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

**ANNUAL REPORT 2012/13**

Published November 2013

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

## Annual Report 2012/13

### 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

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 all 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 2012 to Autumn 2013.

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 carbon monoxide. Further information can be found at: <http://www.policyconnect.org.uk/appcog/>

Carbon monoxide poisoning is a serious and preventable form of poisoning. Each year there are around 40 deaths from accidental CO poisoning in England and Wales (ONS Statistics) and in excess of 200 non-fatal cases that require hospitalisation. A recent DH estimate based on the A&E Hospital Episode Statistics database shows that approximately 4,000 attend A&E each year diagnosed with CO poisoning. Further statistical data from DH (covering England and Wales), Health Protection Scotland, HSENI and HSE is provided in the final section of this Report.

The DH, HPS and HSE figures reflect the differences in the relevant data sources. The DH and HPS data are 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. Reporting of HSE CO incidents depends on the consequences of the exposure, i.e. a death, loss of consciousness or a person has been taken to hospital and CO cannot be ruled out as the cause.

## CONSUMER AWARENESS

### BIS

BIS continues to work with UK and other organisations across Europe to increase consumer awareness of the risks involved in using barbecues in tents and similar poorly ventilated areas.

### DH

Advice to the public on protecting themselves and their families from CO poisoning was made available on the Get Ready for Winter website

(<http://www.metoffice.gov.uk/learning/get-ready-for-winter>) hosted by the Met Office. In addition, several projects in the £20 million 2012-13 Warm Homes Healthy People Fund (<http://www.hpa.org.uk/Publications/EmergencyPreparationAndResponse/1310CWPwarmhomeshealthypeoplefundeval/>) involved advice on avoiding CO poisoning and provision of CO alarms. DH officials attended the award ceremony for the CO-Gas Safety School Poster Competition on CO poisoning which it has funded for the last three years.

### HSE and HSENI: Gas Safe Register

Gas Safe Register (GSR) exists to protect the public from unsafe gas work. It does this through the investigation and inspection of gas work and through campaigns to raise audience awareness of the potential risks associated with gas. Since launching in 2009 the Register has undertaken more than 100,000 inspections of gas work and conducted more than 3000 investigations into illegal gas work. It has continued to evolve and improve the service it provides to the 135,000 qualified and competent engineers on the register. The Register is now recognised widely by consumers and industry as a source of high-quality independent gas safety advice. As GSR credibility and profile has grown, their consumer campaign activity has also continued to evolve and to build on their earlier work.

2013 saw the third national “Gas Safety Week” co-ordinated and managed by GSR, and has been the most successful to date. The campaign, which encompasses PR, marketing materials, digital and social media activity, consumer events and research findings has continued to grow year on year. The 2013 “Week” differs, however, in a shift of identity from solely a ‘Gas Safe Register campaign’ to one more accurately described as ‘an industry campaign’. This increased engagement from industry has contributed to a record number of pledged campaign supporters coming on board (over 2700 stakeholders) and has broadened the style and number of messages under the campaign banner. Analysis is currently underway but it suggests substantial year-on-year growth for the campaign.

You can request a copy of the Gas Safety Week evaluation report from [marketing@gassaferegister.co.uk](mailto:marketing@gassaferegister.co.uk)

Gas Safety Week was also the platform used to launch the “Gas Map” nationally, following a successful pilot in north west England last year. This took the opportunity to embed behaviour change into campaigning. The “Gas Map”, an interactive online tool designed to show gas risks and incidents in the user’s postcode area, was the front end of a much broader integration of a move away from simple awareness-raising towards encouraging behaviour change amongst consumers. This fundamental shift in emphasis, developed with the support of HSE, will be the cornerstone of future GSR activity. PR, marketing and social media and specially-commissioned research were used to drive consumers to the [www.staygassafe.co.uk](http://www.staygassafe.co.uk) website. Within the site, users are guided towards the sign-up for a tool which will remind them when their next gas safety check is due – research having established that a simple reminder would be the most effective trigger for action. The decision to roll-out the campaign is supported by evidence from the North West regional pilot

which showed that GSR achieved a 300% increase in the number of higher risk households having annual gas safety checks, representing a total of 53,450 households, in just 5 months. The campaign has already been recognised for its innovative and effective execution and has been nominated for a number of awards.

