
CROSS GOVERNMENT GROUP ON GAS SAFETY AND CARBON MONOXIDE (CO) AWARENESS

ANNUAL REPORT 2014/15

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Introduction

The Cross Government Group on Gas Safety and Carbon Monoxide (CO) Awareness reconvened in June 2009 to ensure a joined-up approach across departments, the devolved administrations and other governmental bodies to improve gas safety and tackle CO risks from all fuels. The Group, whose members are listed below, also aims to develop effective Government strategies and promote knowledge and understanding of gas safety and CO risks and how to manage them.

- Department for Business, Innovation and Skills (BIS)
- Department for Communities and Local Government (DCLG)
- Department for Energy and Climate Change (DECC)
- Department of Health (DH)
- Health and Safety Executive (HSE)
- Health and Safety Executive for Northern Ireland (HSENI)
- Health Protection Scotland (HPS)
- Office of Gas and Electricity Markets (Ofgem)
- Partnerships for Schools
- Public Health England (PHE)
- Scottish Government
- Welsh Government
- Public Health Wales (PHW)

Gas safety and more broadly CO awareness is a truly cross government issue with the majority of Government departments, the devolved administrations and other governmental bodies having an interest from their particular perspective. This report provides a summary of the work carried out by members of the Cross Government Group on Gas Safety and CO Awareness under four key headings:

- Consumer Awareness
- Supporting Professionals
- Research
- Legislation and Securing Justice

Activities in this Report cover the period Autumn 2014 to Autumn 2015.

A representative from the Cross Government Group attends the meetings of the All Fuels Forum which was created to facilitate meetings between the All Party Parliamentary Carbon Monoxide Group (APPCOG) and other stakeholders to encourage debate and action on issues relating to CO. Further information can be found at:

<http://www.policyconnect.org.uk/appcog/>

The Cross Government Group maintains a watching brief on current initiatives that will be useful or of interest and when possible invites a representative involved in gas safety or CO issues to provide an update of their work.

Gas Safe Register (GSR) - presented an overview on the GSR Summer campaign which focused on BBQs and CO awareness through marketing and social media.

Gas Safety Week is a national safety campaign to raise awareness of gas safety in the UK's 23 million gas fuelled homes. It is co-ordinated by Gas Safe Register with support from the gas industry including retailers, manufacturers, consumer bodies and the public to highlight the good work registered engineers do and how their job helps save lives. September 2015 saw the fifth Gas Safety Week.

Public Health Wales - presented on their Carbon Monoxide Interventions project aimed at gathering information on CO levels in domestic properties, increasing knowledge and awareness of CO, and increasing the provision of CO alarms. Initiatives included:

- Carbon Monoxide in Wales Working Group supported delivery of a project at parent/baby groups in Communities First/Flying Start areas. This involved a 20-minute education session with information pack and CO alarm;
- local authority (LA) programme where LA officers on routine domestic visits used personal CO monitors to check CO levels inside houses. This took place over a 4-week period and offered the residents information on CO, and provided a CO alarm.

Carbon monoxide poisoning is a serious and preventable form of poisoning. Each year there are about 30 deaths from accidental CO poisoning in England and Wales (ONS Statistics)¹ and in excess of 200 non-fatal cases that require hospitalisation. Further statistical data from DH (covering England and Wales), HPS, HSENI and HSE is provided in the final section of this Report.

The DH, HPS, HSENI and HSE figures reflect the differences in the relevant data sources. The DH, HPS and HSENI data is based on public health information and excludes self-harm where that has been coded, but it is likely that self-harm is under-reported. HSE collects data on incidents which are reportable under the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 2013 (RIDDOR) (<http://www.hse.gov.uk/riddor/>) (and previously under the 1995 Regulations). The Regulations apply to events, which arise out of or in connection with work activities covered by the Health & Safety at Work etc Act 1974. The Regulations require gas conveyors and LPG suppliers to report incidents where someone has died, lost consciousness, or been taken to hospital for treatment to an injury where gas is likely to be a cause.

¹ The figure of '30 deaths a year' used in this report is based on the average number of accidental poisonings by other gases and vapours (X47) and where the secondary cause of death was the toxic effect of carbon monoxide (T58) from 2010-2014

CONSUMER AWARENESS

BIS

BIS continues to work to ensure that products made available to consumers have a level of safety and that the legislative burden on business is proportionate.

DCLG: Carbon monoxide public safety broadcasts

Building upon the success of the Fire Kills campaign, DCLG is running a campaign to raise awareness of CO poisoning and give advice to the general public on how best to avoid it within the home and how to spot the potential danger signs.

The department developed brand new radio fillers 'Symptoms of CO' and 'Sound of CO', and made these available to broadcasters in August 2015. These radio fillers are available free of charge. Broadcasters can register and download them from <http://communication.cabinetoffice.gov.uk/fillers/>.

