

A Global Collaborative Research Program Investigating the Role of Homeopathy in Antimicrobial Stewardship

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Background

Antimicrobial resistance (AMR)

- AMR is one of the most urgent global health threats - 80% of human antimicrobial use occurs in primary care
- Common primary care infections (respiratory, ear, urinary) account for a major share of antibiotic prescribing despite many cases resolving spontaneously;

Traditional and Complementary Integrative Medicine (TCIM)

- GP surgeries employing integrative medicine practitioners show 22.6% lower antibiotic prescribing rates for upper respiratory infections (URTI) compared to conventional medicine-only practices¹
- Based on ~600,000 patients treated for acute URTI, patients prescribed homeopathic medicines received significantly fewer antibiotic prescriptions, with longer intervals before first prescription²

1. van der Werf ET et al., *BMJ Open*. 2018 Mar 5;8(3); 2. Banik N et al., *Complement Med Res*. 2025;32(1):13-25.

Program Aims

1. **Synthesise existing evidence** on homeopathy and antibiotic reduction via condition-specific SRs and meta-analyses
2. **Research methodology** through internationally agreed Core Outcome Sets (COS)
3. **Characterise real-world TCIM use** and its relationship to antibiotic prescribing at population level via surveys
4. **Generate primary evidence** through adequately powered, pre-registered RCTs and RWE studies with antibiotic use as primary outcome
5. **Generate research impact:** translate findings into policy-relevant outputs for national and international One Health AMR stewardship

ENHANCE Program

Workstreams (WS) 1-5

1. **Population Studies:** national & international TCIM use surveys
2. **Scientific Watch:** quarterly systematic literature monitoring of new homeopathy/AMR publications
3. **Systematic Evidence Synthesis:** condition-specific systematic reviews and meta-analyses (AOM, tonsillitis, sinusitis)
4. **Research Methodology Development:** internationally agreed Core Outcome Sets enabling cross-study comparison
5. **Evidence Generation:** adequately powered, pre-registered RCTs and Real-World Evidence (RWE) studies with antibiotic use as primary outcome



UK Collaborative Program
2023 - current

PI: Dr Esther van der Werf



REsearch Program on Homeopathy and Antimicrobial Resistance ENHANCE



Systematic Review OM

Published (October 2024)



COS-AOM

Published (April 2025)



Systematic Reviews TONSillitis & SINusitis

In progress (started April 2025)



Future COS Studies

Starting September 2025



**RCT/RWE
Primary Care Infection Studies**

UK Survey TCIM use

Submitted for publication (April 2025)

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Results WS 1-4 (QR codes to Publications)

WS 1: National Survey of TCIM Use in the UK

- Nationally representative survey, n=1,559.
- **65.9%** of UK adults used TCIM over 12 months;
- Homeopathy ranked 4th among TCIM modalities (~5% product use, ~4% practitioner consultations).
- **57.2%** expressed interest in homeopathy as a non-antibiotic treatment for common infections



WS 2: Scientific Watch (Dec 2023–2026):

- Until May 2026: 6 RCTs, 5 Systematic Reviews, 8 Pre-clinical studies, 5 Observational studies, 1 qualitative study, 3 agro-homeopathy studies, 1 research agenda
- **Confirming sustained global research interest**



WS 3: Systematic Review: Homeopathy for Otitis Media:

- The review included 9 studies (7 RCTs, 2 non-RCTs) comparing homeopathy with placebo or standard care;
- Across the 7 RCTs, 4 reported statistically significant outcomes favouring homeopathy at specific time points, most commonly for symptom scores, middle ear effusion or antibiotic use.
- Meta-analysis: **add-on homeopathy reduced filled antibiotic prescriptions by 46% (RR=0.54, P=0.07)**;
- Outcome heterogeneity identified as the critical barrier to evidence synthesis



WS 4: Core Outcome Set for Acute Otitis Media (COS-AOM):

- First internationally agreed COS for AOM in primary and community care.
- Four-phase consensus: Phase 1 - determination of 20 outcomes, Phase 2 - Patient and Public Involvement (8 patients/parents), Phase 3 - outcome-ranking (28 Health Care Professionals (including GPs and pharmacists), Phase 4 - International Steering Committee.
- **COS-AOM for future primary/community care studies:** 10 outcomes, 100% agreement (**COS-AOM: 8 acute; 2 mid-long-term**).

Integration with One Health and AMR strategies

- ENHANCE explicitly situates its work within **One Health frameworks**, recognising that AMR is not a human health problem alone.
- Approximately 73% of global antimicrobial consumption occurs in food-producing animals, and **the interdependence of human, animal, and environmental health** means that stewardship strategies must operate across all three domains to be effective.
- The program's work aligns with WHO's **WHO Global Traditional Medicine Strategy 2025–2034** and the **Quadripartite One Health Joint Plan of Action 2022–2026** which emphasise evidence generation, regulatory strengthening, and people-centred integration of safe and effective TCIM practices

Ongoing Projects & Future Directions

Ongoing (WS 3 - 4)

- **Systematic Reviews for Tonsillitis & Sinusitis:**
- PROSPERO CRD42025649244; PROSPERO CRD42025649258
- **Core Outcome Sets for Tonsillitis & Sinusitis:**
- Similar 4-phase stakeholder-inclusive methodology as COS-AOM

Future (WS 5)

- **Randomised Controlled Trials / Real World Evidence (RWE) Studies:**
- Adequately powered primary care trials for AOM, tonsillitis, sinusitis;
- Including rigorous blinding, ITT analysis, health economic evaluation, nested qualitative studies.