

## REVIEW

# Prevalence of homeopathy use by the general population worldwide: a systematic review

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**Aim:** To systematically review surveys of 12-month prevalence of homeopathy use by the general population worldwide.

**Methods:** Studies were identified via database searches to October 2015. Study quality was assessed using a six-item tool. All estimates were in the context of a survey which also reported prevalence of any complementary and alternative medicine use.

**Results:** A total of 36 surveys were included. Of these, 67% met four of six quality criteria.

Twelve-month prevalence of treatment by a homeopath was reported in 24 surveys of adults (median 1.5%, range 0.2–8.2%). Estimates for children were similar to those for adults. Rates in the USA, UK, Australia and Canada all ranged from 0.2% to 2.9% and remained stable over the years surveyed (1986–2012).

Twelve-month prevalence of all use of homeopathy (purchase of over-the-counter homeopathic medicines and treatment by a homeopath) was reported in 10 surveys of adults (median 3.9%, range 0.7–9.8%) while a further 11 surveys which did not define the type of homeopathy use reported similar data. Rates in the USA and Australia ranged from 1.7% to 4.4% and remained stable over the years surveyed. The highest use was reported by a survey in Switzerland where homeopathy is covered by mandatory health insurance.

**Conclusions:** This review summarises 12-month prevalence of homeopathy use from surveys conducted in eleven countries (USA, UK, Australia, Israel, Canada, Switzerland, Norway, Germany, South Korea, Japan and Singapore). Each year a small but significant percentage of these general populations use homeopathy. This includes visits to homeopaths as well as purchase of over-the-counter homeopathic medicines. *Homeopathy* (2017) ■, 1–10.

**Keywords:** Systematic review; Prevalence; Homeopathy; Treatment by homeopaths; Homeopathic medicines; Over-the-counter medicines; Worldwide

## Introduction

The therapeutic system of homeopathy was formulated 200 years ago by the German pharmacist and Samuel Hahnemann.

<sup>1</sup> Hahnemann argued that medicine should follow the principle of similitude (like cures like). Hahnemann developed homeopathy by giving medicinal substances to healthy volunteers and studying the symptoms which they suffered (a process known as a ‘proving’ or a Homeopathic Pathogenetic Trial). Hahnemann then applied the medicinal substances in cases of illness which had similar symptoms. Homeopathic medicines are created from a wide variety of substances (e.g. plants, animals, minerals or chemicals). In order to diminish toxicity, the medicinal substances are diluted successively and shaken vigorously between each dilution step.

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There is controversy regarding the provision of homeopathy in state funded healthcare systems, as many claim that the principles on which homeopathy are based are 'scientifically implausible'.<sup>2</sup> Despite this, treatment by homeopaths and the provision of homeopathic medicines remain popular, and it is provided and/or subsidized and/or endorsed by a number of governments worldwide, including its provision in a number of publicly funded healthcare systems e.g. India which has an estimated 300,000 practitioners of homeopathy<sup>3</sup> with homeopathy part of the Indian Ministry of Health,<sup>4</sup> France where 43.5% of the overall population of healthcare providers prescribe homeopathic medicines (mostly co-prescribed with allopathic medicines) and the UK where homeopathy has been provided by the NHS since its inception in 1948.

This study systematically reviews the data on the prevalence of homeopathy use by the general public worldwide. Our review summarises prevalence data for both treatment by a homeopath and all homeopathy use including purchases of over-the-counter (OTC) homeopathic medicines.

## Methods

### Search strategy

The systematic review followed the recommendations in the PRISMA statement.<sup>5</sup> The following databases were searched in October 2015: MEDLINE via Ovid, Pubmed, Cochrane Database of Systematic Reviews, Allied and Complementary Medicine Database (AMED), Cumulative Index to Nursing and Allied Health Literature (CINAHL) and Health Management Information Consortium (HMIC). The search strategy combined terms for: i) complementary and alternative medicines, ii) prevalence, surveys or patterns of use, and iii) population-level or national-level data. The full search strategy is provided in our previous reviews on prevalence of use of any Complementary and Alternative Medicine (CAM).<sup>6,7</sup> The database search was restricted to studies published from 1998 onwards. Studies published prior to 1998 were identified from previous systematic reviews of CAM prevalence.<sup>8,9</sup> Bibliographies of included papers were checked for further relevant studies and experts in the field contacted.

### Inclusion and exclusion criteria

Studies were included if they reported 12-month prevalence of treatment by a homeopath and/or OTC use of homeopathy, in addition to the prevalence of overall CAM use and/or visits to CAM practitioners (the latter were inclusion criteria for the broader review<sup>6</sup>). Prevalence had to be reported over a 12-month retrospective period within a random or representative general population sample of a nation or a defined geographical area. Surveys of clearly-defined age groups (such as adults, children or older adults) were included. Studies were excluded if they were not based on representative samples of the general population; for example, surveys of sub-populations with specific clinical conditions or socio-demographic characteristics (other than age). Included studies used survey methods such as

structured interviews or self-complete questionnaires. Studies were excluded if they did not report 12-month prevalence or were not written in English. Studies were also excluded if the prevalence of CAM use was not expressed as a percentage of the target population (or with data making calculations of percentage possible).