DH

Department of Health advice on avoiding CO poisoning is included in relevant documents advising the public, for example the 'Cold Weather Plan for England' (<https://www.gov.uk/government/collections/cold-weather-plan-for-england>) and "Flooding: Advice" (<https://www.gov.uk/government/collections/flooding-health-guidance-and-advice>). In addition, advice on avoiding carbon monoxide poisoning can be found on the Get Ready For Winter website (<http://www.metoffice.gov.uk/learning/get-ready-for-winter>) hosted by the Met Office. DH officials engaged with stakeholders including:

- attending the launch of the Gas Safety Trust CO Portal;
- attending the launch of the All Party Parliamentary Group on Carbon Monoxide Report;
- supporting both Gas Safety Week and Carbon Monoxide Awareness Week.

DH/PHE: Policy

DH/PHE attended and provided continuous input into the All Party Parliamentary Carbon Monoxide Group meetings, on CO policy-related matters.

HSE and HSENI: Gas Safe Register

The Register maintains its central purpose of 'protecting people from unsafe gas work' and much of the activity in 2014/2015 has been consolidating and building on messages and approaches developed last year. This consolidation and refinement of approach continues to deliver results in line with the overall strategy.

As before, the Register has two threads of activity, mutually supportive, which drive the organisation to meeting its overall goals:

- maintenance of the register of those competent to undertake gas work, including the inspection of the work of registered engineers and investigation of reports of illegal and/or unsafe gas work; and
- undertaking consumer awareness raising activity either through direct campaigns or in partnership with a wide variety of stakeholders.

The Register itself continues to grow in size, with growth in the number of Gas Safe registered engineers and businesses year on year since launch in 2009. Although a number of factors may have contributed to this growth the work of the Gas Safe Register in highlighting the dangers posed by illegal and unsafe gas work, the introduction of greater flexibility in the registration process including the introduction of anniversary renewals and stable registration fees are all potential contributors. The Register will continue to foster a positive environment for those working legally and safely.

- Number of business registrations (September 2015) – c 71,000
- Number of engineer registrations (September 2015) – c 125,000
- Inspections undertaken annually c 40,000

Raising awareness of gas safety issues among consumers remains key, and the register has continued to campaign across key audience groups with a tightly focused set of messages. Much of the activity in 2014/15 has been a consolidation of the themes developed last year and a refinement and improvement of the tools used to deliver them.

Gas Safety Week (14-20 September) remains a cornerstone. Metrics for the 2015 campaign are being compiled but initial indications are extremely positive. In its fifth year the campaign has attracted a record number of pledged supporters (5123 people and organisations) and, crucially, there is evidence that this has led to greater activity from those supporters in terms of their own activity.

The overall theme for the week remained broadly similar to the 2014 campaign with a key call to action around encouraging consumers to get an annual gas safety check on their appliances.

Preparation for the week began earlier than before to ensure that stakeholders had the greatest opportunity to help shape the week and the tools used. The feedback from these consultations was all incorporated into the final plan.

A Parliamentary launch was held for the week, which allowed stakeholders to meet with some of the parliamentarians supporting the campaign, and the campaign formally launched with a social media 'Thunderclap' where supporters lend the use of their own Facebook, Twitter or other channels to the host in order to send out a single shared message to all their followers. Significant national, regional and local coverage was achieved for the week in print, broadcast and online outlets.

A full report on Gas Safety Week 2015 is in preparation and will be shared as soon as ready. You can read about Gas Safety Week 2014 now http://www.gassaferegister.co.uk/learn/gas_safety_week/about/what_happened_during_gsw_14.aspx.

The Register also continued to refine the other tools used to reach consumers. The Gas Map (http://www.gassaferegister.co.uk/learn/gas_safety_week/stay_safe/how_safe_is_your_area.aspx), which shows reports of gas safety incidents across the country, continues to be an effective tool and new functions were added to the map in 2014.

Aside from Gas Safety Week the Register continues to undertake seasonal and targeted campaigns, eg gas safety and CO awareness on holiday, a 'don't DIY' message around traditional seasonal peaks such as bank holiday weekends and more. The Register has also adopted a more flexible and responsive approach to weaving key messages into the public consciousness, eg themed cooking safety messages around the Great British Bake Off. Behaviour change, and encouraging consumers to take action to stay gas safe, is now firmly embedded in all Register consumer campaigns but work also continues on more traditional awareness raising of the Register brand and what it means. Researching and monitoring consumer understanding of Register messages remains crucial and regular survey work is undertaken. This research, and a greater understanding of the 'user journey' for those accessing the Register messages, have also formed a crucial part of the preparatory work for the complete website refresh planned for early 2016.

Key GSR statistics

The Register continues to build a presence on digital channels and social media.

Current followers (approximate at September 2015):

- Facebook: 29,000
- Twitter: 15,000
- LinkedIn: 2,300
- Instagram: 1,700

The Register website also continues to be a key channel in reaching the public and registered businesses:

- Consumer website visits 1 Sep 2014 – 31 Aug 2015 = 2.2 million
- Engineer website visits, same time period = 891,000

The GSR contact centre also handles in excess of 400,000 calls a year (this includes calls from engineers).

The Register has continued to work alongside the Gas Safe Charity where appropriate. The highest profile project has been a programme of interactive theatre events in schools. Delivered by a specialist educational theatre company, and funded by Gas Safe Charity, the programme has already reached hundreds of schools across the country. More information available at www.getgassafe.org.uk

In addition to the consumer-facing activity the Register has also increased the amount of face-to-face engagement it has with Gas Safe registered engineers by delivering a series of technical seminars at trade events (Heating & Renewables Roadshow, PHEX, Installer 2015 and Plumbing & Heating Belfast). By focusing resources on delivering highly-valued technical content the Register was able to demonstrate further value for money for registered engineers.

