitary Inspector, Public Health Inspector, Environmental Health Officer, Environmental Health Practitioner, medical dominance

ARTICLE

> *'I find it hard to reconcile the tributes paid by Hon. Members on both sides of the House with the opinion of the minority that this fine body of men which has done such magnificent work for the community is incapable of coming to a responsible decision about its own designation'.* (Hornsby-Smith in Hansard, 1956, 1352)

Sanitary inspection has until relatively recently received little attention from the historians and sociologists of the professions.[1] The inspectors' work has often been subsumed into that of the MOHs, with little cognisance of who actually performed the work represented by the often impressive numbers in the columns of the MOH's Annual Reports. While the inspector is often portrayed as the lackey of the medical officer, the appointment of an MOH was initially discretionary and most districts chose not to appoint one, while the appointment of an inspector was mandatory (BMJ, 1868, p 489). Later, when the 1872 Public Health Act made the appointment of an MOH mandatory, many towns and rural districts employed a nominal part-time MOH or joined together with others to employ one. In these districts the inspector, being full-time, was often the *de facto* head of the public health department.[2]

In some large towns and cities with an MOH, the 'Sanitary Department' or 'Nuisance Department' was separate from the Health Department. The MOH and the Inspector were both statutory officers with roles that were clearly prescribed in statute and subordinate legislation. The relationship between the two posts was nevertheless 'fudged', and the extent to which the inspector was subordinate to the MOH, beyond dealing with cases and outbreaks of infectious disease, was in successive Ministerial Orders and Regulations left to the discretion of each local authority. This was fertile ground for discontent and turf wars when the professionalisation projects of the two occupational groups touched. These tensions were also evident in the successive changes of the official designation from 'inspector of nuisances' to 'sanitary inspector', then back to 'inspector of nuisances', then 'sanitary inspector' again, before 'public health inspector'.[3]

In this paper I focus on the sequence of title changes in the context of the 'professionalisation' of the inspectorate. Professionalisation is the extended process of negotiation to achieve higher occupational status (whether a conscious project or not). This can include negotiation of the control of entry; education and training; self-regulation; and 'closure' whereby only a member of a particular occupation is permitted to undertake certain tasks. The early theorists of the professions such as Theodore Caplow and Harold Willensky, saw title change as an element of a sequence of professionalisation events that

usually followed the establishment of a professional association and closure by a state-prescribed examination (Caplow, 1954; Willensky, 1964). Willensky saw such title change as a means by which a new, qualified generation attempts to distinguish itself from a previous lesser incarnation. The first junctures in the inspectors' sequence of title changes, in 1855 and 1872, were not influenced by the inspectors and did not follow Wilensky's pattern; the inspectors' professional association was not formed until 1883[4] and closure was not implemented until 1891, and then only in London (Great Britain, 1891). Nevertheless, these junctures can be viewed from a professionalisation perspective as the emerging MOH group seeking to define its own professional domain and limit that of the inspectors.

In 1892, at a conference of sanitary inspectors, Sir Benjamin Ward Richardson, eminent physician and the President of the Sanitary Inspectors Association (SIA), described the origin of the sanitary inspector thus:

> *'It was soon found by experience that the medical officer of health required a working hand, since it was impossible for him to go from his office to inspect every danger to health. In this way sprang up the sanitary inspector.'* (Richardson, 1892)

Richardson was wrong, for sanitary inspectors were originally called 'inspectors of nuisances', and there were inspectors of nuisances for centuries before the office of MOH was conceived.[5] Britain's first MOH was William Henry Duncan, appointed in Liverpool on 1st January 1847. His colleague, Thomas Fresh, had been appointed 'Inspector of Nuisances' by the Health of the Town Committee over two years earlier on 4th September 1844, and had been responsible for environmental health interventions for years before that (Parkinson, 2013). In 1846, drawing on the success of Fresh's appointment, Liverpool promoted its own private 'Sanatory Act' (Great Britain, 1846a)[6] that provided for the mandatory statutory appointment of an inspector of nuisances with an explicit public health role, and the discretion to appoint an MOH. The two officers had independent but complementary roles. Duncan had no staff of his own (Frazer, 1947),[7] whereas Fresh had a staff of 13 and was responsible for a wide range of environmental health interventions that went far beyond the inspection and suppression of nuisances and included: the regulation of cellar dwellings; lodging houses; filthy and unhealthy dwellings; smoke emissions; slaughter houses and meat; knackers yards; cemeteries; cesspits and middens; the keeping of animals; accumulations; water supplies; and the disinfection of infected dwellings (Fresh, 1851).

The Liverpool Act is significant for it was the first public health act to mandate the appointment of sanitary officers, and it was the precedent for the City of

London Sewers Act 1846 (Great Britain, 1846b), the Towns Improvement Clauses Act of 1847 (Great Britain, 1847), and the Metropolis Management Act 1855 (Great Britain, 1855a), all of which mandated the appointment of an inspector of nuisances like Liverpool's. The 1848 (Great Britain, 1848), 1872 (Great Britain, 1872) and 1875 (Great Britain, 1875) Public Health Acts also mandated the appointment of an inspector of nuisances but used a different wording. The office and title of inspector of nuisances was not new, but significantly for the genesis, evolution and ideology of the occupational group, the rationale had changed from the maintenance of good order to the promotion of a safe and healthy environment. The inspectors' employer was no longer the Watch Committee, the Court Leet or the magistrate, but the Health Committee. Nuisances not linked with public health remained within the province of the police.

The statutory designation 'sanitary inspector' was first used in the Nuisances Removal and Disease Prevention Act 1855 (NRDPA) (Great Britain, 1855b). The Act was notable for its explicit association of disease and nuisances and, indeed, disease prevention and sanitary inspectors. Every local authority was required, if they had not already appointed an inspector under another Act, to appoint a permanent 'sanitary inspector' or join with other authorities in appointing one. The emergence of a corps of non-medical local officials with a public-health brief seems to have threatened the medical profession. During the Bill's passage, questions were asked in Parliament on behalf of the British Medical Association (BMA), which was concerned to preserve the occupational domain for its members (Hansard, 1855). A deputation from the Metropolitan Sanitary Association met with the President of the Board of Health to suggest that sanitary inspectors should be termed 'medical inspectors' and should be qualified medical men (Association Medical Journal, 1855). Over the next 120 years the inspectors' professionalisation project was characterised by its struggle with the medical profession and its attempts to limit and subordinate the inspectorate.[8]

The Metropolis Management Act 1855, that was enacted on the same day as the NRDPA, followed the Liverpool precedent and therefore it required vestries in London to appoint an 'inspector of nuisances'. Parliament's use of the designation 'inspector of nuisances' continued with the Public Health Act of 1872, which made it a duty of all *rural* sanitary authorities to appoint, or combine with others to appoint, an inspector of nuisances. It was already a duty under the NRDPA and the Public Health Act 1848, as amended by the Local Government Act 1858 (Great Britain, 1858), for every *urban* sanitary authority (i.e. the borough councils and local boards of health) to appoint a sanitary inspector or inspector of nuisances. The 1875 Public Health Act that applied outside London reverted to the designation 'inspector of nuisances'. An article in *Health News* suggested

that the designation 'inspector of nuisances' had been deliberately 'calculated to convey only a limited idea of the value and scope of their services' (Health News, 1896). The statutory designation had become a mechanism for state-mediated occupational subordination. Letters to *The Sanitary Record* in September and October 1877 show that some MOHs objected to the use of 'sanitary', seeing sanitary (i.e. health) matters as their exclusive province. One of them wrote 'I will take good care that none of my inspectors of nuisances shall even attempt to call themselves sanitary inspectors.' (MOH, 1877).

At its very first meeting in 1883 the Sanitary Inspectors Association (SIA), then the Association of Public Sanitary Inspectors (APSI), debated which designation to use in its title. It rejected a motion for 'inspector of nuisances' in favour of 'sanitary inspector' (APSI, 1883; The Sanitary Record, 1883a; 1883b). Later in 1883, in his inaugural address, the APSI's first Chairman, George Jerram, referred to the continuing debate as to whether the title should be 'inspector of nuisances' or 'sanitary inspector'. He proposed that 'sanitary inspector' was the proper designation 'since the work of an inspector includes much more than is implied in the name 'inspector of nuisances' (Jerram, 1883). In a paper presented to the APSI in December 1890, Edward Robins, prominent architect and sanitarian and a member of the boards of examiners of both the Royal Institute of British Architects and the Sanitary Institute, asserted:

> *'The present time, as compared with 30 or 40 years ago, is far in advance of anything contemplated by the Acts which instituted the order of men known as 'Inspectors of Nuisances'...You are not now inspectors of nuisances only. You have to inspect, approve or disapprove of sanitary work generally and therefore should be acquainted with sanitary science in its various applications to house drainage and sanitation, to dairies, slaughterhouses, etc, and the detection of impure food... (Your title) should be expressive of your particular work, and since you have outgrown the superficial designation, you may reasonably claim to be recognised by the more appropriate title - 'sanitary inspectors'.'* (Robins, 1890)

When the Public Health (London) Bill 1891 was promoted in Parliament by the British Medical Association, the SIA, with growing confidence, was able to influence the Government to include the reversion of the title to 'sanitary inspector' (Alexander, 1900). So, when Sir Benjamin Ward Richardson gave his address in 1892, the statutory designation in London was 'sanitary inspector' and outside London it was 'inspector of nuisances', though it can be seen from the founding prospectus of the APSI that both titles were in use both inside and outside London (APSI, 1883).[9] The continued widespread use outside London of the designation 'sanitary inspector' suggests that the local

authority employers, the individual inspectors, and the public preferred, or had at least become familiar with that designation and it had therefore been retained even though in law the title had reverted to 'inspector of nuisances'. This sometimes caused problems. The use of 'sanitary inspector' outside London was challenged in a prosecution for the selling of unfit food, when the court took the view that Wigan's Chief Sanitary Inspector had not been designated as an 'inspector of nuisances' and therefore had no right to exercise the powers vested in one.[10]

After the change of title in London by the Public Health (London) Act 1891 (Great Britain, 1891) it was widely anticipated that this would be extended to the rest of the country, but the proposals became caught up in the long-standing acrimonious dispute between the Sanitary Institute and the Institute of Public Health.[11] Frustrated, the SIA promoted a private Public Health Bill proposing the re-designation of all inspectors of nuisances as 'sanitary inspectors' (Public Health, 1900), but that Bill did not progress. In 1905 another Public Health Bill, which included the change of designation, was jointly promoted by the SIA and the BMA, but that proposal also failed in Parliament (Public Health, 1905). Clearly the BMA no longer saw the title change as a threat to the MOH's own professionalisation project, for by then it had secured that the Diploma in Public Health was a registrable qualification and it was a statutory requirement for MOH appointments to districts with a population exceeding 50,000 (Chave, 1974). Furthermore, the medical profession had already achieved the subordination of the inspectors through its control of both of the inspectors' examination boards, from which the inspectors were excluded (a tactic that sociologist Gerald Larkin later recognised in his study of the medical domination of other health-related occupations [Larkin, 1978; 1981]), and its concerted national campaigns that utilised scaremongering and insults, often class-related, to influence Parliament to limit the inspectors' statutory powers.[12]

In 1912 Francis Vacher, an MOH and President of the North West Centre of the SIA, sparked an exchange of correspondence in *The Sanitary Journal* when he expressed his dislike for the designation 'sanitary inspector' and was the first to suggest the title 'inspector for public health' (Vacher, 1912). The editor of *The Sanitary Journal* responded by supporting the use of 'public health' rather than 'sanitary', 'betokening as it does the wider significance of our work, but we wish it were possible to get rid of the term "inspector" ' (The Sanitary Journal, 1912). That would take another 60 years.

During 1920 SIA officers met several times with Ministry officials and with Members of the House of Commons to press for the reversion of the designation outside London, with the result that it was included in the Ministry

of Health (Miscellaneous Provisions) Bill. This passed successfully through the Commons but was defeated in the Lords (Sanitary Inspectors Association, 1921). Eventually, after decades of lobbying by the SIA, and despite opposition from the Association of Municipal Corporations (AMC), which aimed to suppress the status and salaries of the officers employed by its members, the Public Health (Officers) Act 1921 (Great Britain, 1921) finally removed the title 'inspector of nuisances' from appointments outside London.

In 1931 an editorial in *Public Health*, the journal of the Society of Medical Officers of Health, expressed dislike for both the 'inspector of nuisances' and the 'sanitary inspector' titles:

> *'So named it seems to me that the office was damned from the beginning, and it is to be wondered how the persons adopting the calling have been able to triumph over it...their field of operations has extended from the mere policeman or inspector of nuisances to taking a share in the higher hygienics, epidemiological work, food protection and so on. That they should have been satisfied with 'sanitary' surprises me...why did they not press for 'health' and press, too, for the abolition of 'inspector'? Inspection was only part of their work, quite a considerable portion of it being educational of all kinds of people in hygiene, environmental and personal.'* (Public Health, 1931)

Four years later the editorial in *Public Health* that reported the 1935 Annual Conference of the Sanitary Inspectors Association was less supportive, taking a somewhat sarcastic tone. Noting that 'health inspector' had been suggested as suitable and acceptable most frequently, it commented that in some quarters 'inspector' was objected to, but 'officer' would be an acceptable alternative. It mischievously claimed that 'Assistant Medical Officer of Health' had been suggested. I could not find that suggestion in the Weymouth conference proceedings, and it seems to have been manufactured by *Public Health*'s editor to provide a springboard to his quip:

> *'but if there is one thing that a very large number of sanitary inspectors appear to object to, it is being regarded in any shape or form an assistant to the medical officer of health. It is a detail also that the sanitary inspector is not medical - that is merely a detail, of course.'* (Public Health, 1935)

Public Health's sarcasm was in the context of the long-standing tensions between MOHs and sanitary inspectors on issues such as the practical interpretation of the legislation that required the sanitary inspector to work 'under the general direction' of the MOH, the sanitary inspectors' efforts to gain representation on their own examination board, and the raising of

academic and professional standards. In its editorial 'En Passant' column, *The Sanitarian*, journal of the SIA, stated that it preferred to keep the 'sanitary' title since it 'clearly differentiated the calling from other sections of the service' i.e. the medical officer's section. The article referred to recommendations for change 'from sources not too friendly to sanitary inspectors...in a journal which caters for all sorts and sundry interests' (The Sanitarian, 1935). It was probably alluding to the *Journal of the Royal Sanitary Institute*.[13] It is clear that the debate was current, for in an article in that journal in the same year William Pyatt stated '...the new title is still misleading, and a change to one which more closely resembles the work undertaken is overdue' (Pyatt, 1935).

In December 1942, Lord Amulree, a Principal Medical Officer at the Ministry of Health, and Mr Marchbanks, a senior civil servant, met with Mr TE Birtwistle of the SIA on the issue of deteriorating relations between MOHs and sanitary inspectors. Amulree and Marchbank became convinced *inter alia* that the sanitary inspector's title should be changed to 'sanitary officer' (Marchbanks, 1942). The discourse that followed eventually led to the establishment of a Ministerial *Working Party on the Recruitment, Training and Qualification of Sanitary Inspectors* under the Chairmanship of Sir John Maude (Maude, 1953). In its evidence to that working party, the Society of Medical Officers of Health supported a title change but nevertheless it tried to protect its own interests:

> *'We consider that, with the passage of time, the title 'Sanitary Inspector' no longer represents the scope and responsibility of this officer's work. We would support a change of title, such as 'hygiene inspector' ...his special province is environmental hygiene.'* (Society of Medical Officers of Health, 1952)

The title 'hygiene inspector' would not have been welcomed by the inspectors, for while 'hygiene' can be synonymous with 'environmental health', its popular meaning tended towards mere 'cleanliness' and that would have represented a very superficial and restricted view of their work. The medical officers seem to have attempted to steer the Working Party away from the word 'health' which they regarded as their own exclusive domain, but they were happy for 'inspector' to be retained. 'Inspector' implies the mere gathering of data and it would have reflected an inaccurate perception of the inspector as the subordinate 'eyes, nose and ears' of the MOH. The alternative, 'officer', especially if used with 'health' or 'public health' would have been uncomfortably close to the MOH's own title.

Meanwhile, before the outcome of the Working Party was known, the SIA balloted all of its members on the change of designation. An earlier ballot in 1949 had not included 'public health inspector' and the most popular title then had been 'sanitary officer', but that ballot had not produced an absolute majority. The first

stage of the ballot in December 1952 asked SIA members to put seven titles in order of preference, with 'public health inspector' and 'technical officer of health' receiving 1,523 and 881 votes respectively. In the second phase, the four most popular titles from the first phase were re-balloted (The Sanitarian, 1956). The SIA General Council recommended the title 'technical officer of health' – a designation which used 'health' instead of 'sanitary' and avoided 'inspector', while clearly distinguishing the officers from the *medical* officer of health. Overwhelmingly the membership rejected that proposition in favour of 'public health inspector'. The second phase of the ballot was clear cut: hygiene officer 192; sanitary officer 294; technical officer of health 324, and public health inspector 1,506 (The Sanitarian, 1953). One correspondent to *The Sanitarian* described 'technical officer of health' as 'a monstrosity to which the (SIA) General Council has given birth' (Iddison, 1953), though I believe that its origin may be found in the standard letter that the Ministry would send to the many local authorities that sought advice about the relationship between their MOH and their inspector,[14] while another objected to the use of 'public health' since 'it would confine us to the Public Health Department, in which there can be but one fold and one shepherd.' (Wilkinson, 1953).

The Minister's Working Party considered the argument that 'the designation "sanitary inspector" gave rise to misconceptions as to the true character of a sanitary inspector's responsibilities', and while 'sanitary' and 'health' were synonymous, in contemporary common parlance the word 'sanitary' had come to be connected with drains, sewers and water closets and the like (Maude, 1953). It may have been responsible for 'the relatively low esteem in which the occupation (was) held by some members of the general public in comparison with other careers open to young men with comparable academic attainments', and thus the Working Party believed that recruitment had been adversely affected (Maude, 1953). It decided that the case for substituting 'sanitary' with 'public health' had been made.

The Working Party also heard that the word 'inspector' was more commonly associated with work of a type such as 'gas inspector' or 'ticket inspector'. However, the Working Party did not object to the word 'inspector', which they saw as less generic than 'officer'. Nor did they regard it as derogatory, since there were a wide range of inspectors in public life and some had 'more important functions'. The only alternative they could see was 'officer', yet 'public health officer' was generic and imprecise, and might be confused with 'other officers in the health department' i.e. the MOH.

The Working Party recommended that the title 'sanitary inspector' should be replaced by 'public health inspector' (Maude, 1953). However, despite an

undertaking given by the Minister, the Ministry did not make any progress towards the legislative change that would be necessary to implement the Working Party's recommendation (The Sanitarian, 1956). The SIA therefore decided to sponsor yet another private bill. This would have been an expensive option and unlikely to succeed without Government support. Fortunately for the SIA, Sir Wavell Wakefield MP, who had been successful in the annual parliamentary ballot for the right to introduce a Private Members Bill, offered to sponsor the Sanitary Inspectors (Change of Designation) Bill. His Bill was introduced on 9th November 1955. Its passage was initially delayed by lack of time in the Commons (private members bills are always low on the list) but eventually the Bill had its second reading when it was unopposed and passed to the Committee Stage. No significant opposition was raised in Committee and the Bill passed to its third and final reading in the Commons.

Meanwhile, the Bill's opponents had been canvassing their supporters. The Association of Municipal Corporations (AMC) sent literature to every Member of Parliament and asked every Town Clerk to contact the local MP to oppose the Bill. An editorial in *The Sanitarian* commented: 'Has there ever been a better example of the proverbial sledge-hammer to crack a nut than this circular?' (The Sanitarian, 1956). It appears from the debate that the Society of Medical Officers of Health had also briefed its Parliamentary supporters. The opposition from the AMC was formidable, and the SIA tried to defuse it by organising a meeting with the Health Committee of the AMC to put its case (Johnson, 1983, pp 48). Despite that, and the recommendation of the Minister's Working Party, the AMC maintained its opposition on the grounds that 'a case had not been made out for a change', but, from the subsequent parliamentary debate, it became clear that the AMC's opposition was based on the supposition that the name change would have brought demands for higher salaries. That rationale tends to support the proposition that the title 'sanitary inspector' was indeed responsible for a perceived low status and the suppression of salaries. Some opposition from MOHs seems also to have been channelled via the AMC.

With the bill being supported by a recommendation from a Ministry of Health working party, and having been unopposed at its First and Second Readings and the Committee Stage, one might have expected such a short and apparently inconsequential bill to pass quickly and unopposed at its Third Reading. This was not to be the case, for the concerted action of the AMC via its Parliamentary supporters led to a debate lasting over 45 minutes and nearly 6,000 words in Hansard. Seven MPs spoke against the Bill and four supported it. All but one of the speakers against the Bill made highly complimentary statements about sanitary inspectors – before going on to oppose the Bill: 'a

fine body of men who have been doing an exceedingly good job' (Blackburn in Hansard, 1956, 1338); 'a valuable body of men to which people can point with pride, performing a very great and important function' (McColl in Hansard, 1956, 1338–1340); 'a body of men who have served the public well' (Arbuthnot in Hansard, 1956, 1346); 'The raising of standards of sanitation in this country since 1848 has been very largely secured by the work of these men' (Ede in Hansard, 1956, 1345); and 'a very honourable profession, enshrined in the hearts of all who over the years have fought against slum landlords and intolerable living conditions' (Simmons in Hansard, 1956, 1348).