A copy of the Behaviour Summary Analysis Report is available from [marketing@gassaferegister.co.uk](mailto:marketing@gassaferegister.co.uk).

GSR also continued with recurring and seasonal campaigning activity, and now actively seek partners to work with to help reach new audiences. This was the second year GSR conducted a campaign aimed at raising awareness of gas safety and CO risks when on holiday – be that from unsafe boilers in rental cottages or from disposable barbecues taken into tents. By working closely with the All Party Parliamentary CO Group, selecting strong case studies to illustrate the risks and establishing clear guidance, GSR achieved a substantial media reach.

GSR responded strongly to opportunities as they arose. Highest profile amongst these was the chance to work alongside Coronation Street. In addition to assisting with the accuracy of their CO poisoning storyline GSR developed a standalone microsite with advice and information for the public and then used that as the reference point for the PR, which included onscreen and voiceover mentions following the broadcasts. By actively reaching out to partners and stakeholders GSR also ensured that the message and campaign reached the largest possible audience.

A vibrant and credible presence across digital platforms, particularly on social media sites, is now virtually a prerequisite for reaching the public and GSR have seen considerable progress in their efforts to become a 'must follow'. The Coronation Street and Gas Safety Week campaigns have provided significant boosts to GSR numbers of followers on Facebook and Twitter and GSR now have over:

25,000 'likes' of their Facebook page, [facebook.com/gassaferegister](https://www.facebook.com/gassaferegister)  
8,000 followers on Twitter for @gassaferegister

The GSR consumer website, [www.gassaferegister.co.uk](http://www.gassaferegister.co.uk) now receives 2million unique visitors a year to find and check registered businesses as well as access gas safety information.

HSENI promoted the Gas Safe Register's Barbecue Safety Campaign in Northern Ireland. The campaign launched to highlight the dangers when using barbecues in areas without adequate ventilation.

Ahead of the 2013 summer season HSENI specially targeted 380 premises including caravan and forest parks, marinas and camping suppliers, independent DIY/hardware stores and garden centres.

#### **HSE: Domestic gas e-Bulletin**

Since last year's report subscription to HSE's gas e-Bulletin has risen from approximately 10,000 to just over 17,000 <http://www.hse.gov.uk/gas/ebulletin.htm>.

#### **HSENI: Carbon Monoxide Awareness Campaign**

The third year of the HSENI "Watch Out – Carbon Monoxide Kills" awareness campaign went live in November 2012 and continued through to March 2013. The campaign was delivered via a range of media including TV, radio, outdoor press and on line. Emphasis continued on

the importance of servicing and maintenance of home heating appliances. The campaign covered all fuels and was supported by both an information helpline and dedicated website – <http://www.hseni.gov.uk/watchout>.

Over 3,600 public and private sector organisations have received the CO leaflets, posters and other promotional items through the HSENI awareness campaign. HSENI have established contact within the two universities and have negotiated that the student specific CO leaflet is circulated widely on their campuses.

#### **HSENI: Carbon Monoxide Safety Group**

The membership of this group is made of representatives from both the private and public sector including the Northern Ireland Gas Companies, NI Fire and Rescue Service, Southern Health Trust, District Councils and the Public Health Agency. The aim of the group is to work in partnership to deliver the message of the dangers of CO throughout Northern Ireland.

#### **HSENI / Public Health Agency “TOXIC” Drama on Dangers of Carbon Monoxide**

The TOXIC drama has been produced by Patricia Downey from Spanner in the Works Theatre Company. This play highlights the dangers of CO and is aimed at a target audience of post-primary school children. Although a serious play, it is humorous and features a range of misfit characters and their plans for the future. The play has so far been performed to 10,000 school children and demonstrates the success of a close working relationship between the Public Health Agency and the Health and Safety Executive in Northern Ireland.