### Study selection and data extraction

Studies identified by the searches were assessed for inclusion by two reviewers. Any ambiguity was discussed between the reviewers. Data were extracted by one reviewer and checked by another. Again, any ambiguity was discussed between reviewers (for example, to discern within each article whether the term 'homeopathy' referred to the homeopathic medicines or to visits/consultations with a homeopath).

### Definitions of homeopathy

One challenge in data extraction was understanding what was meant by the term 'homeopathy'<sup>10</sup> when surveys asked 'do you use homeopathy?'. The term 'homeopathy' has multiple possible meanings: the therapeutic system of homeopathy, the principles of the therapeutic system of homeopathy, homeopathic medicines (also known as homeopathic remedies), or treatment by a homeopath. We addressed this by reporting estimates of 'homeopathy use' in three ways:

- a) **Treatment by a homeopath:** includes survey estimates of one or more 'visits to' or 'consultations with' a homeopath.
- b) **All homeopathy use (OTC and treatment by homeopath):** includes survey estimates of use of homeopathic medicines purchased OTC and treatment by a homeopath.
- c) **Homeopathy use (not defined):** survey does not define whether estimate refers to treatment by a homeopath or OTC use or both.

### Quality assessment

There is no agreed set of criteria for assessing the quality of health-related surveys. As part of our wider systematic review on prevalence of overall CAM use, we devised a six-item, literature-based quality assessment tool comprising important and assessable criteria of methodological quality.<sup>6</sup> A revised version of this was applied to each of the included studies.

The criteria covered by the quality assessment tool include: 1) whether homeopathy use was clearly defined as referring to treatment by a homeopath or OTC use or both; 2) whether the survey was piloted (piloting was assumed for government sponsored health surveys); 3) whether the sample size was  $\geq 1000$  and/or a sample size calculation was reported; 4) whether the reported response rate was  $\geq 60\%$ ; 5) whether data were weighted to population characteristics to reduce non-response bias; and 6) whether a 95% confidence interval and/or standard error were reported for the main prevalence estimates.

## Results

### Number of surveys included

The search for surveys on CAM use identified 3147 unique citations. Of these, 3035 were excluded at the title and abstract stage, while the full texts of 112 references were examined. A total of 41 references were included in this review, reporting data from 36 independent surveys conducted in eleven countries (USA, UK, Australia, Israel, Canada, Switzerland, Norway, Germany, South Korea, Japan and Singapore). There were 33 surveys reporting data on adults, 4 reporting data for children and adolescents, and 5 reporting data for older adults. A PRISMA flow-chart for study selection is provided in Figure 1.

### Quality of included survey reports

Based on the information reported, we assessed all survey reports using six quality criteria (Table 1). The quality of survey reports is summarized in Table 2. Of the 39 survey reports listed in Table 1, 26 (67%) of all surveys met at least four of six quality criteria; this was 95% for government sponsored health surveys and 37% for non-government surveys. Around 75% of all surveys defined whether homeopathy use referred to treatment by a homeopath, OTC use or both. A sample size of  $\geq 1000$  was

achieved in around 90% of all surveys. Government sponsored surveys were more likely than non-government sponsored surveys to report piloting (100% vs. 42%); to achieve a response rate of at least 60% (75% vs. 32%), to weight the data to population characteristics (80% vs. 47%); and to report a confidence interval and/or standard error (65% vs. 42%).