The Register was also an active participant in the preparation of the APPCOG 'Awareness to Action' report led by Baroness Finlay. The Register served on the evidence-gathering panel, shared insights gathered from the behaviour change programme, and assisted with the launch of the report. The report itself contains a series of recommendations for industry and is likely to be a reference point for campaigning for several years <http://www.policyconnect.org.uk/appcog/research/inquiry-behavioural-insights>.

In Northern Ireland, continued expansion of the natural gas networks led to further planned and reactive visits, and inspection within the natural gas transmission and distribution sectors of the industry to ensure compliance. In partnership with the Register, proactive and reactive visits and inspections were concluded in the downstream private industrial and commercial sectors with enforcement action being pursued as necessary. During the course of 2014/15 the HSENI gas safety team continued to remind dutyholders and members of the public of the risks from CO poisoning as part of their routine work. CO awareness is not restricted to gas installations and includes other fossil fuel burning appliances.

HSENI promoted Gas Safe Register's Barbecue Safety Campaign in Northern Ireland. Ahead of the 2015 Easter break HSENI issued a news release reminding the public of the potential dangers of CO poisoning away from the home highlighting the dangers when using barbecues in areas without adequate ventilation.

The public was reminded that while CO is usually associated with domestic fossil fuel burning appliances, everyone should be aware that in holiday homes, caravans and on board boats, faulty gas cookers, appliances or petrol-powered generators can also lead to CO poisoning. The dangers of bringing gas and charcoal BBQs into tents and other small enclosed spaces were also highlighted.

A mailshot exercise was carried out and 3,000 leaflets were issued to specifically targeted premises including caravan and forest parks, marinas and camping suppliers and caravan dealerships.

HSE: Domestic gas e-Bulletin

Since last year's report, subscription to HSE's gas e-Bulletin has risen from approximately 23,000 to over 28,000 <http://www.hse.gov.uk/gas/ebulletin.htm>. Some suggested changes have been made and there have been several messages of positive feedback.

HSENI: Carbon Monoxide Awareness Campaign 2014/2015

A series of events, online activities and press releases marked the fifth year of the HSENI 'Watch Out – Carbon Monoxide Kills' awareness campaign.

Emphasis continued on the importance of servicing and maintenance of home heating appliances. The campaign covers all fuels and as in previous years was supported by both an information helpline and dedicated website <http://www.hseni.gov.uk/watchout>.

A significant number of public and private sector organisations have now received the CO leaflets, posters and other promotional items through the awareness campaign. HSENI have ongoing contact with the four major universities and have arranged for the student-specific CO leaflet to be circulated widely on their campuses. They also use Twitter and Facebook to share safety messages.

HSENI: Carbon Monoxide Safety Group

The membership of this group is made up of representatives from both the private and public sectors including the Northern Ireland Fire and Rescue Service, the Public Health Agency and universities. The aims of the group are to work in partnership to deliver the message of the dangers of CO to employees, students and members of the public.

HSENI: CO awareness in the student population

During September, CO leaflets were distributed to students at all four university campuses and the College of Agriculture, Food and Rural Enterprise. The universities also signed up to promoting the HSENI 'Watch Out' campaign including links to the ROSPA and 'Be a Mate' videos. HSENI have also posted on Twitter and Facebook to share safety messages.

HSENI: Carbon Monoxide Awareness Month

November 2014 was the second Northern Ireland Carbon Monoxide Awareness Month. Developed by members of the CO Safety Group, this safety drive aims to help protect the public from the dangers of CO.

Throughout the month the Northern Ireland public were reminded that:

- the best way to protect themselves and others is to make sure their fuel-burning appliances are serviced at least annually by a registered engineer; and
- chimneys and flues should also be inspected annually and swept, if required, by a registered technician.

A range of promotional activities took place to support these key safety messages, including information events in shopping centres and community venues throughout Northern Ireland.

During the course of the month HSENI teamed up with local councils to launch a new CO information booklet. Around 100,000 of the booklets were sent out via the councils' Environmental Health and Building Control departments to households across Northern Ireland. The booklet helps and advises on:

- recognising the symptoms of CO poisoning;
- what to do if you suspect CO poisoning;
- identifying potential sources of CO in your home; and
- the proper installation, maintenance and use of fuel-burning appliances.

A new poster was also produced for display by suppliers of solid fuel or gas appliances, warning customers of the potential dangers from CO.

HSENI: Winter safety message on chimney sweeping

In January 2015 HSENI issued a safety message reminding people to:

- be aware of the dangers from CO during the winter season; and
- make sure their chimneys and flues are clear and that appliances, such as heaters, boilers and cookers are in safe working condition, and adequately ventilated.

The message also highlighted that the best way to protect yourself, and others, from the dangers of CO is to make sure that:

- all fuel-burning appliances are serviced at least annually by a registered engineer; and
- all chimneys and flues are inspected annually and swept, if required, by a registered technician.

The installation of an audible carbon monoxide alarm was also recommended.