#### **HSENI: Girl Guides**

10,000 badges and learner packs were issued to the Girl Guides through the Girl Guides Carbon Monoxide initiative. The badge is aimed at improving awareness of CO poisoning amongst younger people, providing key information not only for their own future but also for their parents, grandparents and peers. The badge pack is generic in nature and has been rolled out to other youth organisations in Northern Ireland, such as the Boys Brigade, Scouts and Duke of Edinburgh Award scheme.

#### **HSENI: Gas Safety Week**

The campaign ran from 16-22 September 2013. The campaign was aimed at the general public, gas engineers and trade stores ahead of the winter season. During this campaign HSENI and the Northern Ireland’s gas companies – Calor Gas NI, Firmus Energy, Flogas and Phoenix Natural Gas - arranged events in-house, and in shopping centres. This was done in conjunction with gas appliance suppliers to alert staff and the general public of the dangers associated with gas appliances. HSENI distributed 11,300 leaflets and 450 posters to 116 businesses. HSENI partners within the district councils distributed 12,550 leaflets and 185 posters to businesses under their enforcement remit.

#### **PHE: Awareness material**

Public Health England (PHE), which took over the function of the Health Protection Agency on April 1, 2013, supports DH in the production of a number of materials, issued over the winter period, that provide information on and warnings of the dangers of CO poisoning; these include the Cold Weather Plan (<https://www.gov.uk/government/news/cold-weather-plan-launches-to-prepare-for-winter>) and Winter Health Watch (<https://www.gov.uk/government/collections/winter-health-watch>).

**PHE: Communications**

PHE has issued national and regional subject-specific press releases to raise public awareness of the dangers from CO poisoning from the inappropriate use of barbecues and more general ones for Carbon Monoxide Awareness Week 2012. PHE supported Gas Safety Week by pledging support and contributions to social media sites such as Twitter.

**PHE: Stakeholder meetings and events**

PHE has presented at and attended meetings and events on CO arranged by stakeholders.

**Ofgem: Gas suppliers' effective messaging**

In 2007, under the Supplier Licence Review, Ofgem amended the Standard Licence Conditions to require gas suppliers to inform consumers on the dangers of both natural gas and CO. Encouraged by the All Party Parliamentary Gas Safety Group (APPGSG) Report's Recommendation 12, and Ofgem's intervention, the gas suppliers are now looking at how effective their messaging actually is.

**Ofgem: Gas Distribution Network raising public awareness**

Under the RIIO-GD1 price control (applicable between 2013 and 2021), Ofgem requires the Gas Distribution Network (GDN) operators for the first time to deliver an improvement in the public awareness of the risks of carbon monoxide (CO) poisoning, a key gas safety issue. CO is a key output factor of RIIO-GD1 and Ofgem will publish an assessment of the GDNs' comparative performance. All GDNs have a variety of initiatives in place for raising CO awareness and ways of measuring the effectiveness of these initiatives.

**Ofgem: Emergency service personnel CO measuring equipment**

Ofgem encouraged all GDNs to equip their emergency service personnel (ESP) with 'CO in air' measuring equipment. They all now have done so or have plans to do so, thus fulfilling the APPGSG Report's Recommendation 8 that GDNs' ESP should carry CO personal alarms or CO measuring equipment.

**HSE/Ofgem: Iron mains decommissioning programme**

HSE/Ofgem carried out a joint review of the remaining period of the iron mains decommissioning programme and the resulting changes integrated into RIIO-GD1 will deliver equivalent safety benefits to consumers at better value for money.

**Ofgem: Discretionary Reward Scheme**

In the previous Gas Distribution Price Control 2008-2013, Ofgem's Discretionary Reward Scheme (DRS) rewarded GDNs for otherwise unfunded worthwhile initiatives. Gas safety related awards (which included CO) totalled over £5m over 5 years. The DRS in RIIO-GD1 has a total value of up to £12m over the price control period.

**Ofgem: Gas theft**

Gas theft increases costs for customers and has potentially serious safety implications. Ofgem recently required energy companies to play an active role in detecting, investigating and preventing the theft of gas and set up a cross industry theft risk assessment service to help them better target investigations.

