

Mapping the Theories and Models on the Mode of Action of Homeopathy: A Scoping Review

Dombrowsky C, Klein SD, Würtenberger S, Baumgartner S, Tournier AL. Mapping the theories and models on the mode of action of homeopathy: a scoping review. *Journal of Integrative and Complementary Medicine*, 2025; **31**: 937–945.

Synopsis

Despite a growing body of clinical and basic research evidence supporting the efficacy of homeopathy, no generally accepted theoretical framework has emerged to explain the observed clinical effects of homeopathy. Dombrowsky et al. (2025) address this gap with a comprehensive scoping review mapping all theoretical approaches proposed to explain how two central principles of homeopathy may contribute to the mechanisms by which homeopathy can have biological effects, i.e. Potentisation – the manufacturing process used to produce homeopathic medicines, involving serial dilution and succussion (vigorous shaking); and the Principle of Similars ('like treats like') – whereby a substance which causes symptoms when given to healthy individuals can be used in small doses to treat patients with those same, or similar, symptoms.

Databases and catalogues were searched for original studies up to July 12, 2024, including specialist homeopathic library catalogues. Publications (in any language) were eligible if they directly developed or advanced a theory or explanatory model related to homeopathy. Articles primarily focused on experimental aspects, predominantly phenomenological or descriptive in nature, as well as editorials, comments, letters to editors, conference abstracts, and reviews were excluded.

From 9,539 identified records, 216 publications were included in the review, spanning from the year 1832 to 2024. Multiple screening steps and predefined, systematic data extraction were performed independently by two reviewers. An iterative qualitative process was used to group the 72 specific theoretical approaches identified across the literature into broader overarching frameworks.

The 216 publications were classified into **14 major theoretical frameworks (see box)**, ranging from frameworks based on physical substances to those based on more abstract ideas: water structures (n = 31), nanostructures (n = 21), chemistry (n = 8), biochemistry (n = 21), hormesis (n = 10), biophotons (n = 4), electrodynamics (n = 16), general physics (n = 15), mathematical models (n = 17), quantum physics (n = 11), weak quantum theory (n = 22), quantum analogies (n = 8), complex systems (n = 32), and humanities (n = 34).

THE 14 THEORETICAL FRAMEWORKS TO EXPLAIN HOMEOPATHY

- **Water structures** – specific spatial configurations of water molecules proposed to act as information carriers.
- **Nanostructures** – nanoscale properties of materials, including nanoparticles, nanobubbles, and silica, invoked to explain homeopathic preparation effects.
- **Chemistry** – chemical reactions (involving molecules), impurities, or chemical laws to explain aspects of homeopathy.
- **Biochemistry** – cellular and molecular processes including stress response pathways, gene expression, and olfactory receptors.
- **Hormesis** – low-dose stimulation and high-dose inhibition applied to account for beneficial effects at low concentrations.
- **Biophotons** – coherent light emissions from living organisms proposed to mediate homeopathic preparation effects.
- **Electrodynamics** – specific electromagnetic field configurations hypothesised as explanatory for the effects of homeopathic preparations.
- **General physics** – broader physical principles including syntropy and retro-causality.
- **Mathematical models** – differential equations, information theory, and entropy-based approaches.
- **Quantum physics** – standard quantum mechanical concepts applied directly to homeopathic effects.
- **Weak quantum theory** – quantum formalism extended to macroscopic systems, proposing entanglement between patient, preparation, and practitioner.
- **Quantum analogies** – quantum concepts used descriptively, without formal mathematical structure.
- **Complex systems** – nonlinear dynamics, self-organisation, and cybernetics applied to patient and/or preparation.
- **Humanities** – philosophical, semiotic, and historical perspectives including vitalism and synchronicity.

Regarding coverage of the two core principles, 46% of publications addressed Potentisation only, 20% the Principle of Similars only, 22% both aspects, and 11% were unable to be categorised. Frameworks addressing both principles encompassed humanities, complex systems, biochemistry, weak quantum theory, and hormesis; water structures, nanostructures, and mathematical models focused predominantly on Potentisation. The highest average citation scores were recorded for nanostructures (34 citations per publication), biochemistry (30), hormesis (30), weak quantum theory (27), and complex systems (26).

Several limitations warrant consideration. Approximately 3.7% of full texts could not be retrieved, though the authors consider it unlikely that any major theoretical framework was thereby missed. The grouping of theories into 14 frameworks involved iterative judgement and retains some subjective elements; some frameworks also overlap (for example, quantum physics within general physics, and biochemistry within chemistry). Citation data were available for approximately half of all included studies.

This scoping review offers the first systematic map of the theoretical landscape of homeopathy, demonstrating high methodological rigour in accordance with the PRISMA extension for Scoping Reviews. Given that no generally accepted theory currently exists to explain the observed clinical effects of homeopathy, this consolidated overview is of considerable significance to the sector. A follow-up publication is planned to assess the identified frameworks for quality, plausibility, compatibility with modern science, and experimental falsifiability.