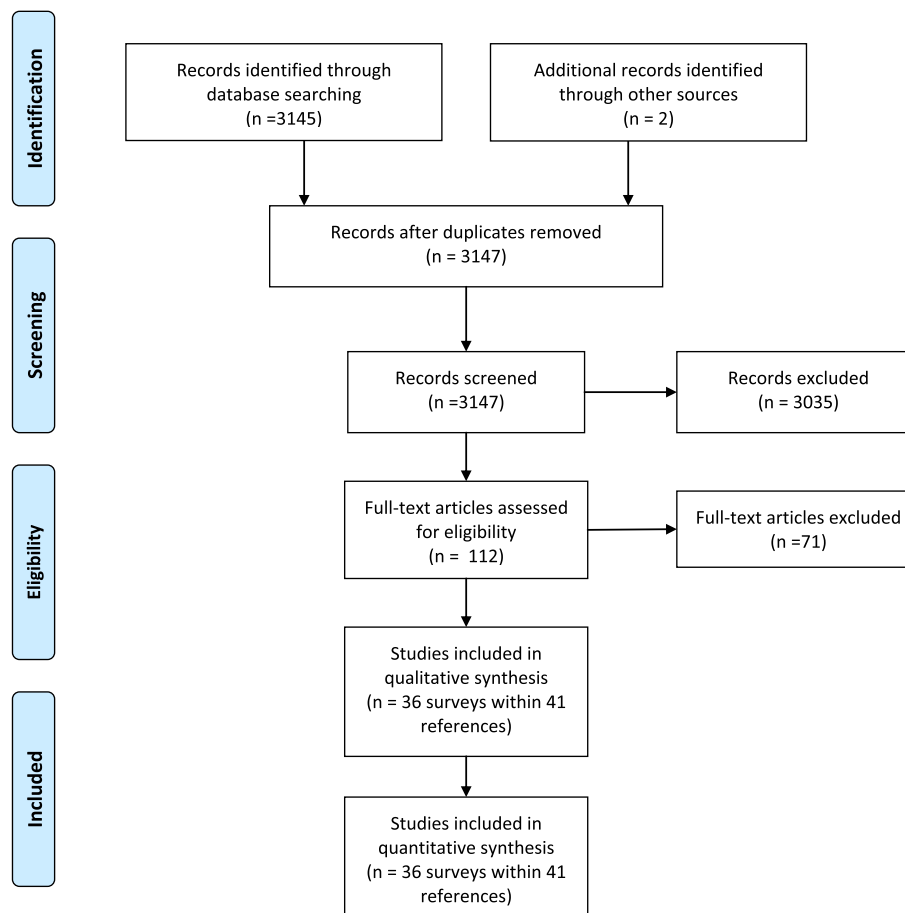
### Prevalence of use of homeopathy

Table 3 presents the 12-month prevalence of homeopathy use as reported in the included surveys. Survey data are ordered by country, then survey type (government sponsored national, other national, or sub-national), then year of survey. Data are grouped by age: adults; children and adolescents; and older adults. Table 4 provides a summary of the median and range for prevalence of treatment by homeopaths and all use of homeopathy for each age group.

### Treatment by homeopaths

#### Adults

Estimates for 12-month prevalence of treatment by a homeopath for adults (24 survey estimates) ranged from 0.2% to 8.2% and the median was 1.5% (Table 4).



**Figure 1 PRISMA 2009 Flow Diagram** – 3147 unique citations. Of these, 3035 were excluded at the title and abstract stage, while the full texts of 112 references were examined.