**Welsh Government: Carbon monoxide awareness**

All year round the Welsh Government's website displays information which includes awareness of the dangers of CO, advice for health professionals (including information on diagnosis, investigations and management), links to external sites providing further useful information on CO, and a copy of the Welsh Government's information leaflet on CO "You can't smell it, you can't see it, and it can kill!":

<http://wales.gov.uk/topics/health/protection/environmental/carbon/?lang=en>

In October 2012 the Welsh Government contacted key interested bodies in Wales regarding the availability of hard copies of the above leaflet for them to obtain and distribute amongst their respective networks. These include Wales' Fire and Rescue Service, local authorities, higher education establishments (specifically student unions and student accommodation officers), Age Cymru, go-karting centres in Wales, and managers of Home Energy Efficiency Schemes (<http://wales.gov.uk/topics/environmentcountryside/energy/efficiency/home-energy-efficiency-scheme-facts/?lang=en>).



## **SUPPORTING PROFESSIONALS**

### **BIS**

BIS continues to support work in ensuring that consumers can have confidence in the gas appliances made available to them.

### **DH/PHE: CMO/ CNO letter on CO poisoning**

The Department of Health and Public Health England have prepared a letter to be sent on behalf of the Chief Medical Officer, Professor Dame Sally Davies to health professionals to raise awareness of CO poisoning. Further advice to health professionals and others involved in public health on the dangers of CO poisoning have been included in the Cold Weather Plan for England 2013

([https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/252838/Cold\\_Weather\\_Plan\\_2013\\_final.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/252838/Cold_Weather_Plan_2013_final.pdf)).

### **PHE: Training**

PHE holds workshops throughout the country to assist local authority personnel, healthcare practitioners, emergency responders, PHE staff, government departments and industry in understanding their role in preventing and responding to CO incidents. Internal training events also take place.

### **PHE: Carbon monoxide response work**

PHE continues to provide information on CO to stakeholders on request.

### **PHE: Tools to aid diagnosis**

PHE is updating its tool for healthcare professionals to assist in diagnosing CO poisoning. PHE is also developing a tool for midwives to use during antenatal checks to aid diagnosis of CO poisoning from environmental exposure.

### **PHE: Publications**

Articles on CO have been published in the PHE's Chemical Hazards and Poisons (CHaP) reports.

<http://www.hpa.org.uk/Publications/ChemicalsPoisons/ChemicalHazardsAndPoisonsReports/>

### **HSENI: Gas Safety Working Group for Northern Ireland**

The membership of this group is made of representatives from the private and public sectors including the major suppliers of Liquid Petroleum Gas and Natural /Gas and Local Government. There are also representatives from the Republic of Ireland's Commission on Energy Regulation and Bord Gais Energy.

HSENI continues to facilitate the meetings and works with the key stakeholders to promote joint initiatives. During 2012/2013, the group continued in the areas of gas safety and CO awareness focused on landlords' duties, risks from gas cookers, ventilation in commercial kitchens, flues in voids and buried LPG pipework.

### **Welsh Government:**

The Welsh Government provide guidance for health professionals in relation to CO on their website.

<http://wales.gov.uk/topics/health/protection/environmental/publications/recognise/?lang=en>

## **RESEARCH**

### **PHE: Environmental public health tracking**

PHE is involved in ongoing research on an environmental health tracking project “Estimates for Accidental Carbon Monoxide Poisoning in Domestic Dwellings in England: A Systematic Approach”. The project takes a methodological approach to combining data sources to provide an estimate of the true population burden of disease from acute and chronic exposure to CO in domestic dwellings.

Part of this project, the study “Carbon monoxide alarms in private homes: prevalence of potential exposure in Hackney” was completed in 2012 and published in the Journal of Environmental and Public Health. [www.hindawi.com/journals/jep/2013/735952/](http://www.hindawi.com/journals/jep/2013/735952/)

### **PHE: Screening for carbon monoxide exposure**

PHE published a peer-reviewed paper in the BMJ Open “Screening for carbon monoxide exposure in selected patient groups attending rural and urban emergency departments in England: a prospective and observational study” as a result of a study funded by the Policy Research Programme, Department of Health

<http://bmjopen.bmj.com/cgi/content/full/bmjopen-2012-000877>.

