SUBMISSION FROM:

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ORGANISATION:
The Society of Homeopaths is the UK’s largest professional organisation registering homeopaths with 1300 members. Homeopaths registered with the Society have agreed to practise in accordance with a strict Code of Ethics and Practice, hold professional insurance and have passed stringent academic and clinical assessment before being admitted to the Register.

REASON FOR SUBMITTING:
This written submission by the joint research consultants of the Society of Homeopaths (referred to as ‘the Society’ from here on) aims to provide evidence-based suggestions for the role homeopathy might play in the effective treatment, management and control of infectious diseases in order to support the UK Government’s 5 year strategy for the stewarding and conservation of existing antimicrobial treatments.

BULLET POINT SUMMARY:
This submission argues that homeopathy, as a system of medicine, can support the UK Government’s 5 year strategy to conserve and steward the effectiveness of existing antimicrobial treatments and offer an avenue for the development of novel future therapies. We provide evidence to support our claims that:

- Homeopathy is a demonstrably effective treatment option for a range of human infectious diseases.
- Homeopathic treatment can be at least equivalent in effectiveness to antibiotics for certain human infectious diseases.
- Homeopathy can offer an effective alternative to non-essential antimicrobial usage in animal husbandry.
- Homeopathy has a robust track record of controlling, managing and preventing outbreaks of infectious diseases on a large scale.
- Homeopathy provides a rich potential for the development of novel antimicrobial therapies (that are not susceptible to the problems of developing microbial resistance) which deserves adequate research funding and support.

FACTUAL INFORMATION:
1. Introduction to Homeopathy

1.1 Whilst the Society is not directly concerned with antimicrobial resistance, homeopaths registered with the Society see patients with infectious diseases on a daily basis, supporting them with homeopathic treatment alongside conventional medical care.

1.2 Homeopathy is considered to be safe with minimal side effects (Bornhöft et al. 2006; Dantas and Rampes 2000; Grabia and Ernst 2003; Pilkington et al. 2005, 2006; Woodward 2005; ECCH 2009). Homeopathic philosophy holds that homeopathic treatments improve functionality of an individual’s immune system so that they can deal with infection efficiently, restoring wellness without lasting
damage or complications. However, the Society supports and encourages integrated and fully informed healthcare choices for patients and recognises that conventional antimicrobial treatment, when appropriately prescribed, plays a vital role in managing public health.

1.3 Homeopathic treatment, as practiced by professional homeopaths, is based upon the key principles of the *simillimum*, also referred to as ‘like cures like’. This principle suggests that a substance that causes symptoms at a large dose in a healthy person can be used at lower doses to treat the same symptoms in a person who is unwell. In practical, clinical terms, a homeopath aims to match an appropriate homeopathic remedy with the patient’s symptom picture as closely as possible. In this way, two individuals presenting with tonsillitis, for example, will get different homeopathic remedies according to their individualised symptoms rather than according to the infectious agent. However, in many published trials and tests of the efficacy of homeopathy the treatment under investigation rarely reflects this central homeopathic principle, greatly hampering our ability to demonstrate homeopathy’s effectiveness in a real-world context.

2. Homeopathy is a demonstrably effective treatment option for a range of human infectious diseases

2.1 Of 164 peer-reviewed and published randomised controlled trials (RCTs) of homeopathy, 33 trials assess the effectiveness of homeopathy in infections, particularly focusing on upper respiratory tract infections (URTIs; Mathie et al 2013). URTIs in children represent one of the most common reasons for antibiotic prescriptions in primary care, with these prescriptions often being unnecessary or inappropriate (Viksveen, 2003). Thus, any novel therapy that can be used instead of unnecessary antibiotic prescriptions in these acute, self-limiting conditions would help support the Government’s strategy to combat antimicrobial resistance.

2.2 The balance of evidence is considered positive for the effectiveness of homeopathy in URTIs, particularly for the following specific infectious conditions that are commonly treated with antimicrobials:

- Sinusitis – randomised studies include Friese and Zabalotnyi, 2007; Zabolotnyi et al., 2007; Weiser and Clasen 1994; Wiesenauer et al 1989; and a non-randomised study by Witt et al 2009.
- Bronchitis - singleton RCT by Diefenbach et al., 1997.

We therefore suggest that homeopathy offers a treatment option, particularly in URTIs, that can be effective in reducing excessive antibiotic prescriptions in primary care.

3. Homeopathic treatment can be at least equivalent in effectiveness to antibiotics for certain human infectious diseases

3.1 In addition to suggesting that homeopathy can offer an effective treatment option in URTIs where antibiotics are not always necessary, evidence supports the equivalence of homeopathy to antibiotics, or other conventional treatments, in a small number of specific infectious conditions.