The Bill's opponents also disingenuously defended the existing title as 'an ancient and honourable name' (McColl in Hansard, 1956, 1339); 'a term of considerable honour' (Ede in Hansard, 1956, 1344); and 'a title of honour' (Arbuthnot in Hansard, 1956, 1343). They pleaded that there was no reason to change it. Another proposition was that the title should be preserved as part of the national heritage: 'in the interests of the traditions of local government let us keep this name' (Simmons in Hansard, 1956, 1349); 'All through our history of public health legislation, in the very front rank has been the sanitary inspector. One remembers the famous remark of Disraeli *'Sanitas sanitatum omnia sanita'* (McColl in Hansard, 1956, 1339). Both Frederick Blackburn MP (Blackburn in Hansard, 1956, 1337) and James MacColl MP (McColl in Hansard, 1956, 1339) suggested that other titles such as 'Speaker', 'Whip' and 'Parliamentary Secretary' would have to be changed if a precedent was established, as their titles, too, did not indicate the true nature of their jobs.

The underlying reasons for the orchestrated opposition were however revealed: 'There is likely to be confusion between public health officers and public health inspectors' (Blackburn in Hansard, 1956, 1338); 'there is a danger of confusion (with) other officers in the office of medical officer of health' (Arbuthnot in Hansard, 1956, 1346); and 'The change of nomenclature will be used as an argument for their being paid considerable salary increases' (Hobson in Hansard, 1956, 1341). The MOH's and AMC's arguments were manifest, and William Wilkins MP exposed the lobbying:

> *'We know where the objections come from, because we have had the literature circulated to us...We also know that objections come from certain interested parties who are not anxious to see these people properly designated.'* (Wilkins in Hansard, 1956, 1342–3)

Wilkins, Frank Beswick MP, Arthur Blenkinsop MP and Patricia Hornsby-Smith MP spoke for the Bill. The Conservative Government gave its support to the Bill despite the Working Party having been set up under the previous Labour

government. Hornsby-Smith, Parliamentary Secretary to the Ministry of Health, told the House:

> *'The term 'sanitary inspector' (is) no longer a correct description of the work and duties of these officers...The working party reported in 1953 unanimously recommending that the term was an anachronism and also a deterrent to recruitment. The Bill follows the recommendation of the working party which they (i.e. the opposing Labour members) themselves set up, and yet certain of them propose to reject it...only a small percentage of the time of sanitary inspectors is now spent upon duties traditionally ascribed to them, such as the inspection of drainage. Such matters take up only 6.1 per cent of their time, and scavenging, cleansing and refuse removal account for 3 per cent. That is a total of under 10 per cent and the other 90 per cent of time is taken up by a much wider variety of duties on health matters than is connoted by the word 'sanitary' in the mind of the public.'* (Hornsby-Smith in Hansard, 1956, 1351–2)

The Bill passed its third reading and went on to be passed without opposition by the House of Commons and, after a debate, by the House of Lords. It finally received the Royal Assent on 2 August 1956. The Sanitary Inspectors (Change of Designation) Act, 1956 simply stated:

> *'Sanitary inspectors appointed under the Local Government Act, 1933, or the London Government Act, 1939, shall henceforth be designated public health inspectors; and references in any enactment or any instrument having effect by virtue of any enactment to sanitary inspectors so appointed shall be construed accordingly.'* (Great Britain, 1956)

The Sanitary Inspectors Association became the Association of Public Health Inspectors (APHI) in 1957.[15] Its journal *The Sanitarian* was re-titled *Public Health Inspector* in October 1964. The statutory designation of 'Public Health Inspector' remained until the reorganisation of the National Health Service and Local Government in 1974.

Under the Local Government Act 1972, the MOH's role was replaced with the Community Physician employed by the Area Health Authority. However, almost all of the functions previously carried out by the Chief Public Health Inspector remained with the local authorities (Great Britain, 1972). In counties with two tiers of local government, all environmental health functions except refuse disposal and some aspects of the control of food standards were located at the same tier, the District Council. The Public Health Officers Regulations 1959 (Great Britain, 1959) and the statutory designations of both 'Public Health

Inspector' and 'Medical Officer of Health' were repealed, and almost all references in legislation to named officers were replaced with 'the proper officer of the local authority'.[16] Local authorities became free to appoint any suitably qualified person as an officer. It could have been the end of the registered public health inspector. However, the *Report of the Study Group on Local Authority Management Structures* (the 'Bains Report') recommended that a 'Chief Environmental Health Officer' should be appointed by each local authority as its 'proper officer' for all environmental health functions (Bains, 1972) and the Ministry and the local authority associations supported the retention of the Public Health Inspectors Education and Registration Boards.

Thus the title 'environmental health officer' was born, and the designation 'public health inspector' was gradually replaced at all levels of the service. The Public Health Officers Regulations having been repealed, it was not necessary to obtain Parliament's approval of this change, and the two occupations having been separated into different sectors of government, there was no opposition from medical interests. The Public Health Inspectors Education and Registration Boards became the Environmental Health Officers Registration and Education Boards. In January 1975 the professional body was re-named 'the Environmental Health Officers Association'. Its journal had been re-titled *Environmental Health* in 1968.

In 1970 the APHI published a Green Paper entitled *'The Future of the Profession and the Association'* (APHI, 1970). The resultant discourse was to lead to rapid completion of the professionalisation process. The Association changed its name once again, this time to the 'Institution of Environmental Health Officers' (IEHO), in 1980, and commenced negotiations with the Privy Council for the grant of a Royal Charter. This included transferring to the Institution the functions of the Education Board; control of education and certification is considered a derivative trait of a profession (e.g. Goode, 1960; Millerson, 1964; Cooper, 2012). The petition for a Royal Charter was granted in 1994, resulting in the IEHO becoming the 'Chartered Institute of Environmental Health'.

Over the second half of the twentieth century an increasing proportion of registered environmental health officers were being employed outside local government as advisors to trade associations and large corporations; in universities and colleges; in central government departments and Health Authorities; in the armed services and in private practice. This highlighted the inappropriateness of the word 'officer' in the occupational designation. From 1999 an amendment to the Bye-laws under the Royal Charter permitted the use of 'Environmental Health Practitioner' or, if they had satisfied the additional academic and professional requirements, 'Chartered Environmental Health Practitioner'.

SUMMARY

Over 100 years, environmental health practitioners pursued a distinctive occupational designation that would accurately convey their full role and function. They were constrained by the professionalisation project of the MOHs who sought to sustain their occupational dominance, and the employing local authorities who attempted to suppress the status and thereby the salaries of the inspectors. The designation 'Inspector of Nuisances' successively evolved via 'Sanitary Inspector', 'Inspector of Nuisances' again, then back to 'Sanitary Inspector', 'Public Health Inspector' and 'Environmental Health Officer' to today's 'Environmental Health Practitioner'.

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NOTES

1. Recent work includes Brimblecombe 2003, Hamlin 2005, Crook 2007, Parkinson 2013, Hamlin 2013 and Parkinson 2014.

2. The Society of Medical Officers of Health, in its 'Memorandum of Evidence to the Departmental Committee on The Qualifications, Recruitment, Training and Promotion of Local Government Officers', *Public Health*, 1931, April, 228, stated: '(In such local authorities)...the Sanitary Inspector is for all practical purposes the organising head of the Health Department'.

3. For clarity and continuity, from time to time I shall refer to 'the inspector(s)' and 'the inspectorate'.

4. The Association of Public Sanitary Inspectors was formed on 9th June 1883. A local association may earlier have been formed in Birmingham (Johnson, 1983, p5).

5. The 'inspector of nuisances' is an ancient office of the common law leet courts. The concept of 'nuisance' was very broad and included: noise;

industrial emissions; selling unsound meat or other food; polluted wells; blocked drains, stinking privies; adulterated bread; overflowing middens and cesspits; letting pigs roam loose, and dumping refuse or night-soil in the street. Until the sanitary reform era, nuisances were not explicitly linked with public health but with 'unreasonable behaviour'. The leet courts were gradually superseded, and responsibility for nuisance abatement was usually taken by the administrative parishes, known as 'vestries'. In some jurisdictions in the mid 19th century there was an inspector of nuisances; if not, action would have been taken by a constable, beadle, or another parish officer, perhaps the 'overseer of the poor' or a lay vestryman. Sometimes a 'jury' of vestrymen would inspect and take action. Some large towns promoted local Improvement Acts to provide for the appointment of a statutory inspector of nuisances, and prescribed specific nuisances and other matters that would come within his purview. Bristol had a full-time inspector of nuisances in 1794 (Buer, 1926).

6. 'Sanatory' was a common contemporary spelling.

7. In his biography of Duncan, William Frazer records that when Liverpool's Town Clerk circularised all departmental heads asking them to furnish full details of their staff, Duncan replied 'The following list comprises all of the officer employed in my department paid by the Corporation: William Henry Duncan, M.D., Medical Officer of Health.'

8. Medical opposition to the emergence of the sanitary inspector first became evident during the passage through Parliament of *The Nuisances Removal and Disease Prevention Act 1855*. It re-appeared during the passage of Mr Torrens' Housing Bill in 1868, with a campaign led by AP Stewart and Ernest Hart of the BMA. Ernest Hart, editor of the *BMJ*, formerly of *The Lancet*, later to be proprietor and editor of *The Sanitary Record*, and Chairman of the National Health Society, penned some vicious denigrations of the inspectors.

9. When the Association of Public Sanitary Inspectors was in formation, the membership list issued with its prospectus included ten entitled 'inspector of nuisances', eight entitled 'sanitary inspector' and one 'inspector of factories'.

10. Wigan v Leggatt, 1889, reported in *British Medical Journal*, 'Medico-Legal and Medico-Ethical: Is a Chief Sanitary Inspector an Inspector of Nuisances?', 1899, 29th June, 1493.

11. The Sanitary Institute (formerly the Sanitary Institute of Great Britain) later became The Royal Sanitary Institute and then The Royal Society for the Promotion of Health (RSH). Originally entitled The Association of Medical Men Possessing a Qualification in Sanitary Science, The Institute of Public Health became The British Institute of Public Health, later The Royal Institute of Public Health and then The Royal Institute of Public Health and Hygiene (RIPHH). The Institute of Public Health was an essentially medical organisation, whereas the Sanitary Institute represented diverse interests. Their bitter public rivalry manifested itself in a dispute about the control of the education and qualifications of sanitary inspectors that delayed the establishment of an examination board for over 5 years. The inspectors' own professional body was a mere bystander in the dispute. Ironically, the RSH and the RIPHH merged in 2008. The current title is The Royal Society for Public Health.

12. The two boards were The Sanitary Inspectors Examination Board (the 'London Board') and the Royal Sanitary Institute. There were orchestrated national campaigns against provisions in Mr Torren's Housing Bill and amendments to the Public Health (Scotland) Bill 1897.

13. I could not find any reference to this in the Royal Sanitary Institute's bound archived volumes in the Wellcome Library or the digitised version of the *Journal of the Royal Sanitary Institute* available online. Neither version includes any correspondence pages.

14. '...the work of the Sanitary Inspector should be given the responsibility appropriate to a Technical Officer who is duly qualified by theoretical and practical training over a prescribed length of time and on whom certain duties are imposed directly by statute' (letter From Minister of Health to the Town Clerk of the City of Lancaster dated 27th October 1947, accessed at National Archive, Kew). Lancaster's Town Clerk had written to the Minister because the Senior Sanitary Inspector had ordered his own headed notepaper!

15. Members of *The Sanitary Inspectors Association* voted at an Extraordinary General Meeting on 11th January 1957 to change the name to *The Association of Public Health Inspectors*.

16. The intention was to allow local authorities the freedom to organise themselves as they saw fit, and at the same time discourage departmentalism and professionalisation in local government.

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PAPER

The influence of economic and social factors in determining housing outcomes in North Devon 2001–2011

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ABSTRACT

This research study was commissioned in order to provide an evidence-based analysis of housing need in North Devon to assist in identifying key housing priorities and challenges. It examined selected economic, social, housing and health secondary data sources with the aim of identifying key housing and health challenges in the area.

Key findings of the research included:

- the substantial growth of the private rented sector which is increasingly housing those in greatest need and those who cannot afford to buy – for whom social housing is no longer a realistic option;
- high tenancy turnover, caused by ending shorthold tenancies, places considerable strain on households and an unsustainable demand for housing advice and options services;
- persistent problems of poor housing condition and non-decency associated with the private rented stock particularly in the most deprived Middle Super Output Areas (MSOAs) where the highest concentration of privately rented housing is located;
- an ageing population, rural deprivation and geography contribute to social isolation and an increasing incidence of unpaid care;
- significant health inequalities between the most and least deprived wards.

PAPER

The influence of economic and social factors in determining housing outcomes in North Devon 2001–2011

Kerry Parr and Ian Higgins

This paper suggests that in identifying and influencing complex housing and health deficits, it is important to understand these outcomes in the context of the underlying structure of the economy, income patterns and demographic changes.

Key words: housing need, private rented sector, housing conditions, affordability

INTRODUCTION

Strategic Housing Market Assessments (SHMAs) have traditionally played a significant role in identifying significant economic and demographic drivers of demand and supply for new housing in a geographical context. However, these factors shape not only the demand and supply for new housing but will also determine the tenure mix, stock condition, affordability and accessibility of the existing housing stock, which, in turn, can affect the health and wellbeing of local residents. Despite their importance, these themes are not explored through the traditional housing evidence base.

This study proposes that in order to effectively address traditional private sector housing issues, and to explore related adverse health impacts on occupants, it is important to understand such things as the underlying structure of the economy, income patterns and changes in demography.

The factors identified as of interest were: demographic drivers of demand (people and households); economic drivers (jobs and incomes); the existing housing stock and new supply (homes and places); the expectations of households and investors; and, the availability of finance in the form of home loans and development finance. These factors exist across the country, but it is suspected that the way in which they operate differs considerably between areas.

North Devon District is characterised by the predominantly rural nature of the area and a relatively low wage economy. Overall levels of deprivation are low but masked by significant variation at smaller geographical scales in both urban and rural areas. Five urban Lower Layer Super Output Areas (LSOAs) are in the 10% most deprived areas in England (CLG, 2011) representing the areas of worst housing condition, deprivation, greatest health inequality and the highest concentration of privately rented dwellings.

The private-rented sector has doubled since 1981, with two thirds of this change occurring since 2001. It now represents 20% of the housing stock but with much higher concentrations in the deprived MSOAs. Affordability constraints mean that households that cannot afford to buy may move outside

the District with consequences for the labour market, public services and community cohesion, whereas those that cannot afford to rent may have fragile living arrangements in poor quality accommodation, with little prospect of access to the limited supply of social housing.

Insecurity and lack of control over the home environment associated with high tenancy turnover is often cited by commentators as a factor affecting mental health and well-being (Page, 2002; Dunn, 2002; Blackman *et al*., 2001). In North Devon, as nationally (Rugg and Pleace, 2013), the ending of a shorthold tenancy is the predominant cause of homelessness. In addition, there are implications for housing type demand, turnover and maintenance associated with the growth in the older population and the increase in single-person households under the age of 65.

The purpose of this study was to analyse the data underlying the key drivers which contribute to housing deficits, in order to better understand historical and current market performance.

METHODS

This study uses published secondary demographic, economic and housing data from a variety of national sources including the Office for National Statistics (ONS); Census; Department for Communities and Local Government (CLG); Annual Survey of Hours and Earnings (ASHE); Department for Work and Pensions (DWP); the English Housing Survey and the Department for Energy and Climate Change (DECC). Additional facilities used were NOMIS – the source of official labour market statistics on behalf of the Office of National Statistics; Paycheck – modelled income data produced by the company CACI; the ONS migration indicators tool and StatXplore – the DWP tool for examining benefits data.

Local data sources included the North Devon House Condition Survey (North Devon Council, 2009) and the North Devon Strategic Housing Market Assessment (Housing Vision, 2012). Although the latter contains thorough analysis in many themes, the opportunity was taken in this study to include the 2011 Census data thereby permitting analysis of change over the 10-year period since 2001.

The selection of data-sets followed the construction of a conceptual framework of demand (people and households/jobs and incomes) and supply (new supply/existing stock/conversions) drivers. Further data-sets were selected based on those criteria directly influenced by the demand/supply drivers, including: house prices and rents; affordability criteria; homelessness and

temporary accommodation; tenure change; stock condition; overcrowding; fuel poverty; and housing-related health status.

Some of the key data-sets chosen allowed analysis at the localised level (Middle Super Output Area, Super Output Area and Ward) enabling comparison between 2001 and 2011 Census data. However, differences in spatial scale between 'health' and 'housing' data sources hindered analysis at lower level geographies.

Neighbourhood level Local Health Reports proved useful at ward (adjusted) and MSOA level for mapping current health and housing data for 2011, and the self-reported health and care and housing and living environment (Public Health England, 2011). Census indicators permitted some useful comparisons between 2001 and 2011 data. Health profiles of indicators in the Public Health Outcomes Framework enabled analysis of some key indicators in the period 2006–2011.

There were no ethical constraints in respect of the use of the data as all original data are published and in the public domain.

RESULTS

People and households

The population of North Devon has grown by 22% over the last 30 years (Census, 1981–2011) – an increase of around 17,000 people indicating significant potential for demographic change over the next 30 years. The strongest growth in population over the last decade has been in the older age groups, particularly the 45–59 age group; the North Devon SHMA predicts population growth of over 50% in the 65+ group by 2031 (from 2001), with a doubling of those aged 85 and over (Housing Vision, 2012).

Notable implications for housing of this demographic change:

- older people are less likely to move home than those of working age;
- there are higher levels of outright home ownership amongst older households;
- increased levels of 'under occupation' and possibly reduced turnover of larger properties;
- reduced ability to maintain and repair homes either because of mobility or low incomes;
- government policy of providing care in the home suggesting increased demand for domiciliary care; and,
- increasing need for housing with care for those unable to remain in their own homes e.g. extra care, residential care and nursing.

ONS Neighbourhood Statistics indicate that there has been an average 23% increase in the number of households providing in excess of 50 hours unpaid care per week, with a number of MSOAs displaying increases in excess of 40%. This compares with regional and national increases of 16% and 13% respectively.

Although ageing has had a significant impact on the characteristics of the population, it is migration that has been the key driver in population growth rather than natural change. The North Devon SHMA indicates that net in-migration has contributed around 380 households per annum in recent years (Housing Vision, 2012). Broadly, there has been net out-migration of younger people in their early 20s and net in-migration of older age groups and families. The Census reveals local and more detailed evidence of demographic variation, e.g. the proportion of pensioners living alone is higher in the most deprived urban wards of Barnstaple (Census, 2011). Clearly, this pattern of migration has implications for the local economy by reducing the working population and increasing the demand for social care.

Since 2001, the growth in the number of households, both in crude numbers and as a proportion, has been through the increase in numbers of single person households (17% increase since 2001). Single households account for almost two thirds of the growth in all households over the last 10 years. This has largely been driven by growth in the number of single adults under the age of 65, rather than single, older people, living alone. This kind of growth may have implications for housing, though the type and size of homes required is largely dependent on household income.

Jobs and incomes

In 2013, levels of unemployment, as recorded by the numbers on job seekers allowance, was low at between 2–3%, which is broadly consistent with the average for the 2001–2011 period (claimant count data accessed from NOMIS). Data from the North Devon Economic Strategy 2013–2017 suggests there are more jobs in North Devon than there are people in employment, representing a net in-commuting of workers. Despite low levels of unemployment, earnings are low within North Devon (ASHE). In part, this reflects the structure of the economy and types of jobs available but also the higher than average prevalence of part time work and 'under-employment' i.e. people who would like to work more hours if they were available.

Most of those of working age, who are *not* in employment, are not seeking work (15% of the working age population). However, 8% of the working age population 'would like a job' and are not currently in employment. This percentage is higher than both the regional and national level and suggests

there may be barriers to employment for a significant proportion of the workforce. Typically, factors such as unaffordable childcare make it difficult for some people to find suitable employment even when jobs are available.

Whilst North Devon is not under-represented by employment in senior managerial positions when compared with the region and England as a whole, there *is* under-representation in other occupations associated with higher pay and requiring higher level qualifications. There is an over-representation of those performing skilled trades and in elementary occupations associated with lower wages.

The District has 17% adult self-employment, significantly higher than the South West as a whole (11%), and higher than the national figure of 10% (Census, 2011). Of course this could be indicative of the entrepreneurism of local people, but the prevalence of self-employment and micro-business has a significant impact upon earnings and household incomes. It does not automatically imply low earnings but may introduce a greater uncertainty in respect of the budgets of some households.

Median household income is not significantly higher than individual earnings, suggesting there may not be large numbers of households with two earners. This may be consistent with possible barriers to employment discussed above. The majority of households have incomes of less than £23,600 (CACI 'Paycheck' data in Housing Vision, 2012), which has obvious implications for the housing market, particularly in terms of the affordability of home ownership and also larger, family-sized, privately rented properties.

DWP data indicates that there are over 7,000 individuals claiming one or more benefits because they are out of work or unable to work. This is 14% of the working age population, in line with rates at the national level. The same proportion of households also receive housing benefit, with over half (53%) of these living in the private rented sector – a proportion that is higher than the South West region (42%) and England as a whole (34%).

Homes and places

68% of North Devon households own their homes (Census, 2011) but the proportion of owner occupation has fallen over the last 10 years and is now broadly at the level recorded by the 1981 Census (67% of households). Otherwise, there has been a considerable shift in tenure over the last decade, with more households entering or moving into the private-rented sector rather than home ownership or social renting. Census 2011 indicated that there were just over 8,000 households living in the private-rented sector

(including those living 'rent free'), which represents a doubling in the number since 1981, but with two-thirds of this coming since 2001. This growth has been achieved in large part through tenure shift as homes that were once owner-occupied move into the rented sector. House-building in the last 10 years, and especially the greater number of flats, has clearly suited investors and the 'buy-to-let' market.