**Table 1** Characteristics and quality assessment of survey reports of homeopathy use

Survey characteristics					Quality criteria						Meets $\geq 4$ quality criteria
Country	Survey type	Year of survey	Name of survey	Reference(s)	1. Homeopathy use defined*	2. Piloting of survey reported <sup>†</sup>	3. Sample size $\geq 1000$ and/or calculation reported (SSC)	4. Reported response rate $\geq 60\%$ (adj/unadj/NR)	5. Data weighted to population	6.95% CI and/or SE reported	
<b>Adults</b>											
USA	Govt. national	2012	NHIS	Clarke (2015) <sup>11</sup>	Yes	Yes (govt. survey)	Yes (34,525)	Yes 61.2% (NR)	Yes	Yes (SE)	Yes
USA	Govt. national	2007	NHIS	Barnes (2008) <sup>12</sup>	No	Yes (govt. survey)	Yes 18+: 23,393 0–17: 9417	Yes 18+: 67.8% (NR) 0–17: 76.5% (NR)	Yes	Yes (SE)	Yes
USA	Govt. national	202	NHIS	Barnes (2004) <sup>13</sup>	No	Yes (govt. survey)	Yes (31,044)	Yes 74.3% (adj)	Yes	Yes (SE)	Yes
USA	Govt. national	1999	NHIS	Ni (2002) <sup>14</sup>	No	Yes (govt. survey)	Yes (30,801)	Yes 70% (NR)	Yes	Yes (CI)	Yes
USA	Govt. national	1996	MEPS	Druss (1999) <sup>15</sup>	Yes	Yes (govt. survey)	Yes (Age 18 + 16,068)	Yes 77.7% (NR)	Yes	No (NR)	Yes
USA	Govt. national	1995–6	MIDUS	Honda (2005) <sup>16</sup>	No	Yes (govt. survey)	Yes (4,242)	Yes 60.8% (NR)	Yes	No (NR)	Yes
USA	Other national	1997		Eisenburg (1998) <sup>17</sup>	Yes	Yes (piloted)	Yes (2055; SSC)	Yes 60% (adj); 49% (unadj)	Yes	Yes (SE)	Yes
USA	Other national	1997		Landmark Healthcare (1998) <sup>18</sup>	No	No (NR)	Yes (1500)	NR	NR	Yes (CI)	No
USA	Other national	1990		Eisenberg (1993) <sup>19</sup>	Yes	Yes (piloted)	Yes (1539; SSC)	Yes 67% (unadj)	Yes	Yes (CI)	Yes
USA	Other sub-nat.	1999		Arcury (2004) <sup>20</sup>	Yes	No (NR)	Yes (1059)	Yes 83.8% (NR)	Yes	Yes (SE)	Yes
UK	Govt. national	2005	HSE	Hunt (2010) <sup>21</sup>	Yes	Yes (govt. survey)	Yes (7630)	Yes 71% (unadj)	NR	No (NR)	Yes
UK	Govt. national	2001	NOS	Thomas (2004) <sup>22</sup>	Yes	Yes (govt. survey)	Yes (1794)	Yes 65% (unadj)	NR	Yes (CI)	Yes
UK	Other national	1999		Ernst (2000) <sup>23</sup>	No	No (NR)	Yes (1204)	NR	Yes	No (NR)	No
UK	Other national	1998		Thomas (2001) <sup>24</sup>	Yes	Yes (piloted)	Yes (2669; SSC)	No 59% (adj)	Yes	Yes (CI)	Yes
UK	Other national	1993		Thomas (1993) <sup>25</sup>	Yes	Yes (piloted)	No (676)	Yes 78% (adj)	Yes	Yes (CI)	Yes
UK	Govt. sub-nat.	1986	CHS	Yung (1988) <sup>26</sup>	Yes	Yes (govt. survey)	Yes (4268)	Yes 70% (adj)	NR	Yes (CI)	Yes
Australia	Other national	2005		Xue (2007) <sup>27</sup>	Yes	Yes (piloted)	Yes (1067; SSC)	NR	Yes	Yes (CI)	Yes
Australia	Govt. sub-nat.	2004	SAHOS	MacLennan (2006) <sup>28</sup>	Yes	Yes (govt. survey)	Yes (15+; 3015)	Yes 71.7% (unadj)	Yes	Yes (CI)	Yes
Australia	Govt. sub-nat.	2000	SAHOS	MacLennan (2002) <sup>29</sup>	Yes	Yes (govt. survey)	Yes (3027)	Yes 70.4% (NR)	Yes	Yes (CI)	Yes
Australia	Govt. sub-nat.	1993	SAHOS	MacLennan (1996) <sup>30</sup>	Yes	Yes (govt. survey)	Yes (3004)	Yes 73.6% (NR)	Yes	No (NR)	Yes
Australia	Other sub-nat.	2012		Thomson (2014) <sup>31</sup>	Yes	Yes (piloted)	Yes (1256)	No 40.3% (NR)	NR	No (NR)	No

Israel	Govt. national	2003–4	INHIS	Niskar (2007) <sup>32</sup>	Yes	Yes (govt. survey)	Yes (2365)	No 58.6% (unadj)	NR	No (NR)	No	
Israel	Other sub-nat.	2000		Schmueli (2004a) <sup>33</sup>	Yes	No (NR)	Yes (2505)	NR	NR	No (NR)	No	
Israel	Other sub-nat.	1993		Schmueli (2004b) <sup>33</sup>	Yes	No (NR)	Yes (2003)	NR	NR	No (NR)	No	
Canada	Govt. national	2001–5	CCHS	Metcalfe (2010) <sup>34</sup>	Yes	Yes (govt. survey)	Yes (400,055)	NR	Yes	Yes (CI)	Yes	
Canada	Govt. national	1994–5	NPHS	Millar (1997) <sup>35</sup>	Yes	Yes (govt. survey)	Yes (17,626)	NR	Yes	No (NR)	Yes	
Switzerland	Govt. national	2012	SHS	Klein (2015) <sup>36</sup>	Yes	Yes (govt. survey)	Yes (18,357)	No 45.0% (unadj)	Yes	Yes (CI)	Yes	
Switzerland	Govt. national	2007	SHS	Klein (2012) <sup>37</sup>	Yes	Yes (govt. survey)	Yes (14,432)	No 51.0% (unadj)	Yes	Yes (CI)	Yes	
Norway	Other sub-nat.	2008	HUNT 3	Lohre (2012) <sup>38</sup>	Yes	No (NR)	Yes (50,827)	No 54.0% (unadj)	NR	No (NR)	No	
Norway	Other sub-nat.	1995–7	HUNT 2	Steinsbekk (2008) <sup>39</sup>	Yes	No (NR)	Yes (40,027)	No 43.1% (unadj)	NR	No (NR)	No	
Germany	Other sub-nat.	1997–2001		Schwarz (2008) <sup>40</sup>	Yes	No (NR)	Yes (4291)	Yes 68.8% (unadj)	NR	No (NR)	No	
South Korea	Other national	2006		Ock (2009) <sup>41</sup>	No	No (NR)	Yes (3000)	No 49.8% (unadj)	Yes	No (NR)	No	
Japan	Other national	2001		Yamashita (2002) <sup>42</sup>	No	Yes (piloted)	Yes (1000)	NR	Yes	Yes (CI)	Yes	
<b>Children and adolescents</b>												
USA	Govt. national	2007	NHIS	Barnes (2008) <sup>12</sup>	See adults section above							
USA	Govt. national	1996	MEPS	Davis (2003), Yussman (2004) <sup>43,44</sup>	Yes	Yes (govt. survey)	Yes (age <18: 6262)	Yes 77.7% (NR)	Yes	Yes (CI)	Yes	
Norway	Other sub-nat.	1995–7	HUNT 2	Steinsbekk (2010) <sup>45</sup>	Yes	No (NR)	Yes (7888)	Yes 79.4% (unadj)	NR	No (NR)	No	
Australia	Govt. sub-nat.	2004	SAHOS	Smith (2006) <sup>46</sup>	No	Yes (govt. survey)	No (age <15: 911)	Yes 71.7% (unadj)	Yes	Yes (CI)	Yes	
<b>Older adults</b>												
USA	Govt. national	1995–6	MIDUS	Honda (2005), McMahan (2004) <sup>16,47</sup>	See adults section above							
USA	Other sub-nat.	1997–8		Astin (2000) <sup>48</sup>	No	No (NR)	No (728)	No 51% (unadj)	NR	No (NR)	No	
USA	Other sub-nat.	NR		Cheung (2007) <sup>49</sup>	Yes	Yes (piloted)	Yes (445; SSC)	No 37% (unadj)	NR	No (NR)	No	
Singapore	Govt. national	2003–4	NMHSE	Feng (2010) <sup>50</sup>	Yes	Yes (govt. survey)	Yes (1092)	Yes 72.4% (NR)	Yes	No (NR)	Yes	
Australia	Other national	2005		Xue (2007), Zhang (2007) <sup>27,51</sup>	See adults section above							