3.2 Patients being treated homeopathically are sometimes able to reduce or stop their conventional medication (Sharples et al., 2003), again allowing homeopathy to support the Government in its
efforts to steward current antimicrobial treatments. More specifically, studies have demonstrated that homeopathic treatment can replace the need for antimicrobial agents in acute otitis media (Frei and Thurneysen, 2000), that homeopathy is not inferior to conventional treatment in ear and acute respiratory infections (Haidvogl et al 2007) and that homeopathic treatment was perceived by patients with mild viral infections to be more successful, with greater tolerability and compliance than conventional treatment (Rabe et al 2004).

3.3 Studies have also shown improved clinical outcomes when comparing homeopathy with antimicrobial medicine. For example, Trichard et al., (2005) compared homeopathic and antibiotic treatment strategies for rhinopharyngitis in children. The homeopathic strategy yielded significantly better results than the antibiotic strategy in terms of medical effectiveness (reduced number of episodes and number of complications), and quality of life, with significantly less sick-leave for parents.

3.4 Overall, the evidence described thus far strongly suggests that homeopathy can be offered to patients with acute respiratory infections when antibiotics are not indicated or essential.

4. Homeopathy can offer an effective alternative to non-essential antimicrobial usage in animal husbandry

4.1 To date, the evidence base for veterinary homeopathy is significantly smaller than that available for homeopathic treatment in humans. An up-to-date systematic review of the veterinary literature is underway (Clausen et al 2013); 38 veterinary RCTs have been located that satisfy the inclusion criteria for a formal systematic review, of which 18 (47%) look at infectious diseases (Mathie et al 2012). The infectious diseases studied include many for which antimicrobials are routinely used, either as treatments or prophylactics.

4.2 Homeopathy has been found to have positive effects in the following species and infections, which are commonly addressed with conventional antimicrobial treatments:

- Cattle – cattle tick (Silva 2008); mastitis (Searcy et al 1995; Varshney and Naresh 2004, 2005; Aubry et al 2013; Werner et al 2010; Klocke et al 2010); foot and mouth virus (Lotfollahzadeh et al 2012).
- Pigs – infectious disease incidence and weight gain (Albrecht and Schutte 1999); E.coli diarrhoea in neonatal piglets (Camerlink et al 2010); colibacillosis in swine (Coelho et al 2009).
- Chickens – salmonella (Sandoval et al 1998; Berchieri 2006); avian erythroblastosis virus (Baranger and Filer 1971)
- Sheep - helminths (Zacharias et al 2008).
- Dogs - kennel cough (Day 1987); babesiosis (Chaudhuri and Varshney 2007).

4.3 While antimicrobial use in animals contributes less to the rising problem of resistance than antimicrobial use in humans, both the Chief Medical and Chief Veterinary Officers agree that any non-essential usage of antimicrobials in animals should be curtailed: homeopathy may therefore offer an appropriate alternative. We believe that the evidence mentioned here indicates an area of novel antimicrobial treatment options in animal care that deserve further investment and investigation with adequately sized and appropriately designed trials.

5. Homeopathy has a robust track record of effectively controlling, managing and preventing outbreaks of infectious diseases on a large scale

5.1 In addition to potentially using homeopathy to treat common infectious diseases, homeopathy could also be used prophylactically, or to manage epidemics in the future. While homeopathic
prophylaxis remains a controversial area of the evidence base for homeopathy, there are credible historical accounts of the effectiveness of homeopathy in treating outbreaks of Typhus, Scarlet Fever and Cholera in the 19th Century (Jostin, 1885; Biegler, 1858; Jenkins 1989; Emmans-Dean 2006). Non-peer reviewed evidence for the successful usage of homeopathic prophylactic remedies is also available for meningococcal diseases in Brazil (Castro and Nogueira, 1975; Mroniński et al 2001) and routine childhood infections in Australia (Golden and Bracho, 2009; Golden 2012). However, more robust, peer-reviewed studies include large scale control of an outbreak of leptospirosis affecting the entire population of Cuba (Bracho et al 2010) and prevention of dengue fever in areas of Brazil (Marino 2008; Nunes 2008).

5.2 Homeoprophylaxis is being used in developing countries to manage epidemics and more reliable evidence of its effectiveness is steadily emerging: homeoprophylaxis is being used for the on-going management of leptospirosis in Cuba (Bracho et al 2010) and in India homeoprophylaxis is also being tested in the management of the Japanese encephalitis epidemic in Andhra Pradesh state, where unpublished reports suggest that mortality has dropped from 1511 children (1993-1999) to 391 children (2000-2004) after homeoprophylaxis was introduced in 1999 (Srinivasulu et al 2013).

5.3 It must be noted however that these population studies are not RCTs and generally arise from a government- and population-level need for a cheap, rapid and easily administered intervention in epidemic outbreaks. Much more research work is needed before an unequivocal position on homeopathic prophylaxis can be reached, although the consistency of the building evidence does draw attention to the possibility for new novel therapies that are tolerable to the public and easily administered across large populations.