The private rented sector now accounts on average for 20% of all housing in the District, but some MSOAs have much higher concentrations of private renting such as MSOA 001 in Ilfracombe (36% private-rented) and MSOA 008 in Barnstaple (27% private-rented). By contrast, the social-rented sector has fallen as a proportion of all households over the last 30 years, representing an absolute loss of around 800 homes from the sector.

As well as the growth of the private-rented sector, the clearest development over the last decade has been the fall in the number and proportion of households entering home ownership. In the early part of the decade the fall in home ownership was driven by declining affordability as house prices significantly out-stripped the growth in earnings and household incomes. However, since 2007 and the onset of the financial crisis with its impact on credit, affordability as measured by the relationship between earnings and prices has improved, yet the accessibility of home ownership has continued to decline because of the contraction of the mortgage market.

There are fundamentally different dynamics in operation within the owner-occupied, private-rented and social-rented sectors which impact on the nature of properties in these three sectors. Demand for different types and sizes of homes in the subsidised rental market is more closely driven by demographics since local authority allocation policies and housing benefit levels are related to household size. In the social sector, households are allocated a property according to their minimum requirements. The owner-occupied sector is driven by income and wealth not demographics. Owners buy or occupy the size of home they can afford.

Although owner-occupation remains the dominant tenure, only 5% of the stock (around 1,300 properties) is sold each year (Land Registry transactions data). Though there are no publicly accessible data available on the size of properties traded, it would seem likely that smaller properties are traded more frequently. The social-rented sector has a similar turnover to the owner occupied sector – just 5% of homes are re-let each year, around 220 per annum according to the North Devon SHMA (Housing Vision, 2012). Data shows that 1 and 2 bedroom properties are re-let most frequently. In contrast,

turnover in the private-rented sector in North Devon is estimated at 33% (Housing Vision, 2012), amounting to around 2,600 properties. These figures accord with the increasing demand for advice and assistance on housing issues provided by the Council's Housing Options team (1,900 in 2012/13 and predicted to rise to 3,750 by 2016/17) and suggest the fragility of many private-sector tenancies.

Overcrowding at 2% of all dwellings compares favourably with the national average of 4% but there are higher rates of overcrowding in the social- and private-rented sectors (5% and 4% respectively). There is currently a serious shortage of social-rented housing, so as families grow they often spend a considerable period of time waiting to be housed or re-housed, and many will never be housed on a secure basis because of the lack of availability of larger properties.

44% of all private-rented properties are occupied by households supported by housing benefit (the local housing allowance), with over half living in the private-rented sector. Since housing benefit is awarded on the basis of household size it is 'rationed' in much the same way as social-rented housing. Consequently, households tend to fully occupy properties because their housing benefit will only support the size of property that meets their basic needs.

The Census 2011 recorded 44,400 dwellings in North Devon. This is an increase of 7,700 since 2001. The data on net additions to the housing stock, collated by CLG from local authority planning departments, records around 380 net new dwellings each year over the same period, suggesting that only half of the actual increase in dwellings has been captured by planning. This is true for England as a whole. It further suggests that conversion and sub-division of existing dwellings has been taking place on a greater scale than the figures officially recorded. One can speculate that this might impact on the quality of the housing units that evade planning and building control and so fail regulatory compliance in respect of thermal insulation, in turn leading to a higher risk of fuel poverty and 'cold hazard' health risks.

Over the study period there were consistently 450–500 long-term empty homes, and since the District is a popular holiday destination, there are approximately 1,600 second homes, representing almost 4% of the housing stock – approximately double the national average (North Devon District Council, 2009). These second homes are concentrated in a number of locations in the District where they have a significant local impact accounting, in some cases, for more than 20% of houses in that area.

Prices, rents and affordability

According to Land Registry data, although average house prices have fallen in North Devon in recent years, they still remain 65% higher than they were in 2001. Properties in the lowest quartile across the District have followed the same path but the gap between lowest quartile earnings and house prices is now twice as great as it was 15 years ago.

Although home ownership has become more affordable over the last five years, mortgages have become less accessible because of higher deposit requirements and tightening of lending criteria. In order to afford to buy one of the properties in the lowest quartile in North Devon a household would need an income of £39,500, a figure significantly greater than the average household income in North Devon, and assumes they have a 10% deposit (£15,300) and will borrow the balance calculated against 3.5 times household income. Paycheck household income data, produced by CACI in 2012, shows that on the basis of income, 73% of households in the District would be unable to afford to buy a property in the lowest quartile price range.

Although existing home owners will generally have equity in their homes, thereby satisfying deposit and borrowing requirements, the distribution of household incomes suggests that some new households will be unable to purchase because they have insufficient incomes. The problem is obviously more acute for larger properties or family-sized homes. A household income of £59,500 is required to purchase an average-priced property based on the same deposit (10%) and income multiplier (3.5 times). Only 10% of North Devon households have incomes this high.

Turning to the private-rented sector, households would need an income of between £17–20,000 to afford to rent even one of the smallest properties in North Devon (Housing Vision, 2012). Since rather more than a third of North Devon households have incomes lower than this threshold they would be unable to afford even one of the smallest private-rented properties.

The relationship between private rents and household incomes gives an indication of the difficulty for *new* households entering the market. Data supplied by the English Housing Survey in 2011 at the national level also shows that the income of new households was on average lower than households as a whole. So it is likely that more than 40% of new households will struggle to afford to access a property on the open market.

According to rental data collected by the Valuation Office Agency (for the purpose of calculating local housing allowance), it is possible that these

households might find cheaper properties to rent, but competition is likely to be very keen as there is little difference between the average price of property and those in the cheapest 30% bracket.

Some households may be spending more than a third of their income on rent with implications for their disposable income and ability to pay other essential bills. Others may be forced to occupy less space than they need, living in overcrowded conditions or sharing properties with other households. Many households will remain 'concealed' by living with family or friends because they are unable to afford to move out, and a proportion may move some distance in order to access the cheaper rents they can then afford.

Housing need and affordability

The disproportionate relationship between housing costs and incomes means that a proportion of residents are unable to meet their needs in the market, with households that cannot afford to rent either living in existing social housing or supported by housing benefit in the private-rented sector. They will likely live in poor quality accommodation or with friends or family on a temporary (and so uncertain) basis. Households that cannot afford to buy will likely be stretching their finances to pay rents in the district. This group may have the option of moving away, but in so doing there will be potential implications for the community they leave in terms of the labour market, public services and community cohesion.

North Devon SHMA (Housing Vision, 2012) provides comprehensive evidence on housing need, evidenced by data from the Devon Home Choice 'waiting list' and lettings of social rented properties. From this we learn that there are over 2,700 households wishing to access affordable housing, primarily social rented accommodation, of which around half have an identified priority need. Not surprisingly, the need for affordable housing far outweighs supply in the District – a key tension that the Council and registered providers must manage. So on the one hand, they have a duty to respond to households in crisis, including the homeless, those with health needs and multiple needs. On the other, there is the desire that affordable housing supports a range of people with differing needs, from the most vulnerable, to those on the margins of the market who provide a vital role in the economy and health of the local community.

Approximately 220 properties are available for letting in any year in the District (Housing Vision, 2012), which means that for every property that comes available for letting there are six households in need. However, this is a brighter picture than turns out to be the reality, since almost half of all properties that are re-let are in sheltered accommodation, plainly unsuitable for most households.

Clearly, homelessness is the most obvious indicator of acute housing need, and whereas the number of people classified as homeless fell significantly after 2001, due largely to efforts by the Council to prevent it (CLG Homelessness statistics live tables), numbers have increased sharply over the last 2 years, a pattern broadly reflected across England. Since homelessness remained low throughout the economic recession and the peak of housing repossessions, it is possible that the recent upturn is explained by reforms to the welfare system, especially housing benefit. Where households have experienced a reduction in their housing benefit, some may have fallen into arrears leading to eviction and others have taken the difficult decision to 'evict' family members, leading to them presenting to the Council as homeless. There is also anecdotal evidence to the effect that some landlords have withdrawn from the housing benefit sector because of the reduction in benefit payments, thus reducing the supply available overall.

Households in the social-rented sector with a spare bedroom have faced a reduction in their housing benefit since April 2013. The Government expects these households either to downsize to smaller properties or to 'top-up' their rent, though where households have been unable to fill the gap between their housing benefit and rent they will inevitably fall into arrears. Thus, households building up debts in this way are likely to experience pressure on their budgets to meet food and fuel costs, with resulting impacts on health and wellbeing if these cannot be met.

Housing condition, health and wellbeing

The overall shortage of housing versus demand, and in particular the increasing demand for private-rented properties in recent years, has provided limited incentive to landlords to improve the quality of the stock. It is therefore unsurprising that over 2,000 dwellings (5% of the total) in North Devon lack central heating (Census, 2011) placing their residents at continuing risk of the effects of cold hazard. However, the greatest improvement noted in respect of central heating provision was in MSOA001 (Ilfracombe), which is consistent with targeted activity in the private-rented sector where over 500 housing enforcement notices were served in the period 2006–2011, with a particular emphasis on eliminating Category 1 Cold and Fire hazards in multi-occupied dwellings. However, notwithstanding these interventions, the proportion of dwellings lacking central heating remains significantly higher than the national average as evidenced by The National Rank Indoors Living Sub-Domain indicators 2001 and 2011 (Census, 2001; 2011).

Beyond this, the decline in Category 1 hazards and in 'non-decent homes' has mirrored the national picture since the extension of PSA 7 to the private sector

in 2005 (EHS 2011), but the incidence of Category 1 hazards and 'non-decency' in the private-rented sector remains a cause for concern.

Turning to fuel poverty, the Department of Energy and Climate Change low-income/high cost measure for 2013 records the highest incidences (>20%) of fuel poverty in rural areas without a gas grid connection; where widespread development has been limited; and where properties are older and are of predominatly solid wall construction. However, the crude number of households enduring fuel poverty is greater in urban areas. When comparing the age of properties in North Devon with those of the country as a whole, 31% of the dwellings were constructed pre-1919 against 24% nationally (North Devon Council, 2009).

The same house condition survey in 2009 indicated that the average Standard Assessment Procedure (SAP) rating as a measure of energy performance for dwellings in North Devon (49) compared favourably with the national average, but this masks significant differences in tenure rating, with the social housing stock presenting as the most energy efficient. The least energy efficient homes are in the private-rented sector and the lowest mean SAP rating is for pre-1919 dwellings which have been converted into flats. These dwellings are often in multiple occupation and located in the most deprived LSOAs in the two main urban centres in the District.

Finally, considering health and well-being in the District, there are significant health inequalities between the least and most deprived wards and MSOAs. Hospital episode statistics indicate that the most deprived MSOAs, with the highest proportion of privately rented dwellings, have emergency admission rates significantly higher than the national average for respiratory and circulatory disease (Public Health England, 2012). It is interesting to speculate whether the efforts to improve housing conditions, and especially to improve the standard of space heating in Ilfracombe between 2006–2011 is responsible for the lower prevalence of ambulatory-care-sensitive conditions, or whether this is indicative of under-diagnosis and/or under-recording (Devon NHS Primary Care Trust, 2011). However, we know that cold, damp housing contributes to the burden of morbidity and warm, dry homes can influence the management of chronic conditions and reduce emergency admission rates (NICE, 2015).

CONCLUSION

This study has demonstrated the value of using a range of secondary data sources to establish an evidence base of housing need in North Devon, and in

so doing identifying some of the challenges and priorities. So, in the period 2001–2011 we can say that the rise in the private-rented sector has largely been driven by economic factors, where a significant proportion of privately renting households are 'reluctant renters' who either cannot afford to buy or who cannot afford to rent because of deteriorating affordability criteria and the lack of social housing. The under-supply of housing overall is at the core to this trend.

In the category of 'those who cannot afford to rent' are households with fragile living arrangements, often living in sub-standard accommodation and spending more than a third of their income on rent. This clearly has implications in terms of the availability of disposable income for food and fuel, and heightened risk of falling into arrears. The consequence is that the cost of housing is likely to impact on health and wellbeing of households on low incomes.

The developing tensions in the private rented sector in the period 2001–2011 have been reflected in the increasing demand for housing advice and assistance arising from the high tenancy turnover following the termination of Assured Shorthold Tenancies.

Changes in the age structure of the population have impacted on the demand for housing and the type and size of homes required. The consequences of an ageing population, together with the expansion in single-person households, have implications for tenure, housing turnover and occupancy levels, with concomitant increase in need for provision of domiciliary care, or 'housing with care' for those unable to remain in their own homes. The growth in population over the last 30 years indicates that there is the potential for further and more significant impacts as the demographic changes still further over the next 30 years.

The findings and conclusions may have resonance with other low income, rural, coastal areas where high housing demand is influenced by inward migration of high net worth households for retirement purposes.

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PAPER

Designing healthier catering interventions for takeaways in deprived areas

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ABSTRACT

The increasing consumption of fast food has been identified as one of the key contributory factors to rising levels of obesity. To try to improve the healthiness of local food environments, many local authorities have developed initiatives designed to encourage takeaways and other out-of-home food businesses to adopt healthier menus and catering practices. However, few of these initiatives are reaching the least healthy takeaways in the most deprived areas.

The object of this paper is to highlight the type of interventions that *do* work with fast-food businesses operating in such contexts. It draws on a UK-wide survey of local authorities operating healthier catering initiatives, and interviews with 30 takeaways that have adopted healthier changes.

The results suggest that healthier catering interventions need to be designed to take account of the barriers businesses face, in particular, the highly competitive nature of the market place in deprived areas. Targeted approaches involving intensive outreach work focusing on a few key manageable changes tend to be more effective in encouraging business participation than generic schemes with more onerous criteria.

Successful engagement strategies focus on the economic benefits of adopting healthier practices. Takeaways need to be supported in developing a healthier

catering marketing mix appropriate to the business and the local context in which it operates. However, a 'whole systems' approach to tackling obesity, involving work with suppliers and consumers, together with government intervention, is needed, if more significant health benefits are to be achieved.

Key words: healthier catering schemes, fast-food takeaways, public health, deprived areas, regulation, nudge

INTRODUCTION

The increasing availability and consumption of food eaten outside of the home has been identified as one of the key environmental factors contributing to rising levels of obesity (Foresight, 2007). Seventy-five percent of the UK population now eat out at least once a week and 14% of these eat out at least six times each week (FSA, 2014). Fast food has come under the spotlight as it tends to be more energy dense and has a higher fat content than food prepared at home. This, together with the frequency of its consumption, has been shown to be linked to increased body weight and obesity (Prentice and Jebb, 2003). Levels of fast food consumption have also been increasing in recent years as the economic downturn and reduced purchasing power have pushed consumers to cut back and trade down, replacing restaurant meals with fast foods (Euromonitor, 2013).

For the reasons stated above, the fast food sector has become the focus of several recent initiatives designed to improve the healthiness of local food environments. In 2011 the government's obesity policy team suggested in its *Healthy Lives, Healthy People* report, that local authorities should 'work with local businesses and partners to increase access to healthy food choices' (DoH, 2011, p28).

Many local authorities have responded by developing healthier catering initiatives designed to encourage businesses in the out-of-home food sector to develop healthier menus and catering practices. Generally speaking, these healthier catering initiatives work on the basis of trying to encourage businesses to switch voluntarily to healthier ingredients, menus and cooking practices. They particularly focus on reducing salt, fat, sugar and portion sizes, whilst providing more fruit and vegetables. They often include 'nudging' techniques designed to encourage consumers to make better choices (Thaler and Sunstein, 2008). Popular nudges include serving food in a slightly smaller container, removing salt from tables, putting fruit and healthy snacks in prominent positions and healthy drinks at eye-level in fridges. Such an approach chimes well with current government policy which tends to favour voluntary

agreements with industry rather than the use of legislation as a means of controlling the quality of the food on offer (DoH, 2011).

The extent to which these healthier catering initiatives have been successful in engaging with fast-food takeaways remains unclear as there is limited evidence on these schemes (Hillier-Brown *et al*., 2014). A recent evaluation of the *Healthier Catering Commitment* in London suggested that it had been more successful with businesses already offering relatively healthy menus, and in more affluent areas where the additional cost of better quality and more nutritional food can more readily passed on to customers (Bagwell, 2014; Bagwell and Doff, 2012). This is of particular concern since obesity has been found to be associated with social and economic deprivation (Marmot, 2010) and fast food outlets tend to be more concentrated in deprived areas (McDonald *et al*., 2007; National Obesity Observatory, 2014; Pearce *et al*., 2007; Rudge *et al*., 2013). If healthier catering initiatives are largely improving the quality of food sold in more affluent areas they may in fact be contributing, albeit unwittingly, to increasing levels of health inequalities (Bagwell, 2014).

The research on which this paper is based set out to identify what can be done to address this problem. It sought to develop a better understanding of the business barriers to engaging in healthier catering schemes and if and how these could be overcome. In particular it aimed to identify the characteristics of interventions that are successful in engaging with fast-food businesses in deprived areas and the type of changes that businesses can realistically make without compromising their profitability.

METHODS

The study adopted an 'action research' approach (Lewin, 1946; Ram *et al*., 2015) working with those implementing initiatives and businesses trialling suggested healthier practices. Playing a critical role in the design and strategic management of the project, the partners included the London network of public health personnel involved in implementing the *Healthier Catering Commitment*, the Chartered Institute for Environmental Health (CIEH), the Association of London Environmental Health Managers (ALEHM), and the Greater London Authority Food Team.

The first stage of the research involved a national telephone and online survey of healthier catering initiatives run by local authorities across the UK. The sample was compiled by drawing initially on a list of 27 local authorities that had responded to a request from the CIEH for information on local authority

initiatives that were aimed at encouraging healthier catering in the 'out-of-home' food sector. Those that might possibly include fast-food outlets were contacted and invited to participate in a telephone interview. Schemes that were targeted solely at workplaces, nurseries, schools, care homes and leisure centres were excluded.

A number of other local authorities were also identified from 'good practice' case studies on the CIEH and Food Vision websites and subsequently contacted. This led to a total of 20 telephone survey interviews being conducted. To help ensure that other relevant initiatives were not omitted, and to increase the sample size, the CIEH were asked to circulate an online version of the survey to their member networks. This was sent to regions and branches and through the electronic mailing system that goes to designated people working in about 90% of local authority environmental health teams. This resulted in a further 14 responses.

In total the interviews and online survey captured data from 34 public health respondents operating in 32 different local authorities who between them were overseeing 23 different schemes (Table 1). The survey was designed to gather data on the structure, scope, and operation of each scheme, key success factors and barriers. It particularly focused on the extent to which schemes had targeted fast-food outlets operating in deprived areas, the characteristics of these businesses, the local context, and aspects of the intervention that had been key in encouraging the successful adoption of healthier catering practices.

The second stage involved interviews with 30 fast food takeaways operating in different deprived areas of London. Businesses were selected with the assistance of local environmental health practitioners (EHPs) and/or other public health personnel administering the healthier catering schemes in each borough. These officers were asked to identify best practice cases of businesses offering affordable food in the most deprived areas. Affordable was defined as a price point of £3–5 for a main meal and £1–1.50p for a child's meal or snack based on earlier research in the London Borough of Tower Hamlets, one of the UK's most deprived areas (Bagwell and Doff, 2009).

Deprived areas were identified using a map of the Index of Multiple Deprivation 2010 (Department for Communities and Local Government, 2011) with only businesses operating in the 20% most deprived areas in England being considered. The sample also sought to include a mix of different geographical areas across the capital and to cover the range of fast food cuisine and business types (i.e. fish and chips, chicken and chips, kebab, pizza, Indian, Caribbean, Chinese, cafes, mobile vans). Interviews with businesses sought to

Table 1 Summary of schemes in survey sample

Scheme name	Award scheme	Number of award tiers	Target group	Number takeaways/ all businesses	Local authorities surveyed
1) Better Butchers Bangers	Yes	1	Independent butchers	N/A	Norfolk
2) Catering for Health	Yes	1	All with 3*+FHRS	0/50	Slough
3) CHEFS	Yes	3	All	?/120	Cornwall
4) Eatright	Originally, not now		Restaurants and takeaways	7/7	Liverpool
5) Eat Out Eat In Healthy	No		Indian restaurants	23/23	E Midlands Beacon Partnership Project
6) Eat Out Eat Well	Yes	3	All with 3*+FHRS	6/74, 1/23, ?/160, 0/42	Bath & NE Somerset, Crawley, Surrey, West Berkshire and Wokingham
7) Essex Healthy Eating Awards	Yes	2	All with 3*+FHRS	9/162	Southend
8) Good Food Award	Yes	3	All with 3*+FHRS	N/A	Bradford
9) Healthier Catering Commitment	Yes	1	All with 3*+FHRS	20/77	12 during 2012 Pan London evaluation
10) Healthier Menus Award	Yes	1	All with 4*+FHRS	1/34	South Lakeland
11) Healthier Takeaways	No		12 fish and chip outlets	12/12	Antrim, N Ireland
12) Healthier Business Award	Yes	1	All	12/251	Wigan
13) Healthy Choice Award	Yes	3	All with 3*+FHRS	0/70	Brighton and Hove
14) Healthy Choice Awards	Yes	3	All with 3*+FHRS	5/c500	Kirklees
15) Healthy Options Award (Hull)	Yes	1	All with 3*+FHRS	2–3/130	Hull City Council
16) Healthy Options Award	Yes	3	All with 3*+FHRS	4/50	Rhondda Cynon Taff
17) Healthy Options Norfolk Award (Honor)	Yes	1	All with 3*+FHRS	3/88	Norwich
18) Heartbeat Award	Yes	2	All with 3*+FHRS	4/30	Kettering
19) Lighter Bites	No		Outlets close to secondary schools	15/15	Magherafelt, N Ireland
20) Salt & Fat Reduction Project	No		All fish and chip shops	70/c70	Stoke on Trent
21) Takeaways	No		All takeaways with 3*+ FHRS	54/54	Slough
22) Takeaways /Eat well live longer (Shropshire)	No		Mainly chip shops in areas of social deprivation or close to schools	20/220	Shropshire
23) Truckers Tucker, On The Road	No		Mobile catering vans in laybys, truck stops, industrial estates	10/10	Stoke on Trent Worcestershire, Shropshire

gain an in-depth understanding of: the business; its owner; the context in which it operated; the level of interest in healthier catering (and any changes made); the impact of any healthier catering intervention; and any barriers to change.