HSENI & district councils joint underground LPG metallic pipework initiative

HSENI worked in partnership with district councils and LPG suppliers on the LPG underground pipework initiative throughout the year and has been successful at raising awareness by site visits and inspections.

HSENI: Campaign activity on social media

Facebook: Total *reach of the campaign on Facebook is over 2,000.

*Definition of total reach is calculated based on the unique number of people who could have potentially seen your updates.

Twitter: Total *Impressions of the campaign on twitter is over 43,500.

*Impressions: times a user is served a Tweet in their timeline or search results.

PHE: Communications

PHE produced a number of materials, which were issued over the winter period, and provided information on and warnings of the dangers of CO poisoning. This included the Cold Weather Plan (<https://www.gov.uk/government/news/cold-weather-plan-launches-to-prepare-for-winter>).

PHE used social media (tweets), over the summer period, to remind campers about the dangers of placing used BBQs inside tents and other enclosed spaces, which linked to a short video (<https://www.youtube.com/watch?v=UmapBWFQu3o>) on the dangers of using barbecues inappropriately whilst camping.

PHE issued national press releases to raise public awareness of the dangers from CO poisoning to mark the 9th National Carbon Monoxide Awareness Week in November 2014. PHE supported Gas Safety Week, co-ordinated by Gas Safe Register, in September 2015, via tweets.

PHE: Stakeholder meetings and events

PHE attended meetings and events on CO arranged by stakeholders.

Public Health England's Centre for Radiation, Chemicals and Environmental Hazards (CRCE) (Wales) attends CO working group meetings, which are shared by Public Health Wales (PHW). Further details on these events are provided in the submission by PHW.

Ofgem

Each year, the gas network companies must report to Ofgem on their performance under the RII0-GD1 price control and they have submitted information for the second year of the price control period (2013-2021). This information <https://www.ofgem.gov.uk/network-regulation-riio-model/network-performance-under-riio/riio-gd1-performance-data> includes:

- their performance in delivering their workload and output commitments;
- the costs they have incurred in delivering their service and how this compares to their long-term forecasts in their business plans; and
- their safety initiatives.

In June 2014 Ofgem consulted on the Priority Services Register and whether suppliers, electricity distribution network operators (DNOs) and gas distribution networks (GDNs) should be required to:

- provide additional non-financial services to energy consumers who are more likely than a typical consumer to experience problems with communication, safety and supply;
- take reasonable steps to identify people who would benefit from these services;
- share consumer information with each other and other utility companies, using vulnerability indicators agreed between them;
- raise awareness of services, including developing a single cross-industry brand; and
- conduct annual independent audits of their performance and publish findings.

The consultation closed in September 2014 <https://www.ofgem.gov.uk/publications-and-updates/review-priority-services-consultation> and following this, Ofgem produced an Open Letter on 26 March 2015 https://www.ofgem.gov.uk/sites/default/files/docs/2015/03/psr_update_march_2015_-_open_letter_to_publish.pdf. This provided an update on the review, sought views on additional eligibility relating to certain services and set out the next steps and timetable for the development of Ofgem's final proposals.

The responses to this are currently under consideration.

Welsh Government/PHW: General activities

The Carbon Monoxide in Wales Working Group, which aims to coordinate action to prevent CO exposures, improve the response to CO incidents and improve information sharing and incident/impact surveillance, has continued to meet during the period covered by this report (<http://www.wales.nhs.uk/sitesplus/888/news/32843>).

The working group has supported the delivery of two key projects during 2015:

- The local authority (LA) CO alarm distribution and awareness-raising project provided officers in ten LAs in Wales with CO monitors and alarms. Officers used personal CO monitors to check CO levels during routine home visits and offered residents CO information and an alarm. In a 4-week period in January and February 2015, 369 alarms were distributed during 442 home visits. CO readings were zero in over 90% of homes, but in 2 homes, CO levels required urgent action. This was taken and further harm was avoided to the six residents of one home and two of the second.

- At the same time, an education project was delivered with five parent and baby groups in Communities First/Flying Start areas. Seventy CO alarms were distributed during these sessions and evaluation showed that knowledge of causes, symptoms and prevention of CO increased substantially across the study period. At the follow-up, however, only one third of parents had fitted their alarms, with the remainder reporting the manufacturer's instructions were not easy to follow, or they simply had not got around to installing their alarms.

PHW continues to develop a Wales-wide CO surveillance system to inform understanding of the burden of CO and facilitate targeted interventions. Annual analysis of the epidemiology of CO incidents in Wales will be carried out and fed into a range of multi-agency groups, including the CO in Wales Working Group and the Welsh Government's Health Protection Committee.

Inequalities in the burden of CO impacts in Wales may become the focus of future interventions.

PHW: Local authority information

Local authorities in Wales can access a range of CO information through the Public Health Wales website.

Welsh Government: CO website pages

The Welsh Government publishes a postcard-sized safety advice detailing 3 simple steps which householders can take to reduce the risk of carbon monoxide poisoning in the home. Welsh Government regularly contacts key interested bodies to make them aware of the availability of free hard copies of the advice. These include Wales' Fire and Rescue Service, LAs, higher education establishments (specifically student unions and student accommodation officers) and charities.