\* Homeopathy use was considered to be defined if the survey specified that data related to over-the-counter use, treatment by a homeopath, or both.

† Piloting was assumed for government surveys. Abbreviations: adj = adjusted; CCHS = Canadian Community Health Survey; CI = confidence interval; HSE = Health Survey for England; MEPS = Medical Expenditure Panel Survey; MIDUS = Midlife Development in the US; NHIS = National Health Interview Survey; NMHSE = National Mental Health Survey of the Elderly; NOS = National Omnibus Survey; NPHS = National Population Health Survey; NR = not reported; OTC = over-the-counter purchase; SAHOS = South Australian Health Omnibus Survey; SE = standard error; SHS = Swiss Health Survey; SSC = sample size calculation; unadj = unadjusted.

**Table 2** Summary of quality of survey reports

Quality criterion	All survey reports (n = 39) N (%)	Govt. sponsored survey reports (n = 20) N (%)	Other survey reports (n = 19) N (%)
1. Homeopathy use measurement clearly defined*	29 (74%)	15 (75%)	14 (74%)
2. Piloting of survey reported (assumed for govt. surveys)	28 (72%)	20 (100%)	8 (42%)
3. Sample size $\geq$ 1000 and/or sample size calculation used	36 (92%)	19 (95%)	17 (89%)
4. Reported survey response rate $\geq$ 60%	21 (54%)	15 (75%)	6 (32%)
5. Data weighted to population characteristics	25 (64%)	16 (80%)	9 (47%)
6. 95% confidence interval and/or standard error reported	21 (54%)	13 (65%)	8 (42%)
Meets $\geq$ 4 quality criteria	26 (67%)	19 (95%)	7 (37%)

\* Homeopathy use was considered to be defined if the survey specified that data related to over-the-counter use, treatment by a homeopath, or both.

The highest estimates (6.4% and 8.2%) were reported by surveys in Switzerland<sup>36,37</sup> where homeopathy is covered by mandatory health insurance. Estimates from the USA in 1990–1999 ranged from 0.2 to 0.7 (four surveys).<sup>15,17,19,20</sup> Rates for UK surveys were similar: 0.4–1.9% (five surveys in 1986–2005).<sup>21,22,24–26</sup> Rates for Australia were also similar (0.5–2.9%; five surveys in 1993–2012),<sup>27–31</sup> as were rates for Canada (2.02.3%, two surveys in 1994–2005).<sup>34,35</sup> In most countries, rates remained stable over the years surveyed.

### Children

Estimates of treatment by a homeopath for children and adolescents (2 surveys) were 0.03% in a USA 1996 survey of ages 0–17 years<sup>43,44</sup> and 2.6% in a Norway 1995–7 survey of ages 13–19 years.<sup>45</sup>

### Older adults

There were no estimates of treatment by a homeopath specifically relating to older adults.