### **PHE: Scientific conferences**

PHE attended a number of national and international scientific conferences and presented posters on research work undertaken by PHE on CO.

### **PHE: Merseyside FRS and Liverpool John Moores University**

PHE provides ongoing advice to the Merseyside Fire and Rescue Service and Liverpool John Moores University research work on CO awareness in Merseyside.

## LEGISLATION AND SECURING JUSTICE

### **BIS: Consumer safety**

Works with European partners to ensure that the legislation in place is effective in providing an effective framework for robust enforcement of consumer safety legislation but without undue burdens to allow reputable businesses to innovate and grow while providing consumers with competitively priced products.

### **HSE: 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. 11.9% of HSE's prosecution informations<sup>1</sup> in 2012/13 were brought under the Gas Safety (Installation and Use) Regulations 1998.

Significant cases have included jail sentences for gas fitters working illegally by not being Gas Safe registered and carrying out work which proved to be dangerous, putting lives at risk. A large Lancashire company installed two industrial boilers in a hotel in Lytham St Annes. They were not Gas Safe registered when work commenced and despite becoming registered part way through the installation, that was for domestic work only. The company received a substantial fine and a senior manager received suspended jail sentences.

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; 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.

### **HSE: L56 Approved Code of Practice**

HSE completed the second of two rounds of consultation in relation to the Approved Code of Practice L56 Safety in the installation and use of gas systems and appliances (<http://www.hse.gov.uk/pubns/books/l56.htm>). The ACOP has now been updated and was published on 11 November 2013. Changes comprise: inclusion of guidance and ACOP on standards of training; removal of landlords' guidance – now on HSE website; updated requirements for appliances and flues; removal of unsafe situations examples – available on Gas Safe Register website; list of standards removed – now available on Gas Safe Register website; summary of legislation removed – now on HSE website; minor revisions to definitions etc in regulations 2 (gas fitting and gas work), 27 (flues in voids); Part C (meters and regulators, partly to reflect the introduction of smart meters.

### **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.

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<sup>1</sup> 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.

### **HSENI: Enforcement and consumer protection**

HSENI works in close co-operation with Gas Safe Register, 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, enforcements notices are served when necessary and prosecutions are pursued. Similar actions are also taken with regard to liquid and solid fuels.

### **The Scottish Government: Building Standards Division: Introduction of guidance on carbon monoxide detection within the Domestic and Non-Domestic Technical Handbooks**

Following a period of public and European consultation, on 1 October this year the Scottish Government introduced a series of amendments to the building standards and associated guidance within the Technical Handbooks. One of the main changes related to the introduction of guidance on CO detection where new or replacement heat producing appliances are to be installed in new or existing buildings.

The guidance is relevant to all fixed combustion appliances, except those used solely for cooking, that operate on oil, gas (mains and LPG) and solid fuel (coal, coke, wood, wood pellets, etc). As well as applying to houses, flats and maisonettes, the guidance also applies to residential properties such as hotels, care homes and hostels.

A sealed-for-life battery unit, with an end-of-life warning is the preferred choice within the guidance; however, a mains operated unit may be installed where it has a sensor failure warning device fitted.

Installation of more than one detector may be required where there are multiple fixed combustion appliances in the building. Installation of additional detector(s) may also be needed to protect the occupants where the flue of an appliance is taken through a high-risk room, such as a bedroom.

In non-domestic buildings where the combustion appliance(s) is in an area that is not frequented by staff, the CO detector should be connected to an audible or visual alarm within a staffed area, for example a reception desk.

The full guidance on CO detection is contained within clause 3.20.20 of the Technical Handbooks, which may be viewed or downloaded from the Building Standards section of the Scottish Government website.