The postcard advice also provides a link to the CO web pages on the Welsh Government website at www.wales.gov.uk/carbonmonoxide. They include advice on:

- the symptoms of CO poisoning;
- emergencies;
- potential sources of CO;
- CO alarms;
- maintaining household appliances;
- camping, boats and leisure;
- chimneys, flues and air vents;
- the effects of flooding; and
- landlord, tenant and homeowner responsibilities.

Since September 2014, the Welsh Government has distributed over 25,000 copies of the postcard advice.

SUPPORTING PROFESSIONALS

DH: NICE quality standard for indoor air

DH has been supporting the inclusion of a National Institute for Health and Care Excellence (NICE) quality standard for indoor air, of which CO would be an important component. NICE quality standards are a concise set of prioritised statements designed to drive measurable quality improvements within a particular area of health or care. The potential NICE quality standard has the title 'Internal air: maintaining good quality air in different settings'. DH will continue to input into the development of this quality standard ensuring that the issue of preventing exposure to CO is addressed.

PHE: Training

As part of its routine work, PHE has provided training on CO incident management and the role of public health to local responders, including to environmental health practitioners, fire and rescue services and ambulance staff.

PHE: Carbon monoxide response work

PHE continues to provide information on CO when they are notified of incidents received from the emergency services, LAs, and GP and hospital staff. PHE provided public health advice in 50 reported CO incidents between 1 October 2014 and 24 September 2015 in England and Wales. This includes both suspected and confirmed CO exposures.

PHE: Tools to aid diagnosis

A new algorithm for midwives to help diagnose CO poisoning in pregnant women and offer advice in the event of exposure was published on 11 November 2014. This, along with all other PHE tools for professionals managing patients and investigating incidents, is available on the PHE website (<https://www.gov.uk/government/collections/carbon-monoxide-co>).

In partnership with PHW, PHE in Wales is working with midwives in one health board area to trial a Wales CO antenatal algorithm.

PHE: Meetings

PHE supported the chairman of the All Fuels Medical Sub-Group, which aims to establish ways in which diagnosis, treatment and awareness of CO poisoning by healthcare professionals can be improved.

PHE: Publications

Ghosh RE, Close R, McCann LJ, Crabbe H, Garwood K, Hansell AL, Leonardi G, 2015. Analysis of hospital admissions due to accidental non-fire-related carbon monoxide poisoning in England, between 2001 and 2010. *Journal of Public Health* | pp. 1–8 | doi:10.1093/pubmed/fdv026
<http://jpubhealth.oxfordjournals.org/content/early/2015/03/09/pubmed.fdv026.full.pdf>.

Welsh Government/Public Health Wales

The Carbon Monoxide in Wales Working Group established by PHW in 2014 continues to coordinate and lead on CO work in Wales, drawing on its membership from various organisations, including the emergency services, health boards, LAs, industry and the voluntary sector. The group continues to foster an effective, supportive environment where CO work in Wales is shaped. The group's response subgroup continues to provide the clarity and reinforces professional responsibilities in relation to the response of each organisation to CO incidents that occur in Wales.

The Welsh Government continues to provide comprehensive CO advice on its website (<http://gov.wales/topics/environmentcountryside/epg/carbon-monoxide/?lang=en>) which includes advice for health professionals, incorporating information on diagnosis, investigations and management of suspected poisonings from CO (<http://gov.wales/topics/health/protection/environmental/?lang=en>).

In November 2014, in support of Carbon Monoxide Awareness Week, the Welsh Government issued a Welsh Health Circular (WHC (2014) 009) on behalf of the Chief Medical Officer for Wales and Chief Nursing Officer for Wales to all health professionals in Wales encouraging their vigilance to the signs and symptoms of CO poisoning in their patients (<http://gov.wales/topics/health/nhswales/circulars/health-professional/?lang=en>). The letter also alerted them to the availability of a new diagnostic algorithm (see below). In addition, PHW provided their support via a detailed web article on the dangers and issues around carbon monoxide poisonings: (<http://www.wales.nhs.uk/sitesplus/888/news/34934>)

PHW: Algorithm for health professionals

To coincide with Carbon Monoxide Awareness Week November 2014 the Carbon Monoxide in Wales Working Group produced and distributed an algorithm to support medical/health professionals in identifying and managing suspected CO poisoning in their patients. This algorithm is available on Public Health Wales' website: <http://www.wales.nhs.uk/sitesplus/888/document/251948>

PHW: Midwives

The Carbon Monoxide in Wales Working Group is carrying out a pilot project to capitalise on the work already being done by midwives to monitor the smoking status of pregnant women. Now, when women are found to have high breath CO levels and no reasonable explanation for this, the midwife will contact PHW for further investigation to be carried out.

RESEARCH

PHE: Environmental Epidemiology Group, Environmental Change Department

Carbon monoxide remains a programme of work for the environmental epidemiology group and is instructed to do so by the environmental public health tracking (EPHT) programme board. The aim is to gain a better understanding of the overall burden of CO in England. Several research projects have been developed to address this. PHE Environmental Epidemiology Group has been working with the Small Area Health Statistics Unit (SAHSU) to conduct epidemiology analyses of health data coded for CO. First, Hospital Episode Statistics (HES) data over 10 years were analysed, the findings have been published in the PHE publication detailed in the Supporting Professionals section.