## All homeopathy use (treatment by homeopaths and OTC use)

### Adults

Estimates for 12-month prevalence of all homeopathy use by adults (treatment by homeopaths and OTC use) was reported in 10 surveys and ranged from 0.7% to 9.8% with a median of 3.9%. A further 8 surveys did not specify type of homeopathy use; estimates ranged from 0.1% to 5.0% (median 2.1%) (Table 4).

The highest prevalence (9.8%) was reported by a 1998 survey in England, which was the only included survey to report separate estimates for treatment by a homeopath (1.2%) and OTC use (8.6%)<sup>24</sup> (Table 4). Two further UK surveys reported rates of 3.1% (all homeopathy use)<sup>21</sup> and 3.5% (use not defined)<sup>23</sup> (Table 3).

Five USA government sponsored health surveys estimated that between 1.7% and 3.1% of the adult population had used homeopathy in the last 12 months.<sup>11–14,16</sup> Rates were similar over the years surveyed (1995–2012). Although homeopathy use was not consistently defined in

these USA surveys, the most recent report<sup>11</sup> specified that estimates covered both treatment by a homeopath and OTC use, so this can probably be assumed for earlier surveys. Rates for Australian government sponsored surveys were similar: 4.4% (1993),<sup>30</sup> 4.3% (2000)<sup>29</sup> and 2.2% (2004).<sup>28</sup> Rates were lower in East Asian countries: Japan (0.3% in 2001)<sup>42</sup> and South Korea (0.1% in 2006).<sup>41</sup>

### Older adults

For older adults (3 surveys), estimates of the 12-month prevalence of all homeopathy use were 0.0% in Singapore,<sup>50</sup> 2.5% in the USA<sup>49</sup> and 4.6% in Australia<sup>27,51</sup> with a median of 2.5%.

### Children

Two surveys in children reported estimates of 1.3% (USA)<sup>12</sup> and 2.0% (Australia),<sup>46</sup> though type of homeopathy use was not defined.

## Discussion

This report provides a comprehensive and systematic review of surveys reporting 12-month prevalence of use of homeopathy. This complements our previous reports which systematically reviewed prevalence of any CAM use and visits to any CAM practitioners,<sup>6</sup> visits to five specific types of CAM practitioner (acupuncturists, homeopaths, chiropractors, osteopaths and medical herbalists),<sup>7</sup> and visits to massage therapists.<sup>52</sup> The data reported here includes estimates from 36 surveys across eleven countries.

Our analysis covers both the prevalence of treatment by a homeopath and also the prevalence of all use of homeopathy (over the counter use or treatment by a homeopath), and all estimates were in the context of a survey or survey subsection relating to health and healthcare which also reported prevalence of any complementary and alternative medicine use. The survey data indicated that the percentage of the adult general population using homeopathy over the previous 12 months was in the range of 0.7–9.8%, with a median estimate of 3.9%, and the percentage accessing treatment by a homeopath over the previous 12 months was in the range of 0.2–8.2%, with a median estimate of 1.5%.

**Table 3** Twelve-month prevalence of homeopathy use (treatment by homeopath and all use) by the general population across eleven countries

