

## How Do Homeopaths Reason and Make Decisions? Integrating Theory, Practice, and Education

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### Abstract

**Background:** Homeopathy is a major modality in complementary and alternative medicine. Significant tensions exist between homeopathic practice and education, evident in the diversity of practice styles and pedagogic models. Utilizing clinical reasoning knowledge in conventional medicine and allied health sciences, this article seeks to identify and critique existing research in this important area.

**Materials and methods:** A literature search utilizing MEDLINE,<sup>®</sup> Allied and Complementary Medicine (AMED), and CINAHL<sup>®</sup> (Cumulative Index to Nursing and Allied Health Literature) was conducted. Key terms including clinical thinking, clinical reasoning, decision-making, homeopathy, and complementary medicine were utilized. A critical appraisal of the evidence was undertaken.

**Results:** Four (4) studies have examined homeopathic clinical reasoning. Two (2) studies sought to measure and quantify homeopathic reasoning. One (1) study proposed a reasoning model, based on pattern recognition, hypothetico-deductive reasoning, intuition, and remedy-matching (PHIR-M), resembling much that has been previously mapped in conventional medical reasoning research. The fourth closely investigated the meaning and use of intuition in homeopathic decision-making.

**Conclusions:** Taken together, these four studies provide valuable insight into what is currently known about homeopathic clinical reasoning. However, despite the history and breadth of practice, little is known about homeopathic clinical reasoning and decision-making. Building on the research would require viewing clinical reasoning not only as a cognitive phenomenon but also as a situated and interactive one. Further research into homeopathic clinical reasoning is indicated.

### Introduction

HOMEOPATHY IS AT A CRITICAL JUNCTURE. It is polarized between the positivistic domain of randomized controlled trials and traditional clinical methods, and the idealism and artistry of 21st-century practices, largely influenced by developments in psychology,<sup>1</sup> psychotherapy,<sup>2</sup> and related humanistic sciences. Underpinning this polarization exists a dialogue<sup>3,4</sup> that concerns the theoretical foundations of traditional Hahnemannian homeopathy, and the contemporary practices of homeopaths in the real world. The once exclusive technical-rationalist approach developed by the founder Hahnemann and enhanced by Bönninghausen has been radically challenged by the artistic-therapeutic approach that emerged with George Vithoulkas in the late 1970s<sup>5,6</sup> and has been strengthened by Jan Scholten,<sup>7,8</sup> Rajan Sankaran,<sup>9-11</sup> and other contemporary homeopathic theorists. In this context, the question arises as to what theoretical foundations indi-

vidual practitioners base their homeopathic decision-making on. The focus of this article is to critically appraise the research evidence that informs understanding of homeopathic clinical reasoning, and how it should be taught and learned.

### Clinical Reasoning

Clinical reasoning has been defined as the thinking and decision-making processes associated with clinical practice.<sup>12</sup> Our findings in the homeopathic literature will be viewed against this definition. Key elements of clinical reasoning include knowledge, cognition, and metacognition and are context-, practitioner-, and patient-dependent. During the past 30 years, the medical and allied health professions have explored and developed diverse clinical reasoning theories and models of practice. Research into clinical reasoning that draws from cognitive psychology, in medicine in particular, views clinical reasoning as a two-system model of analytical

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and nonanalytical thinking used interchangeably based on situational demands.<sup>13,14</sup> Common models of analytical reasoning include hypothetico-deductive reasoning, while pattern recognition and the use of heuristics are models of nonanalytical reasoning. More recent research using an interpretive approach suggests that culture, language, and communication are significant elements of clinical reasoning.<sup>15–17</sup> This article seeks to review homeopathic clinical reasoning research against existing clinical reasoning literature in health care.

### Critical Discourse: The Imperative

Despite more than 200 years of continuous practice and close to 300 randomized controlled trials of varying quality,<sup>18</sup> little is known about the decision-making experiences of homeopaths in clinical practice. Research effort has focused on proving the validity of the homeopathic method itself. Although this is important, randomized trials of specific treatments and medicines have tended to dilute available resources, time, and energy for other forms of legitimate research questions. Assumptions that homeopathy is unscientific and unproven underpin continued research efforts to validate homeopathic practice.<sup>19,20</sup> Homeopathy continues to grow in popularity among physicians<sup>21,22</sup> and patients,<sup>23</sup> despite vociferous conventional opposition.<sup>24–26</sup> This populist growth is not surprising given the breadth of clinical styles and methods in vogue in homeopathy<sup>27</sup> coupled with recent theoretical and clinical developments. These include interesting developments in the reconstruction and reorganization of homeopathic repertory,<sup>28</sup> the potential clinical application of many unproven medicinal plants<sup>11</sup> and mineral medicines<sup>7,8</sup> along with portraits of many lesser-known yet positively influential homeopathic figures themselves.<sup>29</sup>