The data collected was analysed using a 'grounded theory' approach (Strauss and Corbin, 1990). This involved identifying and coding emergent themes from the survey and interview responses which highlighted the key features of initiatives, lessons learnt, and intervention approaches that worked with different types of businesses and contexts.

RESULTS

Barriers to engagement

Analysis of data on business take-up suggests that with few exceptions healthier catering initiatives are not having a great deal of success in engaging with takeaway businesses. Table 1 highlights the number of takeaways participating in each scheme surveyed. Exact numbers were sometimes hard to determine due to differing definitions of what constituted a takeaway. For example, some schemes included sandwich bars and cafes as these often provide takeaway food, whilst most Indian restaurants also provide takeaways so these have been included where the initiative particularly focused on their takeaway menus. However, the general picture is very clear – most schemes are having little impact on the least healthy types of businesses.

A mixture of institutional and business barriers accounted for these poor take-up rates. Institutional barriers included policy objectives with targets for business participation which led to a tendency to focus on businesses that would easily secure an award. One scheme manager explained, "We went for quick wins as we wanted to show the validity of the project." Four other schemes had tried engaging with takeaways but found that there was little interest. A typical comment was, "We targeted fast food outlets in the beginning but they proved resistant to the idea."

Lack of time and/or funding was a key barrier for at least seven of the schemes. Those administering schemes were predominantly EHPs who have a statutory responsibility for monitoring hygiene standards in local catering establishments. This work inevitably takes priority when resources are tight. In deprived areas more work has to be done on bringing businesses up to the necessary standard, as well as overcoming language and cultural barriers, since a large proportion of business owners are from ethnic minority communities where English is not the mother tongue.

Business barriers included more limited menus of takeaways, which provided less scope for adopting the criteria of many healthier catering schemes, vegetables seldom featuring on the menu of a typical fried chicken shop! However, fast-food takeaways trading in deprived areas often face a number of additional barriers. They tend to have lower Food Standards Agency (FSA) food hygiene scores (Collins, 2015). This served to exclude many from participating in award schemes where a minimum standard of 3 stars (the scale runs from 1 star to 5 stars) is generally required. Lack of space or equipment also meant that some businesses found it harder to adopt recommended healthier cooking practices such as grilling or baking. The limited profitability of the business often meant that investing in such equipment was out of the question, whilst others were constrained by the lack of space in their cooking area.

Businesses were also limited in what they could do by the nature of their supply chain. Most suppliers charge more for many healthier products. So, for example, rapeseed oil costs 25% more than less-healthy vegetable oil, and wedges cost twice the price of chips. Others were tied into deals with major multi-national drink manufacturers who, in return for a free refrigerator were obliged to keep it stocked predominantly with branded drinks rather than the water or unsweetened fruit juices advocated by healthier catering initiatives.

Finally, most of the businesses interviewed claimed to be operating on the margins of survival in highly competitive price-sensitive markets. Despite rising costs, most had not felt able to increase their prices for several years for fear that this would deter customers. A key business concern (real or perceived) was that healthier food costs more, and that their customers would be unwilling to pay the additional cost, and/or didn't want healthier food. The tendency was to 'play safe' and not risk losing custom by changing products, prices or catering practices.

Healthier catering interventions clearly need to be able to address these barriers if they are to effectively target fast food businesses in deprived areas.

Scheme design and business engagement

Whilst the 23 schemes considered adopted very similar healthy catering objectives, they had differing criteria, names, and branding, raising the question as to whether this created confusion for both businesses and consumers.

The schemes could broadly be characterised by: the type of businesses targeted; whether or not an award was offered; and whether the scheme was targeted at a specific geographical area or across the whole local authority area.

Generic schemes sought to target a wide range of 'out-of-home' catering outlets e.g. restaurants, pubs, workplace canteens, leisure centres etc., including those selling fast food. However take-up by fast food takeaways was generally low as their more limited menus provided less scope for making the relatively wide range of changes these generic schemes require. *The Healthier Catering Commitment* (HCC) operating in London has less stringent criteria, and no doubt as a result of this, has managed to encourage the participation of a relatively high proportion of takeaways. A recent pan-London evaluation of the HCC identified 20 of the 77 participating businesses to be takeaways (Bagwell and Doff, 2012).

Most generic schemes offered an award to those businesses that successfully met a minimum number of healthier catering criteria. This might be a single-tier award i.e. the businesses either passed or failed, or a tiered award scheme (generally bronze, silver or gold depending on the number of criteria the business met). Fast food outlets in deprived areas rarely achieved more than a bronze level, which some businesses felt would not reflect well on the business and acted as a disincentive to participation. As a dietician working in public health at Tower Hamlets and managing the *Food4Health* award scheme explained:

> *"Our bronze award was developed specifically for takeaways – we probably wouldn't expect them to get silver or gold. But a lot of businesses did not like it. Now we have changed the name of the bronze award to a standard award"*

Specialist initiatives targeted particular food or business types such as fish and chip shops, Indian takeaways, and mobile catering vans. They generally involved a lot more intensive outreach work to encourage business engagement and work on product reformulation. Often a nutritionist was included in the project to help with the development of new healthier menus. However, only six of the 23 schemes identified were targeted specifically at takeaways (schemes 11, and 19 to 23, in Table 1) These six schemes tended to focus on a more limited number of simple but key changes that takeaways can make, but ones that can have a significant impact on public health. Changes typically included action that can be taken to reduce the saturated fat and salt content of food by using oil with less saturated fat such as rapeseed oil, and selling fatter chips and adopting frying practices that help reduce oil absorption. Notably these schemes tended to be time-limited interventions linked to particular funding streams, and they did not necessarily offer an award. Unfortunately many were not sustainable once the funding ended.

Both generic and specialist schemes were often targeted at particular areas – typically areas of deprivation or around schools or leisure centres. This approach

worked particularly well where local community organisations were also involved in encouraging consumers to ask for healthier choices. So, for example, staff promoting Wakefield's *Eatwell* scheme linked up with the local authority's community food and health team, who were involved in promoting healthier eating habits in local communities, and this encouraged local people to start requesting healthier options from their local takeaways.

Effective engagement strategies

Whilst the design of a scheme was found to be important in attracting the participation of takeaways, the manner in which it was presented to businesses was also key. The survey of initiatives identified a number of strategies for encouraging businesses to make healthier changes.

Using economic arguments – it's good for business

Scheme managers, who had successfully encouraged takeaways in more deprived areas to make changes, emphasised the importance of understanding the business owner's perspective. Since the issue of profitability is the primary concern of these outlets, using economic arguments and emphasising the financial benefits of engaging in a scheme was found to be crucial to business participation. As a respondent for the Wigan Healthy Business Team operating the *Healthier Business Award* put it:

> *"We go in with a view that at worst it is cost neutral, but hopefully we are actually going to save you money… Once you show them how it can be done they are willing to give it a go."*

Some businesses also found that offering a healthier alternative attracted new customers. The *Eat Out Eat Well* scheme run by Bath and North East Somerset persuaded one fish and chip shop to start offering baked potatoes, poached fish and salads. This attracted new customers who were on a diet. Similar outcomes were found in Antrim where one fish and chip shop even teamed up with *Weight Watchers* and highlighted menu items with *Weight Watcher* points.

Demonstrating to businesses that customers were keen on healthier food was a technique used to persuade businesses to make changes in a number of areas. In the East Midlands, the Indian restaurants targeted were initially sceptical that their customers would accept the changes suggested by the *Eat out Eat in Healthy* project. But when consumer tasting sessions showed that most customers preferred the taste of curries made with dry spice mixes and less oil, the businesses were converted. According to the scheme manager the initiative was so successful that a leading manufacturer of ready-made curry mixes claimed that their sales had been badly affected by the project.

Carrot-and-stick approaches

Of those adopting a 'carrot' approach, most schemes provided at least some publicity for participating businesses and this generally acted as a major incentive. This typically included: listing award winners on the council website; holding award ceremonies; encouraging local press coverage; and, issuing businesses with stickers, posters and certificates. Some schemes also had stands at local food festivals and other events. Wigan produced a regular monthly *Healthier Business Award* newsletter with 5,000 copies being widely distributed including through doctors' surgeries in the area. In Slough an annual event was held which gave one local business the chance to be *Catering for Health* premises of the year. The press coverage this attracted inspired other businesses to sign up to the scheme.

However, whilst businesses in most areas were keen to receive publicity for providing healthier food, some preferred not to advertise the changes they were making as they felt that this might deter their core customers. Scheme managers from Antrim, Liverpool, Slough, Stoke and Worcestershire all reported that some of the businesses they dealt with had rejected offers of posters promoting their new healthier status.

A further incentive offered by some schemes was free training for participating businesses. For example, Wigan's *Healthier Business Award* included free food hygiene level 2 training for the business owner and staff. Bradford's *Good Food Award* offered free nutritional training for up to two members of staff. Other schemes offered grants or gifts of healthier catering equipment or ingredients to encourage business participation. The *Truckers Tucker* scheme, for example, offered a box of healthier cooking equipment including oil dispensers, kitchen towel for absorbing excess oil, etc.

'Stick' approaches included using the 'threat' of implementing legislative measures. For example, those administering the *Eat Out Eat Well* Scheme in Surrey drew businesses' attention to the fact that a number of vegetable oils are made from genetically modified (GM) oils. It is a legal requirement where food contains GM products for menu items to be labelled accordingly. Businesses were advised that if they switched to rapeseed oil they wouldn't have this additional administrative burden as rapeseed oil is not a GM crop.

Peer-group pressure

Providing businesses with information about the dangerously high levels of salt and fat content of the food they served was also used as a means of encouraging change. In Antrim the fat and salt content of the 12 fish and chip shops targeted by their *Healthier Takeaways* project was analysed and a table

of the test results of all 12 outlets was produced. Businesses were shown where they were on this table and those with higher results than others were shocked into making changes.

Enlisting the support of enthusiastic staff working in outlets was found to be one way of persuading the owners to engage with the healthier catering scheme. Staff that had relatives with health problems were often particularly keen. As the EHP from Antrim explained:

> *"We found that even if the food business owner wasn't keen and his staff were he got a lot more interested – particularly when he knew that if he didn't participate he wouldn't get any publicity."*

Encouraging a 'health by stealth' approach

Finally, where businesses were worried that customers would reject healthier changes, some healthier catering initiatives advocated a 'health by stealth' approach where businesses were encouraged to make small gradual changes that would be less likely to be noticed by customers. Wigan's Healthier Business team found that persuading businesses to gradually remove salt from cooking was easier than expecting them to make a large reduction immediately. Other types of healthier changes which had little impact on taste were relatively easy to introduce. For example, in Antrim, customers did not notice when the businesses switched to lower fat cheese, skimmed milk and salt shakers with fewer holes. Other changes that could be made included reducing the amount of salt used in sauces, adopting better frying practices and using healthier oil.

Successful healthier business models

The interviews with the best practice businesses sought to ascertain how they had managed to introduce healthier changes whilst still remaining profitable and keeping their prices affordable. The analysis adopted the 4Ps – product, price, promotion, place – framework taken from the marketing industry (Borden, 1965), to identify changes that could be made to the products and prices, and the way in which these were promoted and displayed, that would encourage customers to make healthier choices.

Healthier products

Encouraging businesses to swap unhealthy menu items such as chips for healthier rice or salad was a classic intervention that formed part of a number of initiatives. One kebab house in the London Borough of Tower Hamlets found that offering customers salad instead of chips gave his business a distinct competitive advantage over similar nearby outlets and led to a 15% increase

in sales. Other businesses found that offering new healthier menu items brought in new customers, and, as the owner of one pizza outlet explained 'Introducing pasta to the menu has brought in more customers and has added an additional 20% to profits'.

The type of healthier swaps that businesses were able to make depended on the nature of the customer base. Customers could be persuaded to take rice instead of chips in Asian, African and Afro-Caribbean communities since rice is a staple part of their diet, but this was less likely to be acceptable in white, working class areas or when children were the intended consumer. Businesses also claimed that consumers had entrenched views on what should be included with certain types of cuisines and these were hard to change. So, for example, rice and salad could be offered with kebabs instead of chips, but if chips were requested they had to be of the less healthy, thinner variety, since 'fat chips' were only acceptable in fish and chip shops, with the manager of a kebab outlet insisting that 'Customers don't want chip shop chips'.

A key 'nudging' intervention designed to encourage the use of less salt was the introduction of a salt shaker with fewer holes. This worked well in cafes, kebab houses, and chicken and chip shops where the salt shaker could even be hidden behind the counter and only brought out on request. But in many fish and chip shops using copious amounts of salt as a norm, the five-hole shaker led to long queues of frustrated customers attempting to dispense the required amount of salt. In such contexts businesses felt forced to re-introduce the old shakers.

Some businesses could be persuaded to offer smaller portions in areas where they were able to offer quality over quantity and/or the competition was not offering larger portions at the same or lower prices. Such a strategy worked well for a kebab house facing little competition in an area moving up market, but not for a chicken outlet which was sandwiched between a McDonalds and a Kentucky Fried Chicken – both offering larger portions of chips at the same price.

Cutting out or cutting down on unhealthy ingredients was acceptable as long as it didn't significantly impact on taste and/or where customers were particularly health conscious. For example, because of their higher pre-disposition to heart disease, the Caribbean community are now particularly aware of the health risks associated with salt consumption. As a result two of the Caribbean takeaways interviewed reported that their customers had asked them to reduce the amount of salt in their food long before the local healthier catering initiative was introduced. Adopting healthier cooking practices such as this also saved the business money.

Healthier pricing strategies

Pricing strategies were also used by some businesses to encourage customers to choose healthier options. Selling healthier options such as water more cheaply than less healthy fizzy drinks worked for some businesses. Alternatively, additional charges were made for unhealthy extras. One kebab house switched from automatically including chips with kebabs, to providing salad instead, whilst charging extra for chips if customers wanted them.

Four of the healthier catering initiatives persuaded businesses to operate healthier meal deals. For example, the East Midlands *Eat Out Eat In Well* scheme developed '2 for 1' deals on healthier meals and promoted these in local magazines. One of the Caribbean outlets interviewed ran a loyalty scheme for those purchasing porridge on a regular basis, which now has over 100 members. After their fifth purchase cardholders got the next one free.

Healthier promotions

The way in which food is presented and promoted can encourage customers to view a healthier alternative as an attractive option and this can lead to increased sales. Offering free healthier side dishes encouraged the consumption of these and gave some businesses a competitive advantage. The mobile burger van interviewed, for example, allowed customers to help themselves to as much salad as they wanted.

A couple of the more enthusiastic businesses produced special healthier menus. These included a chicken franchise which promoted healthier options on one side of the menu board above the counter, and the less healthy options on the other side, making it easy for customers to see which was which. This business also put a lot of effort into making the packaging on its healthier items, such as school approved children's drinks, look really attractive.

At one Caribbean outlet, staff were trained to encourage customers to choose healthier options. Customers were offered rice or rice and peas, but not chips (which were not listed on the menu board and were only available if requested), and were asked *which* free side salad they would like rather than if they would like one.

Healthier placing strategies

Finally some businesses used placing strategies to make it easier for customers to access healthier varieties rather than the unhealthy alternatives. Placing attractive looking healthier dishes on the counter or at the front of the display has been found to increase the likelihood that customers will choose these over less healthy options (Thaler and Sunstein, 2008). Placing water, diet drinks and

drinks with no added sugar at eye level in the drinks cabinet is also thought to increase sales of these drinks instead of the less healthy fizzy drinks (*ibid.*). Similarly one Indian outlet interviewed placed plain rice at the top of the list on its menu of rice options with the result that customers were more likely to choose this than the fried rice alternatives.

DISCUSSION

The results suggest that with the exception of initiatives specifically targeted at takeaways, most of the healthier catering initiatives surveyed were not having a great deal of impact on the least healthy types of outlets in the areas with the highest levels of obesity. The poor hygiene ratings, limited menus, and highly competitive trading conditions that characterise many takeaways, acted as particular barriers to their participation, whilst limited resources and the pressure of meeting targets encouraged some local authorities to focus instead on less hard-to-reach businesses.

Working with takeaways in deprived areas is undoubtedly challenging. This paper has highlighted the importance of understanding the business perspective and the local context when designing an intervention. Key contextual variables that need to be considered are summarised in Figure 1, and an analysis of these should be used to help determine the type of healthier catering intervention that is likely to be most effective. In general a more targeted approach, involving intensive outreach work with businesses, and focusing on a few key manageable changes, was found by this study to be more successful in engaging with takeaways in deprived areas, than more generic schemes focused on a wider range of businesses and with more onerous criteria.

Whether awards are likely to increase participation rates, again depends on the local context and business views on how consumers will react to them. Of course it could be argued that takeaways, or at least those involved in deep fat frying, are inherently unhealthy and should not be branded with a healthier catering award, even if they do make some healthier changes. To do so could give the public the wrong impression and actually encourage greater levels of fast food consumption.

There is clearly a need for further research on how consumers interpret healthier catering awards, and if and how they influence consumption behaviour. If award schemes are to be used as a means of encouraging healthier catering and consumption they need to be widely recognised. At present the plethora of local schemes being adopted is a source of potential

confusion. Future research could usefully explore if there is scope for a national 'healthier catering' award scheme that encompasses the diversity of businesses and cuisines, or whether several different award schemes are needed for different types of catering establishments.

The research suggested that *some* takeaways in deprived areas can be encouraged to make *some* healthier changes to products and can adopt pricing, promotional and placing strategies that encourage customers to choose healthier options. Drawing on the concept of the classic 4 Ps of the marketing mix (Borden, 1965), it is suggested that businesses might be encouraged to make some of the changes found in this study to be feasible, and which are listed in Table 2. These incorporate a variety of 'nudging' tactics to encourage both businesses and consumers to make healthier changes.

However, their success cannot be taken for granted in an environment shown to be highly context dependent in respect of the type of food, location and customer base, and subject to individual motivation. A detailed assessment of the business and the local context is needed to identify the most appropriate strategy for each business. This clearly has significant resource implications. It is notable that most of the healthier catering interventions that did manage

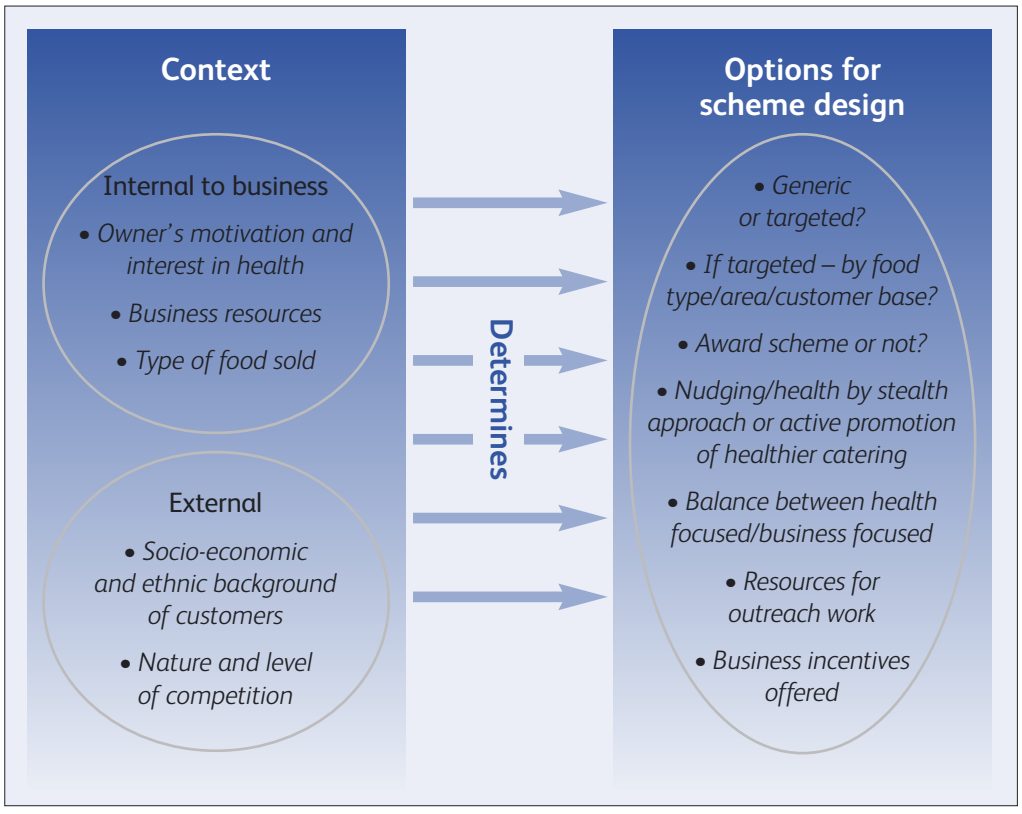

Figure 1
Variables to consider in developing healthier catering initiatives

to engage with takeaways were in receipt of dedicated funding that allowed for intensive work with businesses, and that most were not sustainable once this funding came to an end.