Survey characteristics						Quality summary		Estimates for prevalence of homeopathy use (%)			Reference(s)
Country	Survey type	Year of survey	Name of survey	Sample size	Sample ages (% males)	Meets $\geq 4$ quality criteria	Defines homeopathy use	Treatment by homeopath	All homeopathy use (treatment by homeopath + OTC)	Homeopathy use (not defined)	
<b>Adults*</b>											
USA	Government national	2012	NHIS	34,525	18+ (NR)	Yes	Yes	—	2.2	—	Clarke (2015) <sup>11</sup>
		2007	NHIS	23,393	18+ (NR)	Yes	No	—	—	1.8	Barnes (2008) <sup>12</sup>
		2002	NHIS	31,044	18+ (NR)	Yes	No	—	—	1.7	Barnes (2004) <sup>13</sup>
		1999	NHIS	30,801	18+ (NR)	Yes	No	—	—	3.1	Ni (2002) <sup>14</sup>
		1996	MEPS	16,068	18+ (47)	Yes	Yes	0.4	—	—	Druss (1999) <sup>15</sup>
		1995–6	MIDUS	4242	25–74 (43)	Yes	No	—	—	2.4	Honda (2005) <sup>16</sup>
USA	Other national	1997		2055	18+ (48)	Yes	Yes	0.6	3.4	—	Eisenburg (1998) <sup>17</sup>
		1997		1500	18+ (NR)	No	No	—	—	5.0	Landmark (1998) <sup>18</sup>
		1990		1539	18+ (52)	Yes	Yes	0.2	0.7	—	Eisenberg (1993, 1998) <sup>17,19</sup>
USA	Other sub-national	1999		1059	18+ (NR)	Yes	Yes	0.7	—	—	Arcury (2004) <sup>20</sup>
UK	Government national	2005	HSE	7630	16+ (45)	Yes	Yes	1.7	3.1	—	Hunt (2010) <sup>21</sup>
		2001	NOS	1794	16+ (47)	Yes	Yes	1.9	—	—	Thomas (2004) <sup>22</sup>
UK	Other national	1999		1204	18+ (45)	No	No	—	—	3.5	Ernst (2000) <sup>23</sup>
		1998		2669	18+ (43)	Yes	Yes	1.2	9.8	—	Thomas (2001) <sup>24</sup>
		1993		676	18+ (47)	Yes	Yes	1.7	—	—	Thomas (1993) <sup>25</sup>
UK	Government sub-national	1986	CHS	4268	18+ (NR)	Yes	Yes	0.4	—	—	Yung (1988) <sup>26</sup>
Australia	Other national	2005		1067	18+ (49)	Yes	Yes	2.9	6.0	—	Xue (2007) <sup>27</sup>
Australia	Government sub-national	2004	SAHOS	3015	15+ (49)	Yes	Yes	0.5	2.2	—	MacLennan (2006) <sup>28</sup>
		2000	SAHOS	3027	15+ (49)	Yes	Yes	1.2	4.3	—	MacLennan (2002) <sup>29</sup>
		1993	SAHOS	3004	15+ (49)	Yes	Yes	1.2	4.4	—	MacLennan (1996) <sup>30</sup>
Australia	Other sub-national	2012		1256	18+ (NR)	No	Yes	2.7	4.3	—	Thomson (2014) <sup>31</sup>
Israel	Government national	2003–4	INHIS	2365	21+ (44)	No	Yes	1.3	—	—	Niskar (2007) <sup>32</sup>
Israel	Other sub-national	2000		2505	45–75 (47)	No	Yes	2.8	—	—	Shmueli (2004a) <sup>33</sup>
		1993		2003	45–75 (48)	No	Yes	1.8	—	—	Shmueli (2004b) <sup>33</sup>
Canada	Government national	2001–5	CCHS	400,055	12+ (49)	Yes	Yes	2.3	—	—	Metcalfe (2010) <sup>34</sup>
		1994–5	NPHS	17,626	15+ (NR)	Yes	Yes	2.0	—	—	Millar (1997) <sup>35</sup>
Switzerland	Government national	2012	SHS	18,357	15+ (48)	Yes	Yes	8.2	—	—	Klein (2015) <sup>36</sup>
		2007	SHS	14,432	15+ (NR)	Yes	Yes	6.4	—	—	Klein (2012) <sup>37</sup>
Norway	Other sub-national	2008	HUNT 3	50,827	20+ (45)	No	Yes	1.3	—	—	Lohre (2012) <sup>38</sup>
		1995–7	HUNT 2	40,027	20+ (47)	No	Yes	4.3	—	—	Steinsbekk (2008) <sup>39</sup>
Germany	Other sub-national	1997–01		4291	20–79 (49)	No	Yes	1.0	—	—	Schwarz (2008) <sup>40</sup>
South Korea	Other national	2006		3000	30–69 (50)	No	No	—	—	—	Ock (2009) <sup>41</sup>
Japan	Other national	2001		1000	20–79 (49)	Yes	No	—	—	—	Yamashita (2002) <sup>42</sup>
<b>Children and adolescents</b>											
USA	Government national	2007	NHIS	9417	0–17 (NR)	Yes	No	—	—	1.3	Barnes (2008) <sup>12</sup>
		1996	MEPS	6262	0–17 (52)	Yes	Yes	0.03	—	—	Davis (2003), Yussman (2004) <sup>43,44</sup>
Norway	Other sub-national	1995–7	HUNT 2	7888	13–19 (NR)	No	Yes	2.6	—	—	Steinsbekk (2010) <sup>45</sup>
Australia	Government sub-national	2004	SAHOS	911	0–15 (46)	Yes	No	—	—	2.0	Smith (2006) <sup>46</sup>

(Continued on next page)

Table 3 (continued)

Survey characteristics			Quality summary		Estimates for prevalence of homeopathy use (%)			Reference(s)			
Country	Survey type	Name of survey	Year of survey	Sample size	Sample ages (% males)	Meets $\geq 4$ quality criteria	Defines homeopathy use	Treatment by homeopathy	All homeopathy use (treatment by homeopath + OTC)	Homeopathy use (not defined)	
<b>Older adults</b>											
USA	Government national	MIDUS	1995–6	335	65–74 (48)	Yes	No	–	–	1.5	Honda (2005), McMahan (2004) <sup>16,47</sup>
USA	Other sub-national		1997–8	728	65+ (45)	No	No	–	–	5.8	Astin (2000) <sup>48</sup>
Singapore	Government national	NMHSE	NR	445	65–94 (45)	No	Yes	2.5	–	–	Cheung (2007) <sup>49</sup>
Australia	Other national	NMHSE	2003–4	1092	60+ (44)	Yes	Yes	0.0	–	–	Feng (2010) <sup>50</sup>
			2005	178	65+ (43)	Yes	Yes	4.6	–	–	Xue (2007), Zhang (2007) <sup>27,51</sup>