Domestic <http://www.scotland.gov.uk/Resource/0042/00427312.pdf>

Non-domestic <http://www.scotland.gov.uk/Resource/0042/00427325.pdf>

As part of an awareness-raising exercise on the new guidance, the Building Standards Division is running a series of dissemination exercises aimed at building professionals over the coming months. Additionally, in association with the CO awareness raising charity COBeAlarmed, the Building Standards Division will arrange for publication and distribution of householder information leaflets to help address CO poisoning in existing dwellings.

## STATISTICS

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

The DH 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. Reporting of HSE CO incidents depends on the consequences of the exposure i.e. a death, loss of consciousness or a person has been taken to hospital and CO cannot be ruled out as the cause.

### CO mortality data

For information on Northern Ireland CO data please contact [Health.Protection@dhsspsni.gov.uk](mailto:Health.Protection@dhsspsni.gov.uk)

For information on Scottish CO, data please contact [ceu@scotland.gsi.gov.uk](mailto:ceu@scotland.gsi.gov.uk)

For information on England and Wales CO data, please contact [COfeedback@phe.gov.uk](mailto:COfeedback@phe.gov.uk)

### DH:Departmental analysis

#### **Carbon monoxide poisoning – Department of Health analysis finds thousands affected.**

DH has produced an estimate of the impact of non-fatal CO poisoning, based on the Hospital Episode Statistics (HES) A&E database. This shows approximately 4,000<sup>2</sup> people attend A&E each year diagnosed with CO poisoning. Even though the 4,000 individuals were not admitted to hospital, this sub-lethal poisoning may lead to lasting neurological harm. Previously, DH figures have shown that there are approximately 200 serious injuries in England and Wales that require hospitalisation each year. The new estimate shows that non-fatal CO poisoning affects many more people than had been demonstrated before.

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 new 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 engineers<sup>3</sup>.

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<sup>2</sup> In 2009/10 13 out of 172 units reporting in A&E HES recorded at least 50% of their cases with ICD 10, amounting to over 1,000,000 records (6.5% of the total attendances recorded in A&E HES). Within these trusts, 255 attendances with a mention of CO poisoning were recorded. On the assumption that these trusts make up a representative sample of the country as a whole, a simple calculation scaling up to the England total, would suggest there were about 4,000 attendances in total as a result of CO poisoning.

<sup>3</sup> 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 also compiled mortality statistics from the Office of National Statistics for accidental CO poisoning 2001-2012.

Number of deaths from accidental poisoning by carbon monoxide, England and Wales, 2001-12 <sup>1,2,3</sup>													
Code	Cause	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
<b>V00-X59</b>	<b>All accidental carbon monoxide poisonings</b>	<b>130</b>	<b>115</b>	<b>104</b>	<b>99</b>	<b>65</b>	<b>87</b>	<b>79</b>	<b>85</b>	<b>90</b>	<b>65</b>	<b>79</b>	<b>65</b>
<b>X47</b>	<b>Accidental poisoning by other gases and vapours</b>	<b>59</b>	<b>46</b>	<b>36</b>	<b>34</b>	<b>22</b>	<b>41</b>	<b>47</b>	<b>39</b>	<b>39</b>	<b>32</b>	<b>34</b>	<b>25</b>
	Occurrence at home	45	39	29	22	19	34	35	26	29	23	29	18
	Occurrence in residential institution	0	0	0	0	0	0	0	0	0	0	0	0
	Occurrence at school other institution/pub admin area	0	0	1	1	0	0	0	0	0	0	0	0
	Occurrence at sports/athletics area	0	0	0	0	0	0	0	2	0	0	0	0
	Occurrence on street/highway	0	0	0	0	0	2	1	4	1	1	1	1
	Occurrence at trade/service area	1	0	2	0	0	0	0	0	1	0	1	0
	Occurrence at industrial/construction area	1	0	0	3	0	3	4	2	1	1	0	0
	Occurrence on farm	0	0	0	3	0	0	0	0	0	0	0	0
	Occurrence at other specified place	10	6	3	4	3	2	7	3	5	6	3	5
	Occurrence at unspecified place	2	1	1	1	0	0	0	2	2	1	0	1
<b>V01-V99</b>	<b>Transport accident</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>X00-X09</b>	<b>Accidental exposure to smoke, fire and flames</b>	<b>71</b>	<b>69</b>	<b>68</b>	<b>64</b>	<b>42</b>	<b>45</b>	<b>31</b>	<b>46</b>	<b>50</b>	<b>33</b>	<b>45</b>	<b>40</b>
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>													