6. Homeopathy provides a rich potential for the development of novel antimicrobial therapies

6.1 Homeopathy provides a rich potential for the development of novel antimicrobial therapies that are safe, effective and are at no risk of contributing to existing antimicrobial resistance as well as posing no risk of developing new microbial resistance.

6.2 Safety: There have been eight reviews of the safety of homeopathy to date (Bornhöft et al. 2006; Dantas and Rampes 2000; Grabia and Ernst 2003; Pilkington et al. 2005, 2006; Woodward 2005; ECCH 2009; Posadzki et al., 2012). These indicate that homeopathic medicinal products (HMPs) may cause mild to moderate transient side-effects, but not strong or persistent side-effects when properly administered. Adverse events have occurred when HMPs have been improperly self-administered in inappropriate amounts, or when patients taking HMPs have not been receiving concomitant conventional medical treatment.

6.3 No risk of resistance developing: According to homeopathic principles HMPs are aimed at stimulating a homeostatic response in an affected individual, supporting the efficient endogenous management of infections without the need for antimicrobial treatments. In this way, homeopathic treatment focuses on the individual patient and not on the infecting microbe, completely removing the risk of microbial resistance developing to HMPs and leaving current antimicrobial treatments to be safeguarded for essential usage in serious and life-threatening infections.

6.4 Basic research in homeopathy: Seventy five per cent of in vitro experiments have found bioactivity of substances as dilute as HMPs (Witt et al 2007). Also, in a review of infectious models in basic homeopathic research (including infections in animals or infected human and animal cell lines), 31 of 42 (74%) eligible publications showed homeopathy to be an effective treatment under stringent experimental conditions in infections with viruses, bacteria, fungi and parasites (Clausen et al 2010). Unfortunately, independent replication of these positive findings is currently lacking, but the evidence to-date does highlight a potential avenue for further research into novel antimicrobial
therapies and stimulates ideas for future clinical trials. Specifically, examples of tests where homeopathy has been found effective include, but are not limited to:

- Mouse models of infection with *Trypanosoma cruzi* (Turco Nasi et al 1982; de Almeida et al 2008; Ferraz et al 2011; Aleixo et al 2012); *Francisella tularensis* (Jonas 1999, Jonas and Dillner 2000); *Plasmodium berghei* (Lira-Salazar et al 2006; Bagai et al 2012 ;Rajan and Bagai 2013); *Trichinella spiralis* (Sukul et al 2005); *Leishmania* (Pereira et al 2005)
- Rat model of sepsis through cecal ligation and puncture (Oberbaum et al 2011)
- *In vitro* – homeopathic flu preparations on MDCK cells alters IFN responses (Siqueira et al 2013); antiviral activity of Gripp-Heel, Engystol and Euphorbium remedy combinations on common respiratory viruses acting via type I IFN (Glatthaar-Saalmuller and Fallier-Becker, 2001; Glatthaar-Saalmuller 2007; Oberbaum et al 2005); homeopathic remedies inhibit *Helicobactor pylori* stimulated gene expression in gastric epithelial cells (Hofbauer et al 2010).
- Plants - remedies increase plant resistance to tobacco mosaic virus (Betti et al 2003); 32/80 entries in the specialist HomBRex database test remedies in infected plants (Clausen et al 2010).

7. Recommendations

7.1 This paper argues that there is sufficient robust evidence to support the suggestion that homeopathy could provide an effective treatment option to support the Government’s 5 year strategy for combatting antimicrobial resistance, especially in URTIs and acute self-limiting infectious diseases where antibiotics are commonly used unnecessarily. However, the evidence for homeopathy is not yet definitive and needs replicating and increasing as a body of evidence. Further pragmatic trials need to be conducted in order to confirm the effectiveness of homeopathic treatment in general and specifically for infectious diseases or conditions complicated by infection. In addition, the experimental animal models of infectious diseases and *in vitro* studies of homeopathically prepared substances offers industry and academia a rich resource for future development of novel therapies and preventative measures, invigorating trials of homeopathy in infectious diseases, both human and animal (Clausen et al 2010).

7.2 There is the capacity to conduct trials of effectiveness for homeopathy relatively cheaply in the UK, but there is currently a significant problem funding homeopathic research: there is little funding available and that which is available is not being considered for homeopathy research. Capacity and intellectual knowledge exists concerning appropriate strategies for homeopathy research which could be well utilised to answer questions of interest to the government in their quest for alternative methods to manage antimicrobial resistance. For example, the Universities of Sheffield, Bristol, York, Westminster, Southampton, Central Lancashire amongst others all have active academic researchers specialised in homeopathy research.

7.3 In summary, it is our recommendation to the House of Commons Select Committee that the UK Government’s 5 year strategy for combatting antimicrobial resistance includes consideration for the provision of homeopathic treatment as an alternative to non-essential antibiotic usage as well as funding provision or support of opportunities into the research, development and testing of homeopathic medicinal products as novel therapies for combatting and preventing infectious diseases.

REFERENCES:


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