Further work is in progress concerning emergency department admissions attributable to CO. Every year the EPHT team receive the annual CO mortality figures for England and Wales from ONS under the established service level agreement.

The EPHT team have received ONS coroners text data for deaths which occurred from 1998 to 2010. Data is being analysed and a manuscript is being prepared for submission to a peer-reviewed journal. Further testing of CO by coroners will be piloted in a project prepared in early 2015 and due to start later this year.

PHE: Merseyside FRS and John Moores University

PHE continues to provide ongoing advice to the Merseyside Fire and Rescue Service and John Moores University research work on CO awareness.

PHE: Scientific conferences

In 2014-2015, PHE's Environmental Epidemiology group presented an oral overview of the draft findings of the coroners text study at the 5 Nations Health Protection Conference in Edinburgh (18-20 May 2015).

Public Health England's Centre for Radiation, Chemicals and Environmental Hazards (CRCE) (Wales), with PHW have been involved in the organisation and delivery of research on CO. Further details are provided in the submission by PHW.

PHW

The local authority alarm project and the education project have been written up in a paper that is about to be submitted for peer review. Abstracts describing these projects have also been submitted to the Welsh Public Health Conference 2015. An abstract on the work on CO in Wales will also be submitted to the world injury prevention conference, Safety 2016.

LEGISLATION AND SECURING JUSTICE

BIS: Consumer safety

BIS has continued to work with other EU member states to address the unacceptably high level of CO incidents caused by consumers taking barbecues into enclosed spaces. Standards covering BBQs are being revised to provide clear warnings, pictograms, and instructions on all BBQs and on packaging for BBQ fuel.

The revision of the current legislation addressing the safety of new gas appliances has almost concluded. The current legislation has been determined to be highly successful in ensuring appliances are technically safe. The safety objectives encourage innovation and introduction of best practice and new technology to deliver state of the art products. However, the legislation can be improved and is being revised to ensure greater clarity of the safety objectives that appliances must meet to:

- provide improved traceability of products in the supply chain; and
- provide clear requirements as to the duties and responsibilities of all business professionals in the supply chain.

DCLG: The Smoke and Carbon Monoxide Alarm (England) Regulations 2015

The Smoke and Carbon Monoxide Alarm (England) Regulations 2015 came into force on 1 October 2015. See <http://www.legislation.gov.uk/ukxi/2015/1693/contents/made>.

The regulations require private rented sector landlords in England, from 1 October 2015, to have at least one smoke alarm installed on every storey of their rental property which is used as living accommodation, and a CO alarm in any room used as living accommodation where solid fuel is used. After that, the landlord must make sure the alarms are in working order at the start of each new tenancy.

To help landlords prepare for the regulations, the Government provided £3.2 million of funding to local Fire and Rescue Authorities to distribute free smoke and carbon monoxide alarms.

Local authorities are responsible for enforcing the regulations. Landlords who fail to install smoke and CO alarms could face a civil penalty of up to £5,000.

Guidance to help landlords understand and comply with the regulations and to help local authorities effectively enforce them has been published in the form of explanatory booklets.

See <https://www.gov.uk/government/publications/smoke-and-carbon-monoxide-alarms-explanatory-booklet-for-landlords> and <https://www.gov.uk/government/publications/smoke-and-carbon-monoxide-alarms-explanatory-booklet-for-local-authorities>.

HSE/HSENI: Enforcement activities

HSE continues to work to secure justice and provide consumer protection where gas safety incidents are highlighted. This may be through the issue of an enforcement notice or

prosecution in the event of a breach of the law. 12.6% of HSE's prosecution informations² in 2014/15 were brought under the Gas Safety (Installation and Use) Regulations 1998.

Significant cases have included:

- a substantial fine for a company director who knowingly contracted an unregistered gas fitter to carry out work in six homes;
- a £500,000 fine for a firm who caused the death of a pensioner by blocking her flue with cavity wall insulation; and
- a suspended prison sentence and a community service order for a former building firm owner who carried out illegal gas work.

There have been numerous prosecutions of landlords for a variety of offences including: failure to provide landlord's gas safety records; using unregistered gas fitters to carry out work; carrying out illegal work themselves; and failure to ensure safety of appliances.

Further information can be found on the HSE website: HSE Public Record of Convictions is at <http://www.hse.gov.uk/Prosecutions/> and the Media Centre <http://press.hse.gov.uk/> includes press releases relating to prosecutions.

Continued expansion of the natural gas networks in Northern Ireland led to further planned and reactive visits and inspection by HSENI within the natural gas transmission and distribution sectors of the industry to ensure compliance. In partnership with Gas Safe Register, proactive and reactive visits and inspections were concluded in the downstream private industrial and commercial sectors with enforcement action being pursued as necessary. During the course of 2014/15 the HSENI gas safety team continued to remind dutyholders and members of the public of the risks from CO poisoning as part of their routine work. CO awareness is not restricted to gas installations and includes other fossil fuel burning appliances.

HSE and Gas Safe Register: Enforcement

Gas Safe Register supports enforcement activity through incident investigation and operational support; they undertake visits with HSE, HSENI and local authorities. The field operations teams also complete inspections to identify unsafe gas work and assess engineers' competence.

