

Mercury Exposures from Measuring Devices Reported to the UK National Poisons Information Service, 2008-2016

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Objective

Mercury-containing measuring devices (barometers, manometers, sphygmomanometers and thermometers) have been used for many years in domestic and professional settings. European legislation on chemicals led to a ban on the sale of mercury-containing measuring devices to the general public in April 2009 and for professional use in April 2014. The objective of this study was to characterise exposures related to mercury-containing measurement devices, in terms of circumstances, symptoms experienced and severity as reported to the UK National Poisons Information Service between 2008 and 2016.

Method

Telephone enquiries recorded on the United Kingdom Poisons Information Database (UKPID) relating the mercury-containing measurement devices were analysed for the period 01 January 2008 to 31 December 2016.

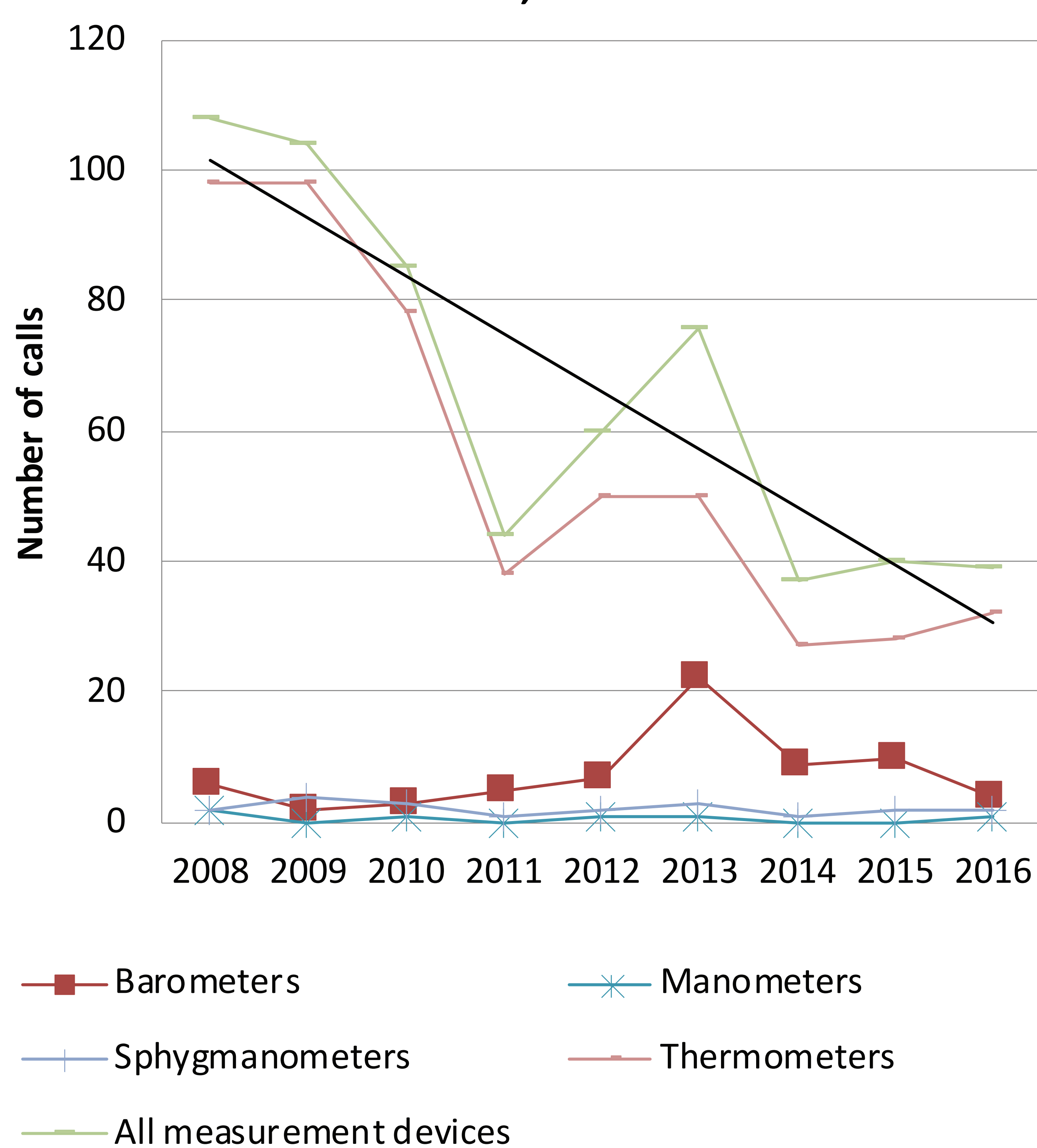
Results

During the study period there was a total of 593 enquiries received relating to mercury-containing measuring devices; 84% related to thermometers, 12% to barometers, 3% to sphygmomanometers and 1% to manometers. Overall, there was a 30% decline in calls relating to exposures from mercury-containing measuring devices between 2008 and 2016. Exposures were mainly accidental (95%) and primarily occurred in the home (88%), followed by the workplace (6%), schools (2%), GP surgeries (1%), nursing/care homes (1%), other (1%) and public areas (1%). The majority of exposures concerned females (57%) and children <10 years old (30%), with children <5 years old accounting for 22% of exposures overall.

Ingestion (46%), inhalation (34%) and skin contact (17%) were the predominant routes of exposure. Eye contact accounted for 0.2% of exposures.

The majority of patients (80%) were asymptomatic (Poisoning Severity Score, PSS 0)¹. 17% experienced minor symptoms (PSS 1) and 0.3% experienced moderate symptoms (PSS 2). No patients experienced severe (PSS 3) or fatal (PSS 4) outcomes. Of the 105 patients that reported symptoms, 56% experienced only one symptom, 33% two symptoms and 11% three or more symptoms. The most commonly reported symptoms were: headache (4%), paraesthesia (2.4%), taste perversion (2.1%), nausea (1.7%), coughing (1.5%), dizziness (1.5%), pharyngitis (1.4%), malaise (1%), abdominal pain (0.9%) and chest pain (0.9%).

Mercury in Measurement Devices: Total Calls, 2008-2016



Discussion

There has been a decline in calls to the UK National Poisons Information Service relating to mercury exposures from measuring devices between 2008 and 2016. Exposures were accidental and asymptomatic in the majority of cases.

References

1. Persson HE, Sjoberg GK, Haines JA, Pronczuk de Garbino J (1998) Poisoning severity score. Grading of acute poisoning. *J Toxicol Clin Toxicol*, 36(3), 205-213.