It also needs to be remembered that these schemes are voluntary initiatives which takeaways are only likely to engage with if it makes good business sense. Many businesses in this study were willing *in principle* to offer healthier menus but were constrained by what customers were willing to buy, what suppliers offered, and their need to make a living. Thus, for more significant changes to be achieved, work with this wider range of stakeholders is required and government intervention in the form of legislation or taxation on the sale of unhealthy foods needs to be considered. As one of the scheme managers noted,

> *"One of the things that will force the independent sector is the government saying that you have to display nutritional information. Or for customers to start demanding it."*

Table 2
The healthier catering marketing mix

Product	Price
• New healthier products • Healthier swaps • Healthier cooking practices • Better quality smaller portions	• Price healthier options cheaper than unhealthy alternatives • Charge extra for unhealthy alternatives • Use meal deals and loyalty card schemes
Benefits: Saves money, or is cost neutral, brings in new customers	**Benefits**: Increases turnover – at least on healthier options
Promotion	**Place**
• Free healthier sides • Healthier menus and advertising panels • Attractive packaging of healthier products • Personal selling of healthier alternatives	• Place healthier options in more visible locations • Hide or reduce access to unhealthy options • Reduce the size of containers or serving implements
Benefits: Sales of healthier varieties likely to increase	**Benefits**: Sales of healthier varieties likely to increase

Finally, resource constraints meant that the business interviews undertaken for this study were limited to outlets in London. Fast-food outlets trading in other deprived areas outside the capital, particularly those in less ethnically diverse areas, may face very different trading conditions, and the type and extent of changes they are able to adopt is likely to vary accordingly. However, the general principles outlined here, and in particular the need to undertake a detailed assessment of the business and the market in which it operates prior to the introduction of any intervention, might be just as applicable.

CONCLUSION

This study set out to identify how fast-food takeaways trading in deprived areas could be effectively engaged in the healthier catering agenda. The results, drawn from a survey of best practice from across the UK, and business interviews, suggest that both the design of a healthier catering initiative, and the engagement strategy adopted, can influence business participation rates and the willingness to make healthier changes.

The evidence suggests that specialist initiatives designed to address the particular type of food offered, and focused on a limited number of key changes such as healthier frying practices and reductions in salt, sugar and fat, may be more effective than more generic schemes. However, it is the potential of a scheme to generate new customers and increased profits, be it through offering free publicity or supporting the development of menus that save money or increase sales, which is likely to be of most interest to businesses. Thus engagement strategies need to emphasise the economic benefits to the business. Using peer-group pressure, carrot-and-stick tactics (promises of free publicity and threats of implementing legislative measures) and suggesting 'health by stealth' approaches were also found to be effective.

In determining the type of healthier changes a business can realistically make, public-health practitioners need to have a detailed understanding of the business and the local context in which it operates. They should then be able to determine the healthier 'marketing mix' and adopt 'nudging' tactics that might work for particular businesses. This requires intensive outreach work with businesses, together with follow-up and monitoring, all of which needs to be adequately resourced. Those involved in implementing healthier catering initiatives may also need further training to enable this detailed assessment of the business and its environment to be undertaken.

Thus voluntary agreements and nudging tactics such as the healthier catering

initiatives considered here can help encourage healthier catering and consumption, but are not necessarily a cheaper or more effective alternative to other forms of regulation, particularly with businesses in deprived areas. Further, more 'up-stream' intervention is also needed (perhaps through the taxation of unhealthy foods) if a more significant impact on obesity levels is to be achieved and health inequalities tackled. Healthier catering schemes should therefore form part of a much wider 'whole systems' approach to tackling obesity involving the supply chain and consumers, and, if need be, central government intervention.

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PROJECT OUTPUTS

A key output from the project has been the development of a toolkit designed to support those working to encourage healthier catering amongst fast-food businesses in deprived areas.
http://www.ifsip.org/takeaways_in_deprived_areas_toolkit.html?RequestId=4f5c7765

A webinar has been produced to highlight the wider policy issues of this research.
http://www.tifsip.org/areasoffocus/nutritionandhealth/practice/item.aspx?id=510&RequestId=ee17793b

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PAPER

Noise induced hearing loss in music therapists: a case study

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ABSTRACT

There are many industries which are affected by a high incidence of Noise Induced Hearing Loss (NIHL), particularly heavy manufacturing, oil and gas, and the music industry. There are other less recognised occupations, particularly in the leisure industry. This study explores the noise exposure of a music therapist who works with people with multiple or learning disabilities as well as mental health problems, and evaluates exposure to legislative standards.

A dBadge Lite Micro Noise Dosimeter CEL-350 and a Harmonie portable four-channel system sound level meter enabling octave-band analysis of music sessions were employed for the monitoring. All individual and group therapy sessions were monitored for ten days, in order to gain a representative data set.

The findings of the study support the idea that music therapists are at risk of excessive occupational noise exposure. The study participant was exposed to sound levels that resulted in dose percentages exceeding standards recommended by the Control of Noise at Work Regulations (2005) (Govt. of Great Britain, 2005), with the lower action value levels being reached for the average daily noise exposure (L_{EPd}), the average weekly exposure (L_{EPw}) and peak sound pressure values.

Due to the numerous variables it is impossible to state with certainty the occupational noise exposure of music therapists and thereby any subsequent

hearing disorders which may occur. However, evidence from the present study, scientific literature, and anecdotal evidence suggest that this occupational group may be at risk of NIHL and should be the subject of appropriate risk assessment for noise exposure and that employers should seek to lower exposure to noise so far as is reasonably practicable through a range of interventions. It is hoped that this study will raise awareness amongst music therapists and employers as to the risks that pertain to noise exposure. It is considered important that further study of the occupational group is considered.

Key words: Environmental health, music therapy, Noise Induced Hearing Loss (NIHL), occupational noise

INTRODUCTION

Occupational noise by definition is associated with the workplace, and is therefore the responsibility of employers as well as individuals. A survey on working conditions conducted by the European Foundation for the Improvement of Living and Working Conditions (Paoli and Merllié, 2000) indicated that approximately one in five European workers are exposed to noise so loud that they have to raise their voice to talk to other people, the normal indicator that the level is above 80 dB(A). Since then, estimates of the national burden of hearing impairment attributable to noise at work have varied widely.

One area where noise has been recognised as a risk to health is for those people working with music. Directive 2003/10/EC highlights the requirement for minimum health and safety requirements regarding the exposure of workers to the risks arising from noise, and notes that the particular characteristics of the music and entertainment sectors require practical guidance (European Union, 2003). Exposure within the music industry may include pure tones, narrow-band noise, broad-band noise, impulsive noise, continuous or intermittent, low or high-pitched or any combination of these. It has generally been acknowledged that impulsive sound can be more damaging to hearing than continuous noise and that pure tones can be more harmful than composite sounds (Axelsson and Prasher, 2000).

Several studies have concluded that NIHL was likely to be of increased prevalence among those working in the music industry (Ostri *et al*., 1989; Royster *et al*., 1991; Axelsson *et al*., 1995; Zeigler, 1997; Kahari *et al*., 2001, Kahari *et al*., 2003; Mace 2006). Although these studies reported a higher risk of NIHL, a number of related studies contradict these findings and concluded that personnel within the music industry are not more likely to experience

hearing losses (Axelsson *et al*., 1977; Axelsson and Lindgren, 1981; McBride *et al*., 1992; Henoch and Chesky, 2000; Eaton and Gillis, 2002). Some research has even shown that the hearing thresholds of orchestral musicians are actually better than expected for an age-matched population not exposed to occupational noise (Royster *et al*., 1991; Obeling and Poulsen, 1999). Such differences in findings suggest a complex set of conditions that influence the outcome and indicate a need for further investigation.

Whilst many studies have looked at employees within the music industry, there is currently no evidence relating to the noise exposure of music therapists. The nearest comparable studies have been on music teachers, and even in this field there is very little data.

Music therapists work with clients with multiple attendant problems or learning disabilities, and clients with mental health problems, challenging behaviour and communication problems. Music therapists are trained professionals who use a variety of approaches in order to facilitate positive changes in behaviour and emotional wellbeing. Usually, both the client and the therapist play an active role in each session, with clients being encouraged to use a range of instruments including their own voice to explore the world of sound and to create a musical language of their own.

There are a number of variables that make the study of NIHL in music therapists challenging. The first is that music therapists are peripatetic with scheduled but undefined caseloads that vary in terms of time, location, duration, student numbers, and activity. In addition, the overall sound pressure level will be influenced by the physical indoor environment in which the therapy takes place and since location of therapy can be altered this can and will affect the overarching exposure in any one session, day or period. As a final complexity therapists often work for more than one employer thus making assessment of overall exposure between employers more difficult.

By way of exploration of the above factors, the participant in the study currently works for two separate employers (two days a week with one employer and three days with the other), running three to four sessions a day. The music therapy sessions run for 30 minutes to one hour and take place in a variety of different venues, with rooms of different shapes, sizes and construction. Some of the therapy sessions are run on a one-to-one basis, and others are group sessions, with one session a CD listening group. Some of the therapist's clients are regular, and others work with the therapist for a shorter period of time. Due to the nature of work, each day is different, with changes taking place regularly, often at last minute. The number of variables means

that noise exposure can vary hugely from one day to the next; even two sessions with the same client, which may appear comparable on paper, can differ wildly depending on venue, activity proposed, instruments used and the mood of the client.

The participant in this study has been a music therapist for 22 years and in the music industry in general for 25 years. The therapist has had two audiograms in her career, both arranged by her GP and not her employer. The first was in 1998, the records of which have since been lost. The second was done in 2009 after the participant noticed a marked deterioration in hearing. This audiogram was not available for examination within this study. The participant has had tinnitus for many years, and has noticed that this is getting worse, especially in the last few years. The music therapist has previously requested a risk assessment from one of her employers, however this was completed as a paper exercise without input from the participant, and it was decided that there was no risk involved.

METHODS

The study involved measuring the occupational noise exposure of a single participant over a two-week period (10 working days). This was done in order to get a comprehensive data set and overview of the noise exposure a music therapist would receive. All sessions over the two-week period were included in the monitoring sample. All equipment used was calibrated in accordance with the manufacturers' guidance. Noise was measured using two main pieces of equipment, a personal dosimeter and a four-channel real-time analyser.

A dBadge Lite Micro Noise Dosimeter CEL-350 classic noise dosimeter was used which recorded the noise levels the participant was exposed to. This was calibrated to 114 dB at 1 kHz using the CEL calibrator, both prior to each use and at the end of every session. The dosimeter was attached to the right shoulder, as close to the ear as possible in order to get the most accurate results. The participant wore the dosimeter for the duration of the working day covering the study. The data records collected by the dosimeter were downloaded at the end of the study and analysed using the software provided. A total of eight dosimetry samples were taken over a period of 10 working days. The dosimeter recorded time histories, allowing time-history profiling with sound levels and peaks. All measurements recorded the standard "A" weighting and a sampling interval of 100 ms. The Casella Insight Data Management software package was used to analyse gathered data. This calculated the average daily noise exposure (L_{EPd}) and peak levels. The average

weekly exposure (L_{EPw}) was worked out using the HSE weekly noise exposure calculator (HSE, 2012).

A Harmonie portable four-channel system sound level meter was used for sound level measurement. Before each use the Harmonie was calibrated to 114 dB using the Bruel and Kjaer calibrator. The microphone was placed as near to the source of noise as possible, making sure that it was at least 1 m away from all reflective surfaces, at a height of 1 m from the floor. The microphone meter was placed in a position so as not to disturb teachers and students during the course of the lesson.

The noise measurements were then downloaded onto a computer and analysed using the dBENV software. This recorded 1/3 Octave band analysis as well as the Peak and L_{Aeq} for each session. The Harmonie results were then compared with the exposure limits and action values set out in the Control of Noise at Work Regulations 2005. The noise measurements were also analysed in order to calculate the average L_{EPd} and L_{EPw}.

Prior to each session the room was measured. This included measuring the height, width and length of each room, the height, width and length of any windows, doors or other openings, the construction of the room and any other items of note (e.g. sloped ceiling). A plan was drawn for each room showing dimensions, notes about the rooms and the placement of the Harmonie microphone. Photos were also taken to record layout etc.

Additional observed environmental data was collected in the form of history notes, for each session and saved for later comparison to the actual sound pressure history as recorded by the dosimeter.

Due to the nature of the clients and potential sensitivities, it was ensured that the entire process was transparent. The clients were made aware that the study was into the occupational noise exposure of the participant, not of the clients themselves. The participants in the therapy setting were not a direct part of the study and no engagement took place with them.

RESULTS

In order to calculate an occupational exposure for the participant, the duration of the exposure must be considered alongside the sound level. The first results considered were the daily noise exposure levels of the participant, as the main actions required by the CNWR 2005 are based on assessing a daily sound exposure figure (Govt. of Great Britain, 2005).

The personal dosimeter badges used for the first two days malfunctioned. This was due to the batteries being stored in cold conditions. When this fault was noted, new badges were used for the duration of the study. When the results were checked, the data for days six and seven was replicated for days one and two, as these sessions had mirrored each other. The raw data from the dBadge Lite Micro Noise Dosimeter CEL-350 was analysed by the Casella Insight Data Management software package which calculated the daily personal noise exposure levels. It also used the data to work out the $L_{Aeq(8hrs)}$ (equivalent continuous A-weighted sound pressure level) for the course of the participant's working day to allow comparison (Figure 1).

The data gathered showed that the participant's exposure breached the action levels given in the CNWR 2005 of 80 dB(A) L_{EPd} on days three and seven. It also highlights that the participant was only just under the action level on several of the other days, meaning that they (and others in similar occupations) are likely to be vulnerable to ill-health issues associated with noise exposure (Table 1).

The daily noise exposure experienced by the participant was inconsistent, with the exposure varying from day to day. Because of this it was necessary to calculate the weekly personal noise exposure level for the participant ($L_{EP,w}$), see Table 1.

In order to calculate a $L_{EP,w}$ for week one, data from week two (days six and seven) was substituted to account for the dosimeter equipment malfunction. It is acknowledged within the introduction and the discussion that internal environments, number of clients, and client activity will all play into the overall sound level received. As such the results in Figure 1 and Table 1 should be viewed with some caution.

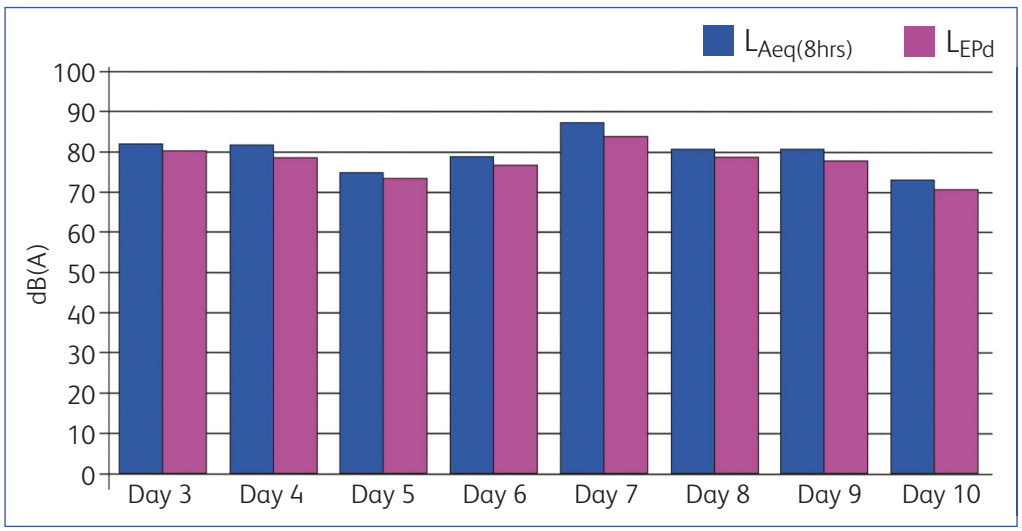

Figure 1
Daily noise exposure of participant

	Daily exposure ($L_{EP,d}$ dB)
Day 1	76.6* (based on data from day 6)
Day 2	83.7* (based on data from day 7)
Day 3	80.1
Day 4	78.5
Day 5	73.5
Overall $L_{EP,w}$	**80 dB**

Table 1
Weekly noise exposure of participant: week one

	Daily exposure ($L_{EP,d}$ dB)
Day 6	76.6
Day 7	83.7
Day 8	78.7
Day 9	77.7
Day 10	70.7
Overall $L_{EP,w}$	**79 dB**

Table 2
Weekly noise exposure of participant: week two

Taking into account the use of data from days six and seven for week one, the results for both weeks are similar, showing consistency of data (Tables 1 and 2). While it is recognised that the $L_{EP,d}$ is likely to vary daily due to the array of variables, $L_{EP,w}$ is more likely to normalise data. With this in mind, when these figures are compared to the action levels given in the CNWR 2005, there is a strong possibility that the $L_{EP,w}$ experienced by the participant reached the lower action level of 80 dB(A) during the first week and was approaching this limit in

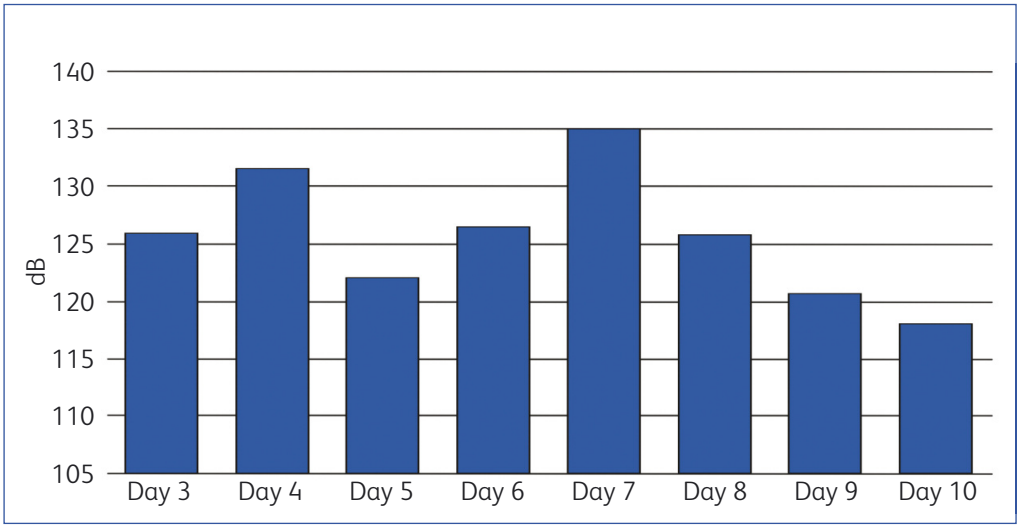

Figure 2
Peak exposure levels of participant

the second week. Further monitoring would be necessary to verify these results, such as a larger range of empirical data collected over a more sustained period.

Another consideration when looking at the noise exposure of the participant was the peak levels experienced every day (L_{Cpeak}). The Casella Insight Data Management software package was used to analyse data gathered from the dosimeter and the peak exposure levels calculated – see Figure 2 (the data from days one and two have once again been omitted due to the dosimeter equipment malfunction).

These results show that when compared to the action levels given in the CNWR 2005, the peak sound pressure reached the lower exposure action value of 135 dB(C) on day seven.

DISCUSSION

The results appear to corroborate a number of related studies which concluded that personnel within the music industry are at increased likelihood of experiencing hearing losses. In a study by Ostri *et al*. (1989), it was observed that 58% of the musicians had a hearing impairment which might be due to exposure to loud music. Other studies have corroborated the findings of these studies including an investigation by Behar *et al*. (2004) which assessed the risk of hearing loss in school music teachers during the course of their activities and concluded that they are at increased risk of hearing problems. These results were borne out by a study by Mace (2006) which was undertaken in order to ascertain if university music performance teachers experience sound levels that meet or exceed standards recommended by the American National Institute for Occupational Safety and Health (NIOSH, 1998). The NIOSH recommended Exposure Limit (REL) for occupational noise exposure is 85 dB(A) as an 8-hour time-weighted average, with a ceiling limit of 140 dB(A).

During a session, the participant in the study may be exposed to a variety of musical experiences. These can include singing or vocalising, playing various percussion and melodic instruments, and listening to music. The goals for change in music therapy may be in the areas of attention, concentration, impulse control, social functioning, self-esteem, self-expression, motivation and cognition (Pelliteri, 2000). The focus is on the psychological process of creative expression. During sessions the client's musical and non-musical behaviour is viewed as an expression of the self and an adaptive attempt to satisfy an underlying need. For example, behaviours that are disruptive in class can be seen as an expression of that client's psychological dynamics and emotional

needs. As such, one aspect of such a therapeutic alliance is the non-judgmental attitude of the therapist (Rogers, 1961).

The client must be free to use the music to express themselves and it would be inappropriate for the therapist to try to limit clients in this regard, as it would negate the whole therapeutic purpose of the session. Although it may be possible to change some of the instruments for less noisy alternatives, the client should feel free to use the instruments as they wish. Any controls which are put in place to protect the therapist must take into consideration the purpose of music therapy and not interfere or contradict with the process.

The results of the study support the theory that music therapists may be at risk of NIHL in the long-term. Other variables, which are not immediately obvious, must also be taken into account when looking at the results. An example of this was that during discussion, the participant described the period under investigation as being 'quiet' due to several cancelled/short sessions and one of her noisiest clients being on holiday.

Variables

One of the main variables in this study was the room being used for the session. As a peripatetic worker, the participant works on several different sites, and within different rooms on these sites. The rooms were constructed of different materials, were of different sizes and all decorated differently etc. Due to the nature of the job, the participant works in rooms which were not designed for the purpose of music therapy. This means that the effects of absorption, reflection and reverberation are factors which need to be considered.