HSENI: Enforcement and consumer protection

HSENI works in close co-operation with GSR, to ensure that where legislation is breached and/or recommended guidance is not followed, appropriate action is taken to protect the public and to raise standards in the gas industry. Information is provided to engineers, businesses and the public where appropriate, enforcement notices are served when necessary and prosecutions are pursued. Similar actions are also taken with regard to liquid and solid fuels.

² In health and safety cases, criminal proceedings are commenced by the laying of an Information in the magistrates' court. The Information is normally accompanied by a summons, which is intended to secure the accused's attendance at court, in order to answer the allegation(s) made against him/her contained in the Information.

The Scottish Government: Housing quality and standards

Scottish Government guidance for private landlords on fire and smoke detectors was revised and includes reference to the current duties under Scottish Building Standards when a new carbon-fuelled appliance is installed and the duties under the Gas Safety (Installation and Use) Regulations 1998 to carry out regular gas safety checks. Section 22 of the Housing (Scotland) Act 2014 inserted sections 13(1)(g) and 13(6) to the repairing standard in the Housing (Scotland) Act 2006. This places a new duty on private landlords to ensure any house they let to tenants has satisfactory provision for giving warning if CO is present in a concentration that is hazardous to health. The 'Scottish Government statutory guidance for the provision of carbon monoxide alarms in private rented housing' which was published in June 2015 will come into force on 1 December 2015. The guidance outlines landlords' responsibilities to alert occupants to the presence of levels of CO gas which may be harmful to people. The Scottish Government guidance is published online at <https://www.prhpscotland.gov.uk/repairs-downloads-landlords>.

PHW

PHW, through its coordination of the Carbon Monoxide in Wales Working Group, is acting as a central conduit for queries relating to CO from local government and others. The working group with its network of contacts makes it an excellent resource in terms of knowledge of legislation and codes of practice.

STATISTICS

This section includes statistical data from DH, HPS, HSENI and HSE on CO fatalities. The various parties use specific, but different criteria in what they record. The figures reflect the differences in the relevant data sources.

The DH, HPS, HSENI data is based on public health information and excludes self-harm where that has been coded, but it is likely that self-harm is under-reported. HSE collects data on incidents which are reportable under the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 2013 (RIDDOR) (and previously under the 1995 Regulations). The Regulations apply to events which arise out of or in connection with work activities covered by the Health & Safety at Work etc Act 1974. The Regulations require gas conveyors and LPG suppliers to report incidents where someone has died, lost consciousness, or been taken to hospital for treatment to an injury where gas is likely to be a cause.

CO mortality data

ONS provided, after PHE request to DH, the data on mortality from CO poisoning (deaths registered in 2014 in England and Wales). The data is now available online (<http://www.ons.gov.uk/ons/about-ons/business-transparency/freedom-of-information/what-can-i-request/published-ad-hoc-data/health/september-2015/index.html>). (The reference number is 004612.)

For information on Northern Ireland CO data please contact Health.Protection@dhsspsni.gov.uk

For information on Scottish CO, data please contact ceu@scotland.gsi.gov.uk

For information on England and Wales CO data, please contact COfeedback@phe.gov.uk

DH: Departmental analysis

Carbon monoxide poisoning is a serious and preventable form of poisoning. Each year there are around 30 deaths from accidental CO poisoning in England and Wales (ONS Statistics)³.

CO poisoning is difficult to diagnose as symptoms can be mistaken for common ailments such as flu or food poisoning. GPs have been alerted to this estimate through the DH GP and Team Practice Bulletin and will be able to download a diagnostic tool to aid diagnosis and a previously published joint CMO/CNO letter, which gives the most up-to-date information on CO poisoning.

Prevention remains the key to tackling this “silent killer” – people and families can protect themselves by:

- Having all appliances, flues and chimneys correctly installed and serviced by trained, competent and registered engineers⁴.

³ The figure of ‘30 deaths a year’ used in this report is based on the average number of accidental poisonings by other gases and vapours (X47) and where the secondary cause of death was the toxic effect of carbon monoxide (T58) from 2010-2014

⁴ Gas Safe Register (gas appliances), HETAS (solid/fuel biomass) and OFTEC (oil appliances).

- Keeping rooms well ventilated while using an appliance.
- Installing an audible approved CO alarm in the home.

DH analysts have compiled mortality statistics from the Office of National Statistics for accidental CO poisoning 2005-2014.