## Scotland: Mortality figures 2001-2011

**Carbon monoxide deaths (ICD 10 code: X47) data from the General Register Office for Scotland. Data range 2001–2011.**

Mortality statistics for accidental CO poisoning in Scotland

Year	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Total Deaths by CO (X47)*	2	1	0	0	2	1	0	2	1	2	2

National Records of Scotland, Vital Events Reference Table 6.12

\*X47 Other gases and Vapours (Carbon Monoxide)

## Northern Ireland: Mortality figures 2007–2012

**Deaths from carbon monoxide poisoning<sup>1</sup> 2007-2012<sup>P</sup>**

Type of carbon monoxide death	ICD10 Code							2007-2012 Average
		2007	2008	2009	2010	2011	2012 <sup>P</sup>	
Uncontrolled fire in a building or structure	X00	6	4	-	4	3	2	3
Controlled fire in a building or structure	X02	-	-	-	-	2	-	0
Exposure to ignition of highly flammable material	X04	-	1	-	-	1	-	0
Exposure to other specified smoke, fire and flames	X08	-	-	-	-	-	-	0
<b>Accidental poisoning</b>	<b>X47</b>	<b>2</b>	<b>4</b>	<b>7</b>	<b>2</b>	<b>-</b>	<b>1</b>	<b>3</b>
Intentional self-harm	X67, X76	4	7	5	3	1	5	4
Assault by smoke, fire and flames (includes arson, cigarettes and incendiary devices)	X97	-	-	3	-	-	-	1
Poisoning by and exposure to other gases and vapours, undetermined intent	Y17	2	-	-	1	-	-	1
<b>Total</b>		<b>14</b>	<b>16</b>	<b>15</b>	<b>10</b>	<b>7</b>	<b>8</b>	<b>12</b>

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

<sup>P</sup> Data for 2012 remains provisional until the publication of the 2012 Annual Report of the Registrar General due to be released in November 2013



## Health and Safety Executive published statistics

<http://www.hse.gov.uk/statistics/tables/ridgas.xls>

# Table RIDGAS

Incidents in Great Britain relating to the supply and use of flammable gas (a) 2008/09 - 2012/13p

Type of incident (b)		Year				
		2008/09	2009/10	2010/11	2011/12	2012/13p
Total number of incidents		203	223	278	173	219
	Carbon monoxide poisoning	172	196	229	142	187
	Other exposure, eg to unburnt gas	4	6	13	7	6
	Explosion/fire	27	21	36	24	26
Total number of fatalities		18	10	17	4	10
	Carbon monoxide poisoning	15	9	13	3	9
	Other exposure, eg to unburnt gas	1	-	1	.-	-
	Explosion/fire	2	1	3	1	1
Total number of non-fatalities		324	330	428	266	343
	Carbon monoxide poisoning	289	292	368	226	302
	Other exposure, eg to unburnt gas	5	11	12	8	6
	Explosion/fire	30	27	48	32	35

## Notes:

Source: RIDDOR - Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 1995

Regulation 6(1) of RIDDOR 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 a report is made under reg 6(1), it will be at an early stage of the incident, thus the detailed circumstances of the incident will not have been confirmed.

From 1 October 2013, RIDDOR changed slightly in respect of the above reporting criteria, although it does not currently affect the figures in the above Table. The relevant duty to report is in regulation 11 of the 2013 Regulations. Please see 'gas incidents' at <http://www.hse.gov.uk/riddor/reportable-incidents.htm>

p = Provisional

(a) Mainly piped gas but also includes bottled LPG.

(b) An incident can cause more than one fatality or injury

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

HSE also provides details of members of the public who have died in reportable domestic gas incidents on their website. For 2012/13 <http://www.hse.gov.uk/foi/fatalities/2012-13.htm>