The participant conducts many of the sessions in classrooms and multi-purpose rooms. These are often (of necessity) constructed with hard, robust surfaces to withstand the rigours of school life. While this gives decorative and structural longevity, it creates a strong reverberant field adding to the overall level of sound. Using a small room for tuition places the participant close to the output from the instruments, and rooms with hard, reflective surfaces exacerbate the risks to the therapist.

During the fieldwork, one of the rooms used by the participant was of particular concern. The room was very small (length 2.5 m, width 2.5 m, height 2.75 m) and appeared to have previously been used as a toilet or ablution room. The room was tiled to halfway up the wall, with gloss paint used on the top half. Although it had been carpeted, it was noted at the time of the assessment that the room contained no soft furnishings to mitigate against the reflective component. This room was in use on the third day, when the L_{EPd} reached 80.1 dB(A). It should be

noted that one of the clients had not turned up on this day, and if they had it is likely that the overall results would have provided a higher L_{EPd}.

In comparison to this was the room used for the first session on days one and six. This room has been developed as a sensory room for clients with multiple disabilities. As such it had blinds, fabric covered chairs and multiple other soft furnishings which have noise-absorbing qualities. The results for sessions in this room provided a comparatively consistent low L_{Aeq} of 67.1 dB(A) and 65.0 dB(A). It cannot be guaranteed that the reason for the difference between these events was purely a result of the acoustics – there were other variables such as the different clients etc. – but it is factor to consider and possibly be investigated further.

The variety of instruments used during sessions is a further variable to be considered. Some instruments can cause high sound levels when played in a small teaching room or in inappropriate venues (Sound Advice, 2012). Another study by Royster *et al*. (1991) looked at the personal exposure of 68 members of the Chicago Symphony Orchestra, subdividing the orchestra into four instrumental groups. The results showed that certain instruments expose players to more noise than others. This may lead to the argument that it may be necessary to avoid using certain instruments in certain environments as they will be more likely to cause excessive noise. A selection of instruments was measured during the study with both the drums and cymbals shown to provide higher sound impact.

One variable which is very hard to either predict or have any control over during a session is the clients themselves. The participant in the study described how it was impossible to judge how a session would go. An example used was of a client who would often bang a drum loudly for a whole session; this had obvious therapeutic effect for the client. During the course of the study, one of the 'noisy' clients was not able to attend their normal session. It was the opinion of the participant that the data taken during a session with this client would have indicated extremely high noise levels. With this in mind it is not just $L_{EP,d}$ that has to be considered but peak levels since data from this study suggest L_{Cpeak} approaching action levels.

The participant works with clients who have multiple disabilities, which is another variable to consider. Due to the disabilities that the clients may have, it is possible that they may experience uncontrolled muscle spasms which cannot be predicted and may need to be acknowledged and taken into account.

Several sessions, which were scheduled to have taken place during the two weeks of this study, were cancelled at the last minute. These sessions could

have had an impact on the results seen. A single extra session on several of the days would have meant that the L_{EPd} results would have exceeded the upper exposure action levels given in the CNWR 2005. Without performing a more detailed study, it is impossible to say with any certainty that the upper exposure level would have been exceeded, but anecdotal evidence suggests this may be the case and therefore further study is warranted.

The number and length of the sessions change continually depending on demand. The participant explained that they can be asked to do extra sessions as required, if they are available and if it would benefit the client. As the results of the study indicated, having an extra session on a day could cause noise exposure to exceed levels recommended in the CNWR 2005. Often these sessions are added to the working day at the last minute and are unplanned.

The duration of a session can also vary. It was noted over the course of the study that it was often the case that a session would run either over or under time (this can depend on the client and how the session is going etc.). It would often be inappropriate for the participant to interrupt a session too early, as this would interfere with the therapeutic process.

The nature of sessions also changes as required. During the study there was one such occurrence. This happened when one of the scheduled clients was unable to attend; the participant ended up moving rooms and taking a group session instead. Obviously in this case it changed many variables, not only the nature of the session, but also the room and the clients etc. This cannot be predicted beforehand and changes such as these must therefore be accounted for in any risk assessments etc.

Recommendations

This was a short-term study conducted over two weeks. The number of variables involved is considerable, which makes the development of formal recommendations difficult. That said, the results gained in the study provide evidence that sound levels approached the lower exposure action level for L_{EPd}, $L_{EP,w}$ and peak levels and on occasion exceeded these benchmarks. This suggests that music therapists are at risk of excessive occupational noise exposure. It is hoped that this study will create greater awareness of the risks to practitioners and the responsibilities of employers to protect them.

The legislative position created under CNWR 2005 requires employers to undertake a suitable and sufficient assessment of the risk from noise and to lower the level of exposure so far as is reasonably practicable. It is unclear whether the employers in this case are aware of the risks of exposure or have

undertaken a competent risk assessment. The placing of the participant into highly reverberant rooms is suggestive that noise levels are not being lowered so far as is reasonably practicable.

Suitable future actions may involve utilisation of purpose-specific rooms in which the acoustic environment is considered. Where this is not possible mitigation against exposure may include acoustically treating the rooms used by fitting sound-absorbing materials such as carpeting, absorbent wall finishes or coverings, false ceilings etc. to absorb noise.

It is also noted that the participant is employed by more than one employer which makes overall assessment and responsibility for impact to health more complex. Where it is known that part-time workers are exposed to noise during other employment, employers should consider the overall risks to those people in deciding how to protect their hearing, and not just look at their noise exposure during the specific periods when they are employed by them. There is a significant risk in only looking at the impact of single employment since, as in this study, when only using two or three days of results to ascertain the $L_{EP,w}$ the results would appear to be much lower than they actually are. As such it is a recommendation that a more comprehensive assessment is undertaken where there is more than one employer.

Hearing defence could also be employed to reduce exposure and could be specifically employed during high sound level activities. The participant currently owns a set of ER20 earplugs. The specifications of these earplugs are such that if the participant wears them, they would bring exposure down well below the exposure action values given by the CNWR 2005.

CONCLUSION

The main findings of this study are broadly in line with earlier research which concluded that musicians are at increased risk of suffering with hearing disorders due to occupational noise exposure. In particular the study indicated that the participant was exposed to noise levels above the lower exposure action levels and results from the Harmonie indicate that the upper exposure action values were also exceeded.

The lack of comparable studies meant there were no findings with which to compare the results of this study, and due to the numerous variables it is impossible to state with certainty the occupational noise exposure of music therapists and any subsequent hearing disorders which may occur. Further study

is recommended to shed light on the burden of disease arising nationally from occupational exposure to noise, and quantify the health effects of many occupational risk factors. A comprehensive assessment which will allow future policy to be shaped and improve awareness is one of the greatest challenges.

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LAW ARTICLE

Nuisance, permitting and planning

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INTRODUCTION

This article reviews the interaction between nuisance, both statutory and at common law, and the Environmental Permitting and Planning regimes following the decisions in *Barr*[1] and more recently in *Coventry*.[2] It shows there is a continuing need for individuals and communities to use other legal means to obtain compensation for harm as this cannot generally be achieved through action by the regulators. Furthermore, with declining resources for regulators, this may sometimes also be a more effective means of control.

ARTICLE

Barr

In *Barr* the trial judge identified four key issues.[3] He ruled out the defendants' claim that possessing an environmental permit for the site gave them the defence of statutory authority. However he agreed that operating in accordance with their environmental permit represented a reasonable use of the site. This was a defence to a claim for odour nuisance unless the claimant could prove negligence and non-compliance with the permit's conditions. He went on to find that there was a need to set a threshold for such nuisance claims and set out his views of how to assess damages in a successful case. The Court of Appeal[4] agreed about the statutory authority defence, but rejected the judge's other findings.

The facts[5] in *Barr* are that planning permission for the use of the Westmill quarry for industrial and household waste was granted in 1980 and implemented on part of the site in 1984. The planning permission for extraction and landfilling was extended and in 2003 the Environment Agency (EA) issued a permit to Biffa's predecessors for the Westmill 2 site, again for household and non-hazardous industrial and commercial waste. Biffa took over the site later in 2003.

From the outset the waste taken into the new cells was pre-treated, which meant that it had a higher organic component and was both older and smellier. The permit required the operator to use BAT to prevent, or where that was not practicable reduce, emissions including odours from the installation. Tipping actually started in 2004, and within a week there were odour complaints from nearby residents. These continued depending on which part of the site was being used.

Initially Biffa engaged with both the EA and the residents, but following the prosecution by the EA for nine breaches of the conditions in 2004 and 2005, the relationship soured. The prosecution was not resolved until 2007, when Biffa were convicted on four counts. The problems with odours continued until 2009. Biffa had undoubtedly taken steps to try and combat the nuisance, but the trial judge found that at least some of the complainants had been adversely affected over a protracted period. A revised permit and conditions were issued in 2009, and the complaints tailed off. The EA did not try to prosecute again but issued a formal warning in 2009.

The trial judge expressed some surprise that no attempt was made by the claimants to base their case on failure to comply with the permit's conditions or any negligence on the part of Biffa. In the end it proceeded on the basis of a simple claim in nuisance.[6] A telling comment by the judge was:

> *"the impression is of a company reacting to a problem that they were causing, rather than taking proactive steps to ensure that the problem – namely the odour – did not arise in the first place. ...there is an impression that the EA were of limited help, particularly in dealing with the immediate concerns of the most affected of the residents."*[7]

Biffa's main defence was based on statutory authority – that the possession of a permit from the EA meant they could not be liable for a claim in nuisance.[8] Their alternative defence was that the detailed terms of their permit meant they could claim reasonable use of their land, and that in the absence of negligence or any alleged failure to use BAT on their part they could not be held liable.[9]

The claimants contended that their common law rights were not affected by the existence of the permit.[10]

The trial judge ruled against Biffa's claim of statutory authority. He cited *Allen*,[11] where the House of Lords allowed the defence to be used in connection with nuisance caused by the normal operation of an oil refinery built under a Private Act of Parliament[12] but stated that planning permission could not extinguish private law rights. From *Tate and Lyle*[13] he noted that the defence would not hold where due diligence or reasonable care had not been used. He pointed to the judgement of Webster J in *Department of Transport*[14] which had been approved by the House of Lords which summarised the position, including:

> *"a) in the absence of negligence, a body is not liable for a nuisance which is attributable to the exercise by it of a duty imposed on it by statute;"*[15]

He also cited the House of Lords in *Marcic*,[16] where it was held that an action in nuisance was incompatible with the statutory scheme that applied to such a water and sewerage undertaker. He found that Biffa had no statutory obligations or duties and they were operating the site as a commercial choice.[17]

The Court of Appeal agreed with this part of his judgement. As Carnwath LJ said:

> *"...Biffa did not have statutory immunity, express or implied. The cross-appeal on this point is hopeless."*[18]

No-one can therefore claim a defence of statutory authority based simply on their possession of a permit. However the trial judge's lengthy analysis returned to a similar position based on the principle of reasonable user, which allowed Biffa an equivalent defence in the absence of negligence or failure to comply with the permit conditions. He also set a threshold for such odour nuisances that would have excluded all but two of the 152 claimants. These parts of his judgement were rejected by the Court of Appeal.

On the question of whether an Environmental Permit had equivalent effect to a planning permission, he pointed out that this was issued by a specialist regulator for one particular purpose, and involved no balancing of the effect of different uses within a neighbourhood.[19]

He highlighted three House of Lords cases in respect of nuisance. In *Metropolitan Asylum*,[20] the fact that the managers had statutory powers to build and run a hospital for infectious diseases, and had been directed by the Local Government Board to build the hospital in that location, did not create a

defence to a claim in nuisance by adjoining landowners. In *Polsue*,[21] it was held that even in an industrial area, there was no defence to someone introducing a new source of noise that caused a nuisance. In *Halsey*,[22] damages and injunctions were granted to deal with nuisance from smell and noise, and from the effect of acid smuts. These extended to the use of the highway, so the claim succeeded in private and public nuisance, as well as under the rule in *Rylands and Fletcher*.[23] The fact that the industrial area had been in existence since the 19th century did not allow them to cause a nuisance to the adjacent residential areas, particularly where the nature of the activities had changed.

In his leading judgement, Carnwath LJ concluded:

"i) "Reasonable user" is at most a different way of describing old principles, not an excuse for reinventing them.

ii) ...There is no principle that the common law should "march with" a statutory scheme covering similar subject-matter. Short of express or implied statutory authority to commit a nuisance …there is no basis, in principle or authority, for using such a statutory scheme to cut down private law rights.

iii) Further:
a) The 2003 permit was not "strategic" in nature, nor did it change the essential "character" of the neighbourhood, which had long included tipping. The only change was the introduction of a more offensive form of waste, producing a new type of smell emission.
b) The permit did not, and did not purport to, authorise the emission of such smells…

iv) There was no requirement for the claimants to allege or prove negligence or breach of condition. Even if compliance with a statutory permit is capable of being a relevant factor, it would be for the defendant to prove compliance, not the other way round.

v) There is no general rule requiring or justifying the setting of a threshold in nuisance cases...

vi) By adopting such a threshold, the judge deprived at least some of the claimants of their right to have their individual cases assessed on their merits."[24]

Environmental permits

During the case attention was drawn to Article 4 of the then Waste Framework Directive[25] (since replaced[26]) which made it clear that waste management must

be operated without harming either humans or the environment, including causing nuisance from noise or odours. The relationship between the permitting regime, development control and statutory nuisance was explored in this case, as was the relationship with the relevant common law rules.

The regulation of waste sites has developed over the last 30 years and they have changed further since the events in issue in Barr v Biffa. In 2008 the current regime of Environmental Permitting was implemented,[27] which brought the regimes for all the then different Permits together, and extended the controls to transpose several other Directives. These regulations were consolidated in 2010 and have been further amended since.[28]

The regulators have various powers to serve Notices,[29] and to vary[30] or revoke[31] a Permit. Failure to comply with such notices or operating without the appropriate Permit are offences[32] with fines of up to £50k and/or imprisonment of up to 12 months on summary conviction and unlimited fines and/or five years imprisonment on indictment.[33] The court can also order the remedying of the offence[34] and the regulator may take the necessary steps in an emergency and recharge the operator,[35] as well as seeking an injunction in the High Court.[36]

For waste operations needing a permit, a prior planning permission or established use certificate has to be in force.[37]

Statutory nuisance

The statutory nuisance procedure is now contained in Part III of the EPA. There are 10 specific sub-categories of such nuisance under this Act[38] including issues such as noise, dust and smells. Provisions in other Acts are also linked to this procedure.[39]

For the first time a limited bar was inserted in this updated procedure preventing Councils from issuing summary proceedings for nuisances in respect of sites authorised under Part I of EPA, without the consent of the Secretary of State. This bar now applies to all sites with a permit under Regulations arising from Section 2 of the Pollution Prevention and Control Act 1990,[40] which means all relevant waste sites are covered. This would make little sense if there was no potential overlap between the two regimes.

However the LA still has enforceable duties to investigate complaints relating to possible nuisances[41] from such sites and to serve an Abatement Notice[42] if satisfied that a nuisance exists or will occur or recur. There is no apparent restriction from using its other enforcement powers if a notice is not complied with – a point overlooked in *Edwards*.[43] This restriction also does

not prevent aggrieved individuals from taking action.[44] However, for relevant nuisances arising from industrial trade or business premises, there is still the defence of "best practicable means" being used to prevent or counteract the nuisance in question.[45]

This means that LAs are legally required to get involved, despite the EA being regarded as the main regulator for waste sites. At a time when both LAs and the EA are struggling with reduced resources, this does not make much sense.

Environmental liability

Regulations[46] in 2009 transposed the Environmental Liability Directive.[47] The decision tree in the formal Guidance[48] shows that where there is damage or a risk of damage to the environment from a listed activity the regulator can potentially use these powers. All permitted waste management operations count as relevant activities under Schedule 2.[49] The regulator can deal with pollution caused outside the permitted facility, either by compelling the operator to carry out the clean up[52] or by doing it themselves and recharging the costs incurred.[53]

Planning

The need to obtain planning permission for development or change of use was created by the Town and Country Planning Act 1947. The latest version of the planning regime is in the Town and Country Planning Act 1990, although this has since been extended and amended.

The principle is that any development (unless specifically exempted) requires planning permission,[52] to include any building or other operations in on or over land, as well as a change of use of the land or buildings on it.[53] There are well-established procedures for notifying and consulting those potentially affected as well as a range of statutory agencies.[54]

For nationally significant infrastructure projects,[55] the grant of development consent now gives statutory authority for the purpose of providing a defence in civil and criminal proceedings for nuisance.[56] The wording of this section appears sufficient to remove any action under the statutory nuisance procedure as well as the common law torts. Actions in respect of negligence are unaffected.

The relationship between the planning and licensing/permitting regime has caused some difficulties in the past. The Government introduced a new National Planning Policy Framework in 2012,[57] but this excluded waste planning. Following consultation, this has now been published.[58] The document requires the Waste Planning Authority (WPA) to consider the likely impact on the local environment and on amenity based on the criteria in Appendix B and

the advice from relevant health bodies. They are not supposed to carry out their own health assessments. They are supposed to concentrate on implementing planning strategy, and not to duplicate the pollution control regime. They are to assume that the pollution controls will be properly enforced.

Appendix B[59] sets out a range of locational criteria to be applied, with (f) to (k) listing the usual matters that are the source of neighbours' complaints including traffic, dust, odours, vermin and litter. The previous policy contained in PPS 10[60] said very similar things but in a more detailed way. Annex E[61] in that document is similar in scope to the new Appendix B.

Since the decision in *Gillingham*,[62] a defendant could argue that a planning permission once implemented could have the effect of changing the nature of the locality (in this case the conversion of an old naval dock to a commercial port) and the question of nuisance would have to be judged in terms of the changed environment. In that case it was held the nuisance was not actionable.

In *Wheeler*,[63] the Court of Appeal held that a planning authority could not authorise a nuisance (unlike Parliament), but it did have the power to change the character of the neighbourhood. There would be a defence against a claim in nuisance if the actions complained of were an inevitable result of the new authorised use, which was not made out in this case. They also held that the permission in question (for a new piggery) was not "strategic" in nature and had not changed the locality.

In *Hunter*,[64] the House of Lords held that building the Canary Wharf tower allowed by planning permission (under a fast track procedure used by the London Docklands Development Corporation) would not be an actionable nuisance when it interfered with television signals. It also reconfirmed that only an owner or someone with legal rights to the land was able to sue in private nuisance. They did not accept that the Enterprise Zone legislation had created the defence of statutory authority.

In *Watson*,[65] the Court of Appeal allowed both an injunction and damages in respect of noise from motor racing at an old aerodrome despite planning consents dating back to 1963 and a S106[66] agreement. The trial judge had concluded there was a nuisance and that the planning permissions had not changed the essentially rural nature of the area. He only awarded damages, but the CA granted the injunction and dismissed the cross appeal of the defendants. In applying *Allen*, *Wheeler*, and *Hunter*, the CA held that intensification of use and the tortious activities of the defendant could not change the location's character.

The judgement of a different panel of the Court of Appeal in *Coventry*,[67] which was delivered after the hearing in *Barr*, was noted. This was a case involving a claim for noise nuisance from moto-cross activity which had gone on for many years, and which was covered in part by various planning consents and established use rights. This reaffirmed in clear terms the previous decisions referred to above. In that case the court concluded that the relevant planning permissions in respect of motor sports had been sufficient to change the nature of the locality, defeating a claim for nuisance caused by noise. Jackson LJ made it clear applying *Gillingham*,[68] that:

> *"the planning authority had made a decision in the public interest and that the consequences had to be accepted"*[69]

This decision was overturned in the Supreme Court but unlike in *Barr* leave to appeal was granted and will be considered below.

Common law nuisance

The key common law tort that relate to activities such as running a waste management facility will be Nuisance, under the rule in *Rylands and Fletcher*,[70] and Negligence.

There are two types of nuisance – Private Nuisance and Public Nuisance. The former has been defined as:

> *"an unlawful interference with a person's use or enjoyment of land or some right over, or in connection with it."*[71]

Two relevant categories of "harm" that such an action can seek to deal with are:

- physical damage to someone's land
- so-called "amenity" cases where actions interfere with the use and enjoyment of the land

Prior to the advent of planning controls, the tort of nuisance developed as a means of restraining one landowner from using their land in a way that harmed or interfered with their neighbours.

Noise, smells, dust and vermin are all things that are associated with disposal sites and which can come within the "amenity" limb of this tort. In such cases it has long been established that the degree of interference must be judged objectively[72] and must take account of the characteristics of the area.[73]

The Tort of Public Nuisance has been defined as anything:

> *"which materially affects the reasonable comfort and convenience of life of a class of Her Majesty's subjects who come within the sphere or neighbourhood of its operation;"*[74]

The same conditions could give rise to both torts depending on the scale and the numbers of people affected. Only private nuisance actions[75] require claimants to be landowners, which could be relevant if a disposal site affects a whole neighbourhood where there is a mixture of owners, tenants and licensees.

The rule in *Rylands v Fletcher*[76] is now regarded as a sub-category of nuisance[77] and relates to circumstances where someone has brought something hazardous onto his land, which then escapes and causes damage. This can be relevant to certain waste disposal sites such as those dealing with chemicals and other dangerous materials, where the harm is done by a single incident rather than a continuing nuisance.