Abbreviations: CCHS = Canadian Community Health Survey; HSE = Health Survey for England; MEPS = Medical Expenditure Panel Survey; MIDUS = Midlife Development in the US; NHIS = National Health Interview Survey; NMHSE = National Mental Health Survey of the Elderly; NOS = National Omnibus Survey; NPHS = National Population Health Survey; OTC = over-the-counter purchase; SAHOS = South Australian Health Omnibus Survey; SHS = Swiss Health Survey.  
\* One estimate includes ages 12 years and over.

Data from our previous systematic reviews and our more recent findings suggests that the general public (adult or all ages) of the countries surveyed were similarly likely to consult a homeopath (median 1.5%) as an acupuncturist (median 1.4%), medical herbalist (median 0.9%) or osteopath (median 1.9%), while massage therapists (median 5.5%) and chiropractors (median 7.5%) were visited slightly more often than homeopaths.<sup>7</sup>

There were various limitations in conducting this literature review. A limitation is that only studies reported in the English language were included, although we included English language reports of surveys from any country. In 10 of 39 reports it was unclear whether a definition of homeopathy was provided to the individuals before participation in the survey. This may have created discrepancies in the data collected. Data was only obtained from surveys which also reported overall 12-month prevalence of any CAM use and/or visits to any CAM practitioner. Therefore, surveys only reporting use of homeopathy but not reporting overall CAM use or visits were not included in this review. This is a potential strength of this review, as data from the types of survey included here (many of which were government sponsored health surveys or large population surveys) may be expected to be of higher quality, and potentially more representative of the general population, than data from surveys of a single therapy.

A number of countries include homeopathy in their publicly funded healthcare systems (UK, France, Italy, Germany, Switzerland, India, Pakistan, Brazil, and Mexico<sup>53</sup>), yet our review identified estimates from only two of these countries – Switzerland (which has the highest estimate of treatment by a homeopath) and the UK (which had the highest estimate of all homeopathy use). No published English language surveys were identified in India, where homeopathy is a popular treatment modality<sup>54</sup> and considered part of mainstream medicine. We recommend that a further review is conducted which includes all languages.

Our stringent review methods meant that rigorously conducted single studies which reported homeopathy prevalence data (without CAM prevalence data) were excluded even if they would have met our quality criteria. An example of this is a high quality study of data from the French national health insurance database (SNIIRAM).<sup>55</sup> This study reported that 10.2% of the overall French population and 18% of children aged 0–4 years in France received at least one prescription for a homeopathic medicine during a 12-month period. Both figures are significantly higher than those found in the studies included in our review.

This review summarises 12-month prevalence of homeopathy use from studies in eleven countries (USA, UK, Australia, Israel, Canada, Switzerland, Norway, Germany, South Korea, Japan and Singapore). Each year a small but significant percentage of these general populations use homeopathy. This includes visits to homeopaths as well as purchase of over-the-counter homeopathic medicines.



**Table 4** Summary of twelve-month prevalence of homeopathy use

Age group	Treatment by a homeopath		All homeopathy use (treatment by homeopath + OTC)		Homeopathy use (not defined)	
	N survey estimates	Median % (range)	N survey estimates	Median % (range)	N survey estimates	Median % (range)
Adults	24	1.5 (0.2–8.2)	10	3.9 (0.7–9.8)	8	2.1 (0.1–5.0)
Children + adolescents	2	1.3 (0.03–2.6)	0	–	2	1.7 (1.3–2.0)
Older adults	0	–	3	2.5 (0.0–4.6)	2	3.7 (1.5–5.8)
All age groups*	26	1.5 (0.03–8.2)	12	3.3 (0.0–9.8)	11	2.0 (0.1–5.8)

\* All age groups excludes “older adults” data for Honda 2005 and Xue 2007 to avoid double-counting as these participants are included within estimates for adults.

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## Author contributions

CR, KT and KC conceived the idea for the review and contributed to the design of the review. All authors contributed to data extraction and compiling of the data, and drafting and critical revision of the manuscript.

## Disclosures

We have no conflict of interests.

## Review criteria

Studies were identified via database searches to October 2015. All estimates were in the context of a survey which also reported prevalence of any complementary and alternative medicine use. Studies were excluded if they did not report 12-month prevalence or were not written in English.

## Message for the clinic

This study systematically reviews what is known about the prevalence of homeopathy use by the general public worldwide. This review highlights that globally there is significant and stable use of treatment by a homeopath and over-the-counter purchase of homeopathic medicines.

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