Number of deaths from accidental poisoning by carbon monoxide, England and Wales, 2005-14^{1,2,3}											
Code	Cause	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
V01-X59	All accidental carbon monoxide poisonings	65	87	79	85	90	65	79	65	60	55
X47	Accidental poisoning by other gases and vapours	22	41	47	39	39	32	34	25	24	26
	Occurrence at home	19	34	35	26	29	23	29	18	16	18
	Occurrence in residential institution	0	0	0	0	0	0	0	0	0	0
	Occurrence at school other institution/pub admin area	0	0	0	0	0	0	0	0	0	0
	Occurrence at sports/athletics area	0	0	0	2	0	0	0	0	0	0
	Occurrence on street/highway	0	2	1	4	1	1	1	1	0	0
	Occurrence at trade/service area	0	0	0	0	1	0	1	0	0	1
	Occurrence at industrial/construction area	0	3	4	2	1	1	0	0	1	0
	Occurrence on farm	0	0	0	0	0	0	0	0	0	0
	Occurrence at other specified place	3	2	7	3	5	6	3	5	6	5
	Occurrence at unspecified place	0	0	0	2	2	1	0	1	1	2
V01-V99	Transport accident	1	1	1	0	1	0	0	0	0	0
X00-X09	Accidental exposure to smoke, fire and flames	42	45	31	46	50	33	45	40	36	29
¹ Cause of death was defined using the International Classification of Diseases, Tenth Revision (ICD 10). Deaths were selected where the underlying cause of death was accidental (ICD 10 codes V01-X59), and where the secondary cause of death was the toxic effect of carbon monoxide (ICD 10 code T58).											
² Figures for England and Wales include deaths of non-residents.											
³ Deaths registered in each calendar year.											
<i>Source: Office for National Statistics</i>											

The figure of '30 deaths a year' used in this report is based on the average number of accidental poisonings by other gases and vapours (X47) and where the secondary cause of death was the toxic effect of carbon monoxide (T58) from 2010-2014

Scotland: Mortality figures 2004-2013

Carbon monoxide deaths (ICD 10 code: X47) data from the General Register Office for Scotland. Data range 2005–2014

Mortality statistics for accidental CO poisoning in Scotland

Year	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Total Deaths by CO (X47)*	2	1	0	2	1	2	2	1	0	1

National Records of Scotland, Vital Events Reference Table 6.4

*X47 Other gases and Vapours (Carbon Monoxide)

Northern Ireland: Mortality figures 2009–2014

Deaths from carbon monoxide poisoning¹ 2008-2013^P

Type of carbon monoxide death	ICD10 Code							2009-2014 Average
		2009	2010	2011	2012	2013	2014 ^P	
Uncontrolled fire in a building or structure	X00	-	4	3	2	3	8	3
Controlled fire in a building or structure	X02	-	-	2	-	-	-	0
Exposure to ignition of highly flammable material	X04	-	-	1	-	-	-	0
Exposure to other specified smoke, fire and flames	X08	-	-	-	-	-	-	0
Accidental poisoning	X47	7	2	-	1	-	5	3
Intentional self-harm	X67, X76	5	3	1	5	9	2	4
Assault by smoke, fire and flames (includes arson, cigarettes and incendiary devices)	X97	3	-	-	-	-	2	1
Poisoning by and exposure to other gases and vapours, undetermined intent	Y17	-	1	-	-	-	-	0
Total		15	10	7	8	12		11

¹ Deaths from carbon monoxide poisoning have been defined using ICD10 code T58 and where carbon monoxide was mentioned on the death certificate

^P Data for 2014 remains provisional until the publication of the 2014 Annual Report of the Registrar General due to be released in November 2015

Health and Safety Executive published statistics

<http://www.hse.gov.uk/statistics/tables/ridgas1.xlsx>

Table RIDGAS1

Incidents in Great Britain relating to the supply and use of flammable gas (a) 2010/11 - 2014/15p

Type of incident (b)		Year				
		2010/11	2011/12	2012/13	2013/14r	2014/15p
Total number of incidents		278	173	224	211	161
	Carbon monoxide poisoning	229	142	193	188	138
	Other exposure, eg to unburnt gas	13	7	6	3	3
	Explosion/fire	36	24	25	20	20
Total number of fatalities		17	4	10	6	6
	Carbon monoxide poisoning	13	3	9	3	6
	Other exposure, eg to unburnt gas	1	-	-	-	-
	Explosion/fire	3	1	1	3	-
Total number of non-fatalities		428	266	353	356	240
	Carbon monoxide poisoning	368	226	313	329	214
	Other exposure, eg to unburnt gas	12	8	6	5	3
	Explosion/fire	48	32	34	22	23

Notes

Source: RIDDOR - Reporting of Injuries, Diseases and Dangerous Occurrences Regulations

r =revised

p=provisional

- (a) Mainly piped gas but also includes bottled LPG
- (b) An incident can cause more than one fatality or injury

Regulation 11(1) of RIDDOR 2013 places a duty on certain conveyors of gas (including LPG), to notify HSE of an incident involving a fatal or major injury that has occurred as a result of the distribution or supply of flammable gas. The statistics published above are 'as reported' to HSE. When such reports are made, it is at the early stages of the incident, thus the detailed circumstances of the incident will not have been confirmed.

Key changes to the reporting system and the legal requirements for RIDDOR have occurred in recent years. More information on data changes affecting RIDDOR statistics is available at: www.hse.gov.uk/statistics/riddor-notification.htm

General information on domestic gas safety is available at: <http://www.hse.gov.uk/gas/domestic/index.htm>

Statistics on HSE prosecutions by legislation (including gas safety) are available at www.hse.gov.uk/statistics/tables/ef5.xlsx

HSE also provides details of members of the public who have died in reportable domestic gas incidents on their website. For 2014/15 <http://www.hse.gov.uk/foi/fatalities/2014-15.htm>