The Tort of Negligence may also be relevant where the actions of the site operators have led to a breach of a duty of care which causes physical harm or damage. For all these torts the extent of liability now will depend on how far the type of harm was foreseeable at the time the events in question took place.[78]

In *Transco*,[79] the House of Lords reviewed the application of the rule in *Rylands and Fletcher*[80] but considered issues around nuisance. Lord Hoffman said:

> *"Liability in nuisance is strict...If it cannot be done without causing an unreasonable interference, it cannot be done at all. But liability to pay damages is limited to damage which was reasonably foreseeable."*[81]

The last part of this passage was highlighted by Carnwath LJ in *Barr*.[82] Having remarked on the large costs (£3m) run up in what he felt was a simple case of odour nuisance, he concluded[83] that:

> *"The fundamental principles of law were settled by the end of the 19th century and have remained resilient and effective since then...Parliament may also enact parallel systems of regulatory control; but, unless it is says otherwise, the common law rights and duties remain unaffected."*

Following the decision in *Barr*, further cases have dealt with the issue of pollution where the source was covered by an environmental permit and/or planning permission.

In *Anslow*,[84] an aluminium smelter was found to have caused a significant odour nuisance over the period 2002–2010. The premises held a permit (originally an authorisation under Part I EPA) throughout. The regulators served many Notices at different times. For one breach the EA successfully prosecuted with a £6000 fine and costs. Damages were awarded, but an injunction refused as the nuisance had ceased by the hearing. Like *Barr*, this was a group action. The damages were assessed on the same basis as general damages in personal injury cases for loss of amenity. While the individual amounts were small, the total £1.4m compensation was enough to put the firm into administration.[85]

In *Newham*,[86] a firm of animal fat renderers was convicted of multiple breaches of the environmental permit because of odours. It was fined £120k with costs of £66k and ordered to pay compensation of £250 to each affected resident. This is the highest penalty achieved by a local authority since the same firm was fined £75k in 2011.

In *Thomas*,[87] the Court of Appeal upheld the trial judge's finding of nuisance from noise for over six years. The business had been there for many years – long before the claimants built their house nearby – and had got planning permission on appeal in 1997 for extending their operations. The CA was clear that the judge had correctly assessed the character and locality and had followed the rulings in *Barr* and *Coventry*. Damages were awarded, but again an injunction was unnecessary as the nuisance had been abated prior to the hearing.

In one[88] of many articles commenting on *Barr* and its consequences, Robert Lee expressed the view that the case had ended up being a distraction and said:

> *"…a diversion along the pathway of a common law which retains the necessary flexibility to protect health, wellbeing and the environment where regulatory efforts fail."*

In reviewing both the *Barr* and *Coventry* cases, Professor Maria Lee highlighted what she calls 'the Gillingham Docks exception' and the debate about when planning permissions would in practice be considered as 'strategic' enough to affect the locality.[89] In his article,[90] Westaway again highlighted the continuing debate around the extent of the effect of the *Gillingham* case and how its scope remained unsettled. He concluded:

> *"The decisions of the Court of Appeal in Lawrence and Barr…appear to ensure the continued utility of private nuisance as a cause of action in the 21st century."*

The Supreme Court's decision in *Coventry*[91]

This Court overturned the judgement of the Court of Appeal, reinstating the injunction granted by the original trial judge and made several key findings:

- It was possible that the right to make a noise amounting to a nuisance could be acquired by prescription and become an easement. The defendant had the onus of proving the nuisance had existed for at least 20 years without challenge, and had failed to do so in this case
- Generally coming to the nuisance was no defence – the fact that the claimant had moved in after the noisy activity had been going on for some time was irrelevant
- The assessment of the character of the locality – and therefore what might amount to reasonable use – was a question of fact for the trial judge in each case. Where a defendant claimed that existing activities should be taken into account, this was only to the extent that they were not a nuisance
- The existence of planning permission would normally be of no help in defending cases of nuisance alleging noise or other loss of amenity. At best it would be no more than one factor to take into account. This part of the decision limits the relevance of the debate about whether a particular permission is strategic
- A court's power to grant damages instead of an injunction was at their discretion and was not to be fettered in the way suggested by the Court of Appeal

This decision has therefore strengthened the hands of those who wish to pursue a nuisance action. As the use of the term "nuisance" in the statutory nuisance procedure follows the common law,[92] it follows that this procedure is also potentially available in respect of a range of such matters.

The gaps that the common law can fill

The regulator has a wide range of powers to ensure permitted operations comply with modern standards, with tough sanctions available if they do not. Such regulatory intervention may well deal with the problem at source, but this will not compensate those who have already suffered loss or harm of any form.

Following conviction for a crime, the prosecutor can seek a discretionary Compensation Order[93] for harm or damage that flows from that crime, subject to a normal maximum of £5000 in the Magistrates Court, but unlimited in the Crown Court. While an individual affected can ask the prosecutor to apply for such an order few appear to be sought, and there will be difficulties in linking loss of amenity to particular breaches of the licence, as in *Barr*.

In a perfect world close to 100% compliance might be expected. In practice there will always be operators who for various reasons, including intent, will fail the standards. Waste management is often a dirty business. Nearly 30% of operators with Permits were still perceived as performing poorly in 2008. The majority of these, and the 10 largest fines, all related to packaging, waste management or water pollution issues with these three areas accounting for 78% of all 250 prosecutions.[94] The average fines were approximately £11k. In many cases therefore the threat of large damages or an injunction may represent a bigger threat to the operator.

It is also assumed that the regulator has not only the powers to intervene, but also the resources to do so effectively. Since 2010 there have been substantial cuts in the resources available to the EA, and this seems likely to continue as part of the current Spending Review.

Some European provisions do confer legally enforceable rights on individuals, subject to their satisfying three conditions.[95] Apart from Treaty Articles this can include secondary legislation such as Regulations.[96] Directives can be capable of such direct effect after the period for national implementation has expired.[97] However claimants can only base actions on Directive provisions against the state or an emanation of the state[98] (vertical direct effect) rather than against other individuals (horizontal direct effect). Article 4 of the previous Waste Framework Directive[99] has anyway been held not to meet the necessary conditions.[100] Some may argue that this is a failure of this system, in that the ability to claim under domestic legislation or by other civil remedies will vary from State to State.

CONCLUSION

A summary of the relationship would therefore be that the Planning regime will deal with what uses go where, the Permitting regime will deal with the operation of the facility to minimise the pollution caused to the different environmental media, and EDR powers can be used to remediate off-site damage. A key assumption is that the pollution control authorities have the powers and the resources to effectively regulate. Clearly the poor siting of facilities will increase the chance of adverse effects on conflicting neighbouring uses. The same problem can be caused by creating new residential neighbourhoods adjacent to existing waste facilities.

The use of the statutory nuisance procedure by LAs has been reduced – but not removed – but it remains as an alternative to common law action by aggrieved

individuals except for nationally significant infrastructure projects approved under the Planning Act 2008. Apart from these rare exceptions, neither possession of planning permission nor a Permit will provide the operator with defence to a claim in nuisance. *Barr* and *Coventry* have therefore kept the torts of nuisance centre stage.

While there are some statutory measures that allow the compensation of affected residents, this is not the prime purpose of the criminal law and these provisions appear not to be routinely used. It remains questionable whether the Compensation Order arrangements could fulfil the same purpose as common law actions in this respect, but this is a possible avenue to consider if Parliament wants to narrow down the use of the common law further. In the cases involving water and sewerage undertakers the existence of statutory schemes of liability were highlighted.

A key issue will be whether it will ever be safe to leave protection solely to the regulators. *Anslow*, *Barr*, *Lawrence*, and *Watson* all show that the problems continued over several years despite the efforts of the EA and LAs involved, including formal notices and convictions for breaching Permit conditions. The extent of reduction in the resources available to those regulators – more than 30% since 2010 – must have had some adverse impact on the extent and effectiveness of their ability to intervene on the public's behalf.

The common law in England and Wales therefore has a continuing role of both securing redress for individual harm and loss, and for acting as a last line of defence if the regulator is unable or unwilling to intervene.

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PAPER

Understanding the ethical positioning of Environmental Health Officers in work-based situations: a study illustrating the use of a phenomenological approach

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ABSTRACT

By following a qualitative phenomenological research design this study considers the ethical positioning of Environmental Health Practitioners (EHPs) in routine, work-based situations. By examining lived experiences the study uncovers how ethical standpoints affect decision making, and how dilemmas created by conflicting ethical demands are addressed.

The methodology is observant of the conventions and requirements of phenomenological research inquiry, and the resulting article is a triangulation of the recounted lived experiences of EHPs, phenomenological theory and ethical theory.

Four participants, all members of the Chartered Institute of Environmental Health (CIEH) with considerable experience of working in Environmental Health, and based in the South West region, were interviewed. Data were analysed inductively, and following phenomenological data processing standards, the findings are presented thematically.

The findings show that Environmental Health is an ethically strong profession, though ethical dilemmas do occur often. EHPs have developed their own ways of resolving these, though problems of conscience may remain. Sometimes the ethical position is incompatible with the rigid process of law, but rarely is the professional ethical code incompatible with personal morality.

There are occasions where the desire to act ethically causes tensions with senior managers, whose priorities may run counter to high ethical standards. The CIEH Code of Ethics was found to provide a strong professional underpinning for the EHP, whilst allowing some degree of leeway, when and where necessary.

INTRODUCTION

The Environmental Health profession expects high standards of ethical conduct from its practitioners, and members of the CIEH are required to adhere to a Code of Ethics. EHPs are entrusted with extensive enforcement powers along with public health responsibilities, both demanding ethical conduct and practice of the highest order. This study examines, through a process of phenomenological investigation, the ways, and extent, to which ethics play a part in the day-to-day professional activity of the EHP.

Phenomenology

The disciplines of phenomenology and ethics owe much to the 18th century philosopher Immanuel Kant, though, since then, they have developed through the works of Husserl (who is considered the founder of contemporary phenomenology), Heidegger and Merleau-Ponty, amongst others. As a research paradigm it aspires to elucidate our understanding of the world through the interpretation of perceptions and experiences so as to discover the reality of phenomena. Interpretation also enables reflection on action, and so develops possibilities for future actions (Frank 2006). 'Only through acts of experiencing as reflected on do we know anything of the stream of experience' (Husserl, 2012, pp 154).

This offers a contrast to the more conventional empirical scientific methods upon which the modern world has come to rely. Faden and Shebaya (2010) identify the dangers of an absolute reliance on empirical quantitative research in the formation of public health policy, and the futility of trying to quantify moral considerations. Merleau-Ponty (2002) derides empirical scientific research as having emptied experience of all its mystery, and as having mutilated perception by fixing and objectifying the phenomena it attempts to comprehend. The dominance of empirical paradigms has opened up a *'phenomenal field'* which raises the possibility of studying the world through sense experience and gaining affinity, which is the central phenomenon of perceptual life (Merleau-Ponty, 2002).

It is not the presumption of this paper that phenomenology is superior to empirical scientific research (indeed Merleau-Ponty only argues for parity, not

superiority), but that it may enhance the understanding that is gained through more conventional research. There are some areas of research which are clearly more suited to a phenomenological approach than a quantitative one, and the study of 'lived experience' is one of them, particularly where this relates to ethics and other values. The phenomenon studied in this paper is the ethical positioning of EHPs in their work, and this will be investigated through an exploration and analysis of the experiences of EHPs.

Ethics

The consideration of structured ethics can be traced back to the ancient Greek world and thinkers such as Hippocrates, Socrates, Plato and Aristotle. Ethics was also advanced by Kant, for whom ethical conduct was a matter of duty, or *deontology*. Other systems of ethics have since emerged, which include virtue-oriented systems based on what is the '*good*' thing to do, and consequentialist (or *teleological*) systems which focus on outcomes, and include consideration of utilitarianism, distributive justice, beneficence and non-maleficence (Parker *et al*., 2007; Childress *et al*., 2002; Coughlin, 2006).

In the domain of Environmental Health and Public Health, ethical concepts can conflict with each other. For example, it is not possible to take a *utilitarian* (i.e. achieving the best outcome for the greatest number) approach to the reduction of dental caries by fluoridating the supply of drinking water, and at the same time grant *liberty* and *autonomy* to each user to choose whether or not he/she has his/her own individual water supply fluoridated. 'The various general moral considerations are not absolute. Each may conflict with another and each may have to yield' (Childress *et al*., 2002, p 172).

The CIEH released and adopted a Code of Ethics in June 2014 which superseded the Code of Professional Conduct. The four main principles of the code are integrity, competence, responsibility, and respect, adherence to which demonstrates the profession's altruistic intent. Members of the CIEH are expected to comply with the code and are 'obliged at all times to uphold the integrity of their profession' (CIEH, 2014). Where natural ethical conflicts occur in practice, the EHP is expected to resolve these by exercising professional judgement. The ethical position of the CIEH is therefore very clear.

Participants

The participants in this study are all long-standing members of CIEH and are based in the South West Region. All have considerable experience as EHPs and all have worked in the public sector, whilst some individuals have experience of working in the private sector and as consultants in which role they have appeared as expert witnesses.

METHODS

Through investigation of the lived experiences of EHPs using a phenomenological process of inquiry and inductive reasoning, the study aimed to discover:

- the extent to which EHPs consider ethics during their daily and routine activities;
- whether EHPs encounter situations where ethical structures may conflict with professional and legal requirements, and if so how these dilemmas are resolved;
- whether personal ethical outlooks conflict with professional ethical requirements, and if so how these dilemmas are resolved; and,
- perceptions of the *meaning* of personal and professional ethics to the EHP.

Individual interviews of around 20 minutes duration were conducted with four experienced EHPs in natural settings. Questions were posed to initiate discussion on each of the four aims of the study, but interviews were mostly unstructured and discursive, using Piaget's 'clinical method' (Maykut and Morehouse, 1994). In this way the interviews were directed more by the experiences of the interviewees than the preconceptions of the interviewer.

Phenomenological investigation was considered a suitable means of exploring 'how human beings make sense of experience and the meanings they give to these experiences' (Al-Busaidi, 2008, p 13), thus attempting to travel beyond the empirical to reveal the essence (or *eidos*) of phenomena by examining perceptions of those phenomena. In this study the phenomena in question were those work-based encounters which were imbued with ethical meaning or complication.

Intentionality

Intentionality is to take a position in relation to a phenomenon – to occupy a state of consciousness *about* something (Mulhall, 2015). Interviewees were asked to examine their consciousness of ethical positioning. *Intentionality of act* can be described as attuning one's consciousness to the phenomenon in question and forming a judgement, or taking an intentional position. It is having consciousness of a phenomenon (in this case an experience), and then having consciousness that one is conscious of it (Husserl, 2012; Merleau-Ponty, 2002). This allows for a reflective evaluation and reconsideration of the experience, and an articulation of the units of the experience by giving voice to them. The interviews, in

repositioning the interviewee in the experiences, attempted to uncover reflective thought and new perspectives, and an articulation of the important perceptions (Beyer, 2013).

The study met strict ethical standards. All participants were asked to sign an informed consent form prior to interview and were given a statement of ethics in relation to the study. Personal and professional safeguards were implemented.

Epoché

Epoché, or 'bracketing', is one of the central ideas in phenomenology and requires that the researcher sets aside all prejudgements and assumptions about the phenomenon, and declares any personal interest which might influence the study. This allows the phenomenon to be approached with an open mind and enables the reader to consider this background information in judging the viability of the work (Beyer, 2013; Al-Busaidi, 2008).

In this study, this task was made easier by the author having had six years' experience working in Environmental Health as an academic teaching EHPs and in his capacity as Vice-Chair of the CIEH's South-West Region, but without a background in professional practice which might have acted against the collection of good data. In this respect the author had never encountered the situations and ethical dilemmas upon which the EHPs in this study were invited to reflect.

As well as having an academic interest in Environmental Health, the author has an interest in ethics, having taught the subject in a research context for many years, and for the last two, in the context of medical practice. All of the participants in the study are professionally acquainted with the author, being members of the same CIEH Regional group.

Data analysis – inductive reasoning and eidetic reduction

Although it was speculated at the start of the study that Environmental Health is an ethically oriented profession, data was analysed through *inductive reasoning* rather than hypothesis testing (*deductive reasoning*). This enabled all findings to emanate from the original data without limiting the scope of the recurrent themes, and without the need for *a priori* assumptions or hypotheses.

No computer software, or other mechanical coding processes, were used in data analysis. It is felt that such approaches distance the researcher from the data, detract from inductive reasoning, and therefore lead away from the essence of the phenomena to be discovered (Al-Busaidi, 2008). Instead an

eidetic reduction approach was used, compatible with the ethos of Lincoln and Guba (1985), that the only instrument capable of successfully uncovering meaning through phenomenological processes is a human being. The eidetic reduction process was followed so as to reach the *eidos* – the purity of experiences and perceptions as personally encountered and felt by the EHPs. Eidetic reduction allows access to intrinsic meaning, removed of objective and imagined perspectives, and so reveals the primacy of lived experience. The *eidos* has the right '...to be its own self as against the attempt to interpret it psychologically' (Husserl, 2012, pp 119) and so there was no attempt to engage in an overcomplicated interpretation of interview data.

Part transcripts were created from recorded interviews, and these were searched inductively for *horizons*, which were then collated and grouped into 'units of meaning'. These were then rebuilt into themes which are represented in the thematic interpretations which follow (Creswell, 1998). Generalisations were avoided, as the eidos is particular and specific, not universal. The eidetic reduction requires that data is viewed trans-empirically so as to discover the essence and invariability of the structure of experiences (Van Manen, 2011; Encyclopaedia Britannica, 2014).

RESULTS

The findings are arranged thematically following consideration of the main phenomena which emerged from the interviews. Account is taken of the *noema*, what is experienced, as well as the *noesis*, the way in which it is experienced. The interviews offered the chance for participants to revisit and reflect on past experiences based on the contention that only through reflection does meaning become clear, since in the instant of experience it is distorted: 'Nothing is more difficult than to know precisely what we see' (Merleau-Ponty, 2002, pp 66–67).

Strength of ethical orientation

Interviews suggest that the ethical orientation of the operating EHP is strong. Participants in the study demonstrated intrinsic personal ethical characteristics, as well as a respect for the ethical standards required by their profession, and that there is a natural congruence between the interviewees' personal ethical positions and those of their profession.

There were examples of where the EHP's ethical outlook on situations directed them to work beyond the scope of what might be expected, and indeed take on the work of other organisations.

> *'Quite a lot of cases I've been dealing with recently have been people who have mental health issues [e.g. living in filthy, verminous conditions]. Therefore I think there's a greater responsibility to make the right decisions, to include them in the decision making process...trying to bridge gaps between other services as well...Social Services don't necessarily pick people up because they are not meeting thresholds, so you have people falling between gaps...it's necessary to take some form of action.'*

In cases where EHPs might be called to an emergency situation, and decisions need to be taken instantaneously, there is not always time to consider the ethical position whilst simultaneously trying to assess the situation and calculate the best practical response.

> *'I think in the heat of the moment you're constantly trying to reconcile the immediate needs of the scene that you're dealing with...sometimes the subject of ethics, to some extent, takes a little bit of a back seat while you're doing the immediate 'fire-fighting'. If you were dealing with a permitting scenario [for example], you've got more time to look at information in advance of actually delivering an action or an output, then clearly you can have more of an ethical consideration of what you're dealing with.'*

In emergency situations therefore, the utilisation of an ethical system becomes less of a calculative process, and more of an instinct. Horgan and Timmons (2005) suggest that moral phenomenological perspectives are arranged along a continuum ranging from deliberative judgement which involves rational thinking, to more instinctive beliefs, or '*ethical comportment*', which are not subject to conscious consideration. This is not to suggest that relying on ethical comportment is less strong than deliberative consideration, but that the ethical code must become a natural part of the EHP.

Although interviewees demonstrated a strong ethical stance, they were able to give examples from their experience where the ethical standards of some colleagues fell short of what is expected, and in some cases verged on renegade. One interviewee put it simply:

> *'I have quite a strong moral code of what I feel is right and wrong and there are other people [EHPs] I work with that don't.'*

Although it was believed that those with unethical attitudes and who demonstrated similarly unethical practices were few in number, it was recognised that they have the capacity to damage the reputation and integrity of the Environmental Health profession.

What does being ethical mean?

Interviewees were asked to relate what it means to be ethical, and so identify their own *intentionality* in this respect. Although each interviewee demonstrated a strong sense of ethics, and how an ethical code might be enacted in given situations, it proved very difficult to express in words what the term actually means. As ethics is closely related to personal morality, and as the distinction between these terms is unclear, 'ethics' is something whose 'phenomenological reality' might be peculiar to the individual concerned.

Responses to questions as to what it might mean to be 'ethical' included: '...reasonableness, making the right decision' and 'taking a...decision that doesn't cause harm to an individual that you're dealing with, and doesn't cause inequality...'

This example shows a number of ethical facets. The term 'right decision' could be taken to mean the *correct* decision or the *good* decision. If the latter, then the statement exhibits a sense of 'virtue-oriented' ethics, and this is reinforced when there is reference made to a decision being right or wrong.

Considering the view expressed by another, several other facets of ethics emerge:

> *'...difficult to put into words, but it's having a certain amount of respect...it's quite clear what the CIEH are saying you need to do in their Code of Conduct [sic]...and I think integrity is quite a large part of that....other things like being honest, being open with people.'*

Here, the references to respect, honesty and openness point to an ethical approach which is oriented towards the interaction with people as individuals, and a focus on relationships. The reference to integrity would appear to be the EHP's own ethical fulcrum around which everything else pivots.

One interviewee did suggest that there is malleability in determining the correct ethical standpoint:

> *'I think a lot of that depends on who you are working for and what you're doing. Work could be advising businesses as a client. So those have different connotations in terms of what ethics you might be considering.'*

This would suggest that 'ethics' is not absolute, but the phenomenological position is determined by context and what is considered 'ethical' in different professional domains, even when those domains all ultimately pertain to Environmental Health.

Ethics vs. the law

Some participants felt that there are cases where strictly following the legal process does not achieve the best ethical outcome, and so discretion needs to be applied where responsibility to adhere to the process is outweighed by ethical responsibility. As one participant put it:

> *'...there might be instances where you might circumvent procedure to gain the better outcome...Where you simply cut right across the red tape of the procedure and do what's best for the people that you're dealing with.'*

Specific examples given where the EHP might circumvent procedures suggested that the ethical positioning of EHPs is essentially consequentialist, in other words that the ethical position is primarily determined by the likely outcome. However, in these situations it may also be conjectured that the ethical position was at the same time deontological, as the action taken was the right thing to do in the absolute sense rather than the *right* thing to do in the procedural sense, and that the ethical position is essentially virtuous, as the action taken was also the *good* thing to do.

One participant suggested how an ethical code might serve to assist in the application of law, by overcoming its rigidity and legitimately adding 'degrees of freedom' to the decision-making process.

> *'...it's the rigid interpretation of the law which in some scenarios doesn't serve the interests of the regulator, doesn't serve the interests of the regulated, and doesn't serve the interests of the person we're trying to protect...so who does it serve? When you start to introduce degrees of freedom then I think you're actually getting somewhere.'*

Ethics or morality?

During interviews, participants occasionally interchanged between uses of the terms 'ethics' and 'morality' and so the differences between the two ideas were discussed. One participant, in referring to a particular situation, commented that it was possible for an EHP to act in a way that was ethically acceptable but morally unacceptable. This suggests that ethical conduct and morality are seen as different to one another, and so this is worthy of consideration.

The differentiation between morality and ethics can be difficult to grasp, and is subject to academic argument. Thompson (2005) asserts that morality is based on emotion rather than reason, implying that it can be impulsive and lack rationality. Again, according to Thompson (2005, pp 54), ethics is 'reason put into practice', and this is a common theme which runs through the

combined thoughts of Socrates, Plato and Aristotle. However Aristotle claimed that the ability to '*reason*' necessitates a '*moral sense*', and so it can be discerned that ethics is the enacting of morality through a process of reason, thereby integrating the concepts of morality and ethics.

However, the subtle difference between ethics and morals can create tension, and an example of where this may occur is where an EHP is engaged as an expert witness. In this situation the EHP is expected to represent the interests of one party or the other in a legal dispute, and although not interfering with the facts, the expert witness may place emphasis on a particular detail, or advise a client on how to exploit a technicality so as to avoid prosecution, even though the rights and wrongs of the issue are clear.

> *'I think that would be ethically acceptable...morally, probably not.'*

In such cases the EHP would know that they have not been impartial, but the fact that he/she has contributed to a fair process (bearing in mind that both sides would probably engage an expert witness) may provide some justification. However where legal technicalities are brazenly exploited even though the rights and wrongs of the situation are clear, the EHP will have crossed a moral and an ethical boundary. Whereas morality seemed to be a more personal phenomenon which acts as an individual guide to proper conduct, ethics was seen as something based on an organised framework for action.

> *'...how do you regularise and calibrate people's moral conduct? That's like saying that we're going to regulate people's psychological states, or personality, or their traits...you just can't do that. Therefore ethics are somewhat more rigid than morals, morals are a function of your existence to a certain extent.'*

Where personal morality and institutional ethics converge, the likelihood of dilemma is slight. In most examples given by interviewees, personal morality and institutional ethics were congruent and so problems did not arise.

CIEH Code of Ethics

The CIEH adopted and released a Code of Ethics in June 2014 which superseded the Code of Professional Conduct. Interviews for this study took place between November 2014 and January 2015.

It is essential that if an organisation is going to have a Code of Ethics, then it must be adhered to by its members, and so it is of the utmost importance that the membership of CIEH is made aware of the existence of the Code of Ethics

and of the necessity to abide by its terms. The legal and professional authority of members is at risk of being undermined if they are not cognisant of their own Code of Ethics. Where organisations do have Codes of Ethics, but these are not followed, the organisation is susceptible to attack from authors such as Murray (2012) who decries Codes of Ethics as 'empty speech', suggesting they are little more than anodyne clichés. In such eventualities Codes of Ethics could be considered anti-phenomenological, as they represent a rhetoric of bland terms and phrases which have lost meaning.

Some recent activities within, for example, the banking sector or Parliament, have brought their own institutions into disrepute and rendered their ethical codes meaningless. The Environmental Health profession does not generally suffer from such misfortune. Though the Code of Ethics is still to become widely recognised and understood by the membership, its four core principles of integrity, competence, responsibility and respect are being followed. It would seem that, at least for the participants in this study, this does not need to be written down, as it is an intrinsic condition of the practitioner, and on a wider scale people are drawn to the profession who are not preoccupied with fulfilling self-interest.

> *'...maybe people of a certain disposition are attracted to this kind of role. We have had conversations in our office about our beliefs. We all have very strong beliefs in doing the right thing...'*

However there is a sense in which a formal Code of Ethics can be treated expediently, and advantage can be taken by less reputable practitioners of the latitude it affords, in the same way that the law can be contorted so as to suit a particular situation.

> *'I think the better grasp you have of communication, language, and the legal ramifications of what you are doing, the more you can push the boundaries of what ethics allow you [to do], or restrict you from doing.'*

It must be remembered that the Code of Ethics conveys ethical intent, and the core principles are clear. Any attempt to knowingly adjust meaning so as to justify something which is unethical as ethical, brings that intent into disrepute.

Although there was a lack of awareness of the existence of the new Code of Ethics, the instinct of the participants was to adhere to the professional ethical code by virtue of holding congruent moral principles themselves. It is therefore likely that an individual with a strong personal moral code will adhere to the professional ethical code as there is congruence, even though there may be a lack of familiarity with the Code of Ethics.

Dilemmas (intra-institutional tensions, and conflicts of interest)

The potential for dilemma to occur as a result of dissonance between the professional ethical code and positions of personal morality is slight, as it was found that these two elements converge. Even though there were some instances which caused problems of conscience (addressed later), these were not due to conflicts in ethical positioning. However, there were instances where tensions were created by institutional demands due to EHPs having to report to more than one employer, or to different departments or individuals within the same employ.

One participant reported, in relation to a planning application, that operational decisions taken from an Environmental Health perspective may have been overridden by someone 'further up [the ladder]' who may have wanted to avoid upsetting a planning applicant when that applicant was a major investor within the Local Authority area. In such cases the applicant may be expediently granted favour so as to preserve the economic situation rather than the legal situation.

This, and similar situations, prompted discussion between this interviewee and others in the same office. It was the consensus that such interventions are wrong, indicating that among in-field EHPs the ethical principles are maintained, but that these can take second place to decisions made by higher authorities whose main institutional priorities are financial.

Another example of where the financial interests of a Local Authority seemed to dominate the ethical code of the EHP was when a decision was taken to increase the number of fixed penalty notices issued rather than to give warnings. This was not in the interests of upholding the law, but rather to increase revenue for the Local Authority. The problem here is one of *distributive justice*, whereby the consequence suffered is arbitrarily determined across a temporal dimension.

One EHP was asked to comment on a planning application where two applicants each wanted to use the same commercial premises. One intended to convert it to a fast-food takeaway, and the other to maintain its existing use as a betting shop. The public health implications were that one applicant was likely to contribute to the obesity problem, and the other to increased poverty.

> *'Do I want to get rid of a betting shop and let the takeaway in, or do I want to stop the takeaway and continue on with the betting shop...I disapprove of both things...which one do I want [or not want] most?'*

In this case, where it was not possible to act with beneficence or avoid maleficence, the decision taken was to recommend the option which was considered least harmful, so as to achieve a state of the least maleficence. This was to recommend the food outlet, but with a caveat to reduce potential harm:

> *'We decided to make a recommendation for a minimum seating number to be provided – as having seating tends to change the dynamic of the premises towards a healthier environment than pure takeaways.'*

Conflict of interest is mentioned in two paragraphs of the CIEH Code of Ethics. EHPs working in the private sector are more likely to encounter the possibility of conflict of interest than their local authority, and where this is the case, the EHP may suffer mentally as a consequence. Usually where there are ethical conflicts due to dissonant demands, the EHP can be satisfied that he/she has acted in accordance with the CIEH Code of Ethics by observing paragraph 5.1.5:

> *'If a member perceives a conflict between two or more principles in this Code, or between them and any other applicable guidance, they shall take the course of action that they judge most likely to protect the public and promote environmental health.'*

However, it is unsatisfactory to offer this condition expediently as cover when it is clear, due to forces outside the control of the EHP, that an unsatisfactory ethical outcome has been reached. In such cases the EHP may feel it is necessary to exhibit some opposition or resistance to authority, and if so the akrasia may have to be confronted.

Akrasia

EHPs are regularly pulled in different directions owing to conflicts created by the demands of the law, the priorities of local authorities and other employers, the professional ethical code of CIEH, and the personal moral standpoint of the EHP. Although the trajectory of each of these may not be markedly different from the others, there is often just enough incompatibility to create dissonance, leading to a problem of conscience. In such situations one may be required to overcome *akrasia* – the state of acting against one's better judgement – in determining a course of action (Williams and Gantt, 2012).

So, in addition to resolving ethical dilemmas internally, there is the possibility of professional conflict with a superior or colleague. Here, dissonances may remain due to a disagreement between professionals over some aspect of practice, and when they do, strong personal characteristics are required.

Examples given by the participants related, in the main, to situations where decisions were overruled by a higher authority, or action was set aside because of interests which were not health-related but which served other priorities (such as financial). A clear example was a local authority instructing EHPs to issue more fixed penalties so as to gain increased revenue.

In such situations, having evaluated the practical decisions to be made, and the ethical implications of those decisions, the EHP must then make a further ethically-oriented decision and decide to what degree an authority figure should be challenged. This raises another dilemma – stand up for what is deemed to be right by taking on the authority figures in what might be a lost cause.

Whilst one would expect, because of the nature of their work, EHPs to be generally unafraid of confrontation, a calculation has to be made. Some will almost certainly confront and challenge; others will more take a more pragmatic, teleological approach and adopt a more diplomatic position.

Akrasia does not only arise where there is potential conflict between the EHP and authority. It may also occur where there is commercial opportunity, or where there is conflict of interest. In all situations where the EHP finds him/herself subject to akrasia, he/she must find a way to resolve it.

Conscience

Conscience is an innate, inner conviction about what is right and wrong, or what is good and bad. It is intuitive rather than rational; an immediate part of the lived experience rather than a calculated consideration, and so is difficult to adjust through logical thought. The experiences of the lived body, or *leib*, leaves one vulnerable to dilemma and conscience (Murray, 2012). The *leib* resists the tendency to subjugate the self to anodyne industrial, political and cultural thought and language. It is the aspect of the self which actually experiences, and as such does not allow one to defer to these abstractions, but causes one to confront and assess decisions and actions for which one is responsible.

According to Bergo (2005) emotions are a manifestation of *immanence*, those *affects* which are emotionally experienced prior to any reflective process, and so these may occur in the immediacy of difficult situations. However, the conscience is an affectation which is experienced, even if illogically, upon reflection following an event. Problems of conscience may therefore persist for some time after an event has been resolved.

Some interviewees spoke about conscience and the reconsideration of actions and events. Although not an ethical construct in itself, conscience does point

to an ethical nature with either dutiful or virtuous foundations, and which reconsiders the consequences of action. Conscience was strongly related to empathy for the people with whom the EHP had come into contact, and even when actions were correct and justified (indeed, when not to have taken them would have been negligent), there was still the necessity to revisit situations and resolve the conscience.

> *'I think I sometimes struggle with my conscience, particularly in cases where we would seize stereo equipment...things like that, because I think that is quite a big decision to take...it can involve getting locksmiths and taking things while they are not there...which is quite an intrusion on privacy.'*

The resolution of conscience is an exercise in imagination. Wright (2003, p 105) states that the imaginative process involved in moral reasoning, which is the deliberation of ethical questions (Coughlin, 2006), provides the ability to empathise with others, and the ability to consider various actions and the level of help or harm they may bring. However in pressurised situations, whether these pressures are created by the urgency of the situation, or by internal institutional demands, the wider consideration of other possibilities may be compromised, leading to a need to resolve matters of conscience.

> *'I'm the kind of person who needs to think about something for a little while to decide what I think about it. If someone comes to me and says 'we need to do this immediately – do it', I will quite often do it, and maybe the next day I will think to myself, hold on...I'm not happy that I did that.'*

This interviewee expressed regret that when senior figures gave instructions, they had not always thought through the ethical dimensions of the situation. Thus, in following instructions, the EHP is left with the task of resolving their own conscience due to the lack of foresight of a superior.

In reflecting upon experiences which have caused issues of conscience, the EHP is undergoing a personal *affective* phenomenology in the quest to gain resolution. Bergo (2005) asserts that this corresponds to a [mild] traumatised affect which, when amplified by a passion [i.e. to take the correct action] demonstrates ethical meaning. Therefore, the fact that some situations give rise to problems of conscience demonstrates ethical character.

It was discovered that one of the defences against conscience is comradeship. One interviewee spoke of informal office discussion, which provided reassurance and solidarity, even though this did not alter the situation. Another interviewee

confirmed the importance of teamwork and demonstrated the advantage of collective decision making:

> *'I think we just talk about these things as lessons learnt...provided you are able to collectively reflect as a professional unit on what you do, I don't see there being a problem. It's when an individual is burdened unnecessarily ...and isn't perhaps supported by their professional unit that you've got potential serious problems for the individual in question.'*

> *'I think part of the ethical codes is recognising when you're out of your depth, and being able to...seek reserves around you to deal with the matter.'*

CONCLUSION

This study has provided interesting insights into the ethical positioning of EHPs, and has attempted to discover how the implementation of ethics in practice is experienced phenomenologically.

The participants in this study demonstrate that the Environmental Health profession is ethically strong, and that ethics plays an important part in their day-to-day work and decision-making. Granted the very limited scale of the study, the profession seems to attract ethical people who share, intrinsically, moral values which are congruent with the CIEH ethical code.

It is possible that the strength of ethical orientation is evident because those who volunteered to take part in the study had strong intrinsic ethical positions, and indeed an interest in the ethical aspects of their job. If this were the case it is not surprising that the strength of ethical positioning was revealed. Two interviewees speculated that less experienced EHPs may have different perspectives, possibly due to a lack of knowledge of ethics, or lack of confidence in applying ethics.

> *'They [younger and less experienced EHPs] won't have the benefit of experience of what someone might reasonably be expected to do. The boundary between reasonable and unreasonable is something you learn through experience.'*

It is also possible that less experienced EHPs are more susceptible to akrasia, which has been discussed previously.

Dilemmas are sometimes created when ethical considerations are not congruent with the processes of law enforcement, for example, when the

stipulated course of legal action produces no sensible outcome. In these cases EHPs are able to use the ethical code to fashion more beneficial courses of action. Dilemmas can also be created when unethical managerial decisions override those of EHPs, and in these cases problems of conscience can occur.

There are not usually any dissonances between the professional ethical code and personal moral codes. The exception to this would be where EHPs have taken a renegade route and decided to perform unethically.

As with most studies of a qualitative nature, the main weakness with this study is one of scale. Only four participants were interviewed, and all of these were from one CIEH Region. In addition, all interviewees were experienced and of established reputation; less experienced EHPs may have had different views. It is also possible that those EHPs with a particular interest in the ethical nature of their work volunteered to take part, meaning that although conversation was more meaningful and insightful, there was a strong degree of self-selection, and so views may not represent the whole of the ethical spectrum.

Recommendations

1. Environmental Health is an ethically strong profession and this should be made explicit wherever possible so as to (i) exhibit this feature of the profession to the general public, (ii) set an institutional example to other professional institutions, (iii) reinforce ethical expectations of the members of CIEH.

2. It seems that there is a lack of certainty among Environmental Health professionals as to the ethical code which should be followed. The CIEH, with the support of its regional and local networks, should intensify efforts to inform members of the existence of a Code of Ethics.

3. The co-operation and support of fellow professionals, and a general teamwork approach, can help ameliorate or prevent problems of conscience. An emphasis on the value of teamwork, co-operation and professional support should be enacted through events and communications.

4. Rather than viewing the Code of Ethics as an abstract, or as a general statement of intended professional standard, this study has found that it might be possible to use the code to achieve higher standards of practice and better decision making, and this benefit should be disseminated.

5. The importance of an ethical approach to work should be represented in all undergraduate and post-graduate Environmental Health programmes, either through dedicated modules or a purposeful effort to see it embedded in all.

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NOTES FOR AUTHORS

NOTES TO AUTHORS SUBMITTING ITEMS FOR CONSIDERATION BY THE EDITORIAL BOARD OF THE *JOURNAL OF ENVIRONMENTAL HEALTH RESEARCH*

Aims and scope of the Journal

The Journal publishes original research papers, review articles, literature reviews, commentaries on technical and professional matters, book reviews, workshop/conference reports and short communications covering the diverse range of topics that impinge on public and environmental health including: occupational health and safety, environmental protection, health promotion, housing and health, public health and epidemiology, environmental health education, food safety, environmental health management and policy, environmental health law and practice, sustainability and methodological issues arising from the design and conduct of studies.

Particular emphasis is placed on applied research and reviews that facilitate the improved understanding of a particular aspect of environmental health. It is intended that the Journal will help to promote improvements in the professional practice of public and environmental health, as well as contribute to the research knowledge base.

A relatively new category of paper is the 'first author, first paper' which is designed to encourage new authors by providing more active and tolerant editorial support when a manuscript is submitted. Authors in this category are encouraged to inform the editors at the time of submission.

Invitation to contributors

Contributions should have the potential to improve practice through the dissemination of the results of research projects, reviews based on scholarly reflection and technical notes and professional evaluations that provide critical insights into practice issues.

Contributions are expected to be of a high standard, not only in respect of subject matter and its treatment, but also in the quality of the writing. Particular attention should be paid to clarity and conciseness of expression.

Originality

Only original manuscripts are considered for publication.

Notes for authors

Submission of a manuscript represents certification on the part of the author(s) that the manuscript submitted has not been published, nor is being considered for publication, in another similar journal. Contributions may, however, be based on a prior conference presentation.

A statement confirming originality should accompany the manuscript.

Peer review

All contributions that are considered by the Editor to be within the aims and scope of the Journal are subjected, wherever possible, to peer-review by at least two reviewers. It is likely that one reviewer will have an academic research background and the other a practitioner or management background, though discretion on this rests with the Editor. Decisions on publication are made by the editors who are informed by the comments of the reviewers and the responses from the author(s) to the peer review reports.

Style

These notes are intended to guide authors in some details of presentation so that papers conform to a consistent Journal style. More details on style and paper preparation can be found by examining past papers published in JEHR, which can be accessed at www.jehr-online.org. Authors must comply with the style requirements in every respect. For example, manuscripts that are too long, have too many headings or tables or references that do not fully conform to the Harvard protocol will be returned to the author(s). Thus authors are encouraged to study these notes and previously published papers while preparing their manuscript.

NOTES FOR AUTHORS

Notes to authors submitting items for consideration by the editorial board of the *Journal of Environmental Health Research*

Length

- Research Papers: 2,500 to 5,000 words (up to 6,000 words in exceptional cases)
- Review Articles, Commentaries on professional and technical matters, Law Articles and Literature Reviews, up to 4,000 words
- Book Reviews: up to 2,000 words
- Workshop/Conference Reports: up to 2,000 words.
- Communications / Letters: up to 1,000 words.

Tables, charts and photographs

These should be kept to a minimum consistent with the concise nature of the papers published in the Journal. Each item should be numbered as follows; 1, 2, 3 etc. and should carry a short descriptive title.

Language

Manuscripts are accepted in English only.

Layout/sequencing

The manuscript should normally be sequenced as follows: Title; Author(s); Abstract (300 words +/-10%); Key words (up to 8); Introduction; main exposition (typically this section consists of the Methods and Results); Discussion; Conclusions (which may be in bullet-point format); Acknowledgements; References.

Abstract

As we intend to publish a printed 'Abstracts Only' version of the Journal, please pay particular attention to the content and format of your Abstract. In not more than 300 words it should provide a full synopsis of your paper and not simply an introduction. It is intended that an 'Abstracts Only' version will be distributed via Environmental Health News to more than 10,000 subscribers in 'hard copy'. By submitting for consideration a manuscript for publication in the on-line journal, it is presumed that you are also prepared for the Abstract to appear in hard-copy in EHN.

Further information on writing your paper is available in:

Harvey HD and Fleming P (2007). Writing for JEHR – an update and reminder for prospective authors. *Journal of Environmental Health Research*, 6(1), 49–55.

Electronic submission

The submission of manuscripts will normally be by e-mail and word processed file attachment only, with no requirement for the submission of printed copies. The word processed document should conform to the following specification to facilitate the peer review process and editing:

- MsWord (.doc or .docx) is the preferred word processor format but WordPerfect (.wpd) and Rich Text Format (.rtf) are acceptable.
- Times New Roman, 12 point, single spacing (do not indent paragraphs, number the pages or insert headers or footers).
- the Cover Page should give the title of the paper, the name(s) and affiliations of the authors plus an e-mail address, telephone number and the postal address to whom correspondence should be addressed. Please add a page break at this point and go on to the First Page.
- the First Page should repeat the Title only (not the authors' details) plus the Abstract, Key Words and continue into the Introduction and the remainder of the manuscript.
- all tables, charts and photographs should be included as part of the manuscript file unless there is a pressing technical reason for having separate graphics files.
- the file should be named with the name of the first author e.g. Wilson.doc.

Please e-mail your manuscript to the Editor, Dr Chris Day, c.day@cieh.org

All communications relating to JEHR and with the Editor should be by e-mail only.