These developments have fostered the seeds of critical discourse between diverse schools of homeopathic thought, yet to a great extent the debate lacks transparency, when looking at the scope of practice and experiences of individual homeopaths. Although some profess adherence to orthodox, Hahnemannian protocols,<sup>30</sup> others are eager to extend the boundaries beyond orthodox provings and prescribing techniques.<sup>9–11, 31–33</sup> Although debate has occasionally been public,<sup>3,4</sup> this has been of no significant benefit for homeopaths or homeopathy. In Australia, intraprofessional debate has been relatively absent in homeopathic discourse, confined to college corridors and staffrooms—a silence that underestimates the differences between critical and practical standpoints, particularly in homeopathic education. We looked to the homeopathic literature on decision-making and clinical reasoning in order to shed light on this discourse.

### Existing Research

A literature review was conducted using MEDLINE,<sup>®</sup> Allied and Complementary Medicine (AMED), Complementary and Alternative Medicine (CAM via PubMed) and Cumulative Index to Nursing and Allied Health Literature (CINAHL<sup>®</sup>) databases. Keywords including homeopathy, clinical reasoning, decision-making, clinical thinking, professional practice, and education were utilized. After combining the keywords “decision-making,” “clinical reasoning,” and “homeopathy,” 10 results emerged, of which 6 were relevant to the real subject of interest. After

reviewing the abstracts, four articles were found to be specifically relevant.

To date, only these four studies<sup>34–37</sup> have considered how homeopaths reason and make decisions. Of these studies, two—Van Haselen and Liagre (1992)<sup>34</sup> and Brien et al. (2004)<sup>35</sup>—were quantitative, specifically focused on developing the means to measure how homeopaths make clinical decisions. In contrast, Burch et al. (2008)<sup>36</sup> and Brien et al. (2009)<sup>37</sup> have sought to understand how homeopaths make decisions, utilizing a qualitative phenomenological approach. We provide a brief description and critique of each of these key studies, and discuss the implications for homeopathic education.

### Decision-tree reasoning

Van Haselen and Liagre’s pilot study examined the efficacy of homeopathic treatment as a whole in addition to the efficacy of individualized *decision strategies* in the diagnosis of acute and chronic otitis media.<sup>34</sup> The authors acknowledge (p. 13) that their study is based on decision strategies within a restricted clinical domain and that a trade-off exists between scientific rigor and the reality of practice. This trade-off represents a simplification of real practice and although acknowledged, remains problematic.

The homeopaths were provided with a questionnaire leading to “predefined” homeopathic symptom profiles. This was essentially an algorithmic exercise based on multivariate statistical analysis techniques. The research approach, dependent on cognitive reasoning theory<sup>38,39</sup> and cognitive ability, assumed that clinicians behave according to fixed, clearly identifiable, specific reasoning pathways. This linear, mechanistic model reflected much of the work that has been discussed in procedural reasoning studies in fields including medicine<sup>14</sup> and occupational therapy.<sup>40</sup> If the patient did not “fit” one of the predefined homeopathic profiles, the homeopath was permitted to prescribe another medicine. The methods and reasoning strategies for these other, undefined profiles were not stated or discussed, which leads us to question the methodological rigor and validity of the study. Moreover, the authors had hoped their findings would represent the “realism” of practice but acknowledged they were no closer to achieving this goal. They had not elucidated whether “reality” in their worldview concerned the homeopath, the patient or some other reality within the health services domain.

The clinical data presented in the given case were narrow. Limited questions were asked by the researchers, reducing the decision pathways available and thus minimizing the range of possible homeopathic diagnoses. As a result, their study did not take into account the complexity and diversity of homeopaths’ reasoning processes. Van Haselen and Liagre<sup>34</sup> do, however, suggest that “symptoms” need to be more closely defined before being investigated. For example, if a child is described as “irritable when sick,” they ask “what features and expressions can be taken as indicators of the depth or extent of the child’s irritability?” The issue of rubric (symptom) interpretation is one that is commonly encountered in practice and education and warrants closer investigation from the clinicians’ and students’ perspectives. Questions of this kind need to be investigated with practicing homeopaths. They are most likely contextual issues but are seldom well-qualified.

In Van Haselen and Liagre's study, practitioners were constrained from being open to interpretive chance, intuition, expertise, or other diverse reasoning skills or experiences. In a sense, this ignores and denies the possibility of noninductive reasoning abilities, of tacit knowledge, personal experience, and insight born of professional experience and expertise. Clinical reasoning *links* and *integrates* all elements of practice, demands diverse capabilities,<sup>41</sup> and is generally a nonlinear practice. It is not merely a process of fixed, predefined pathways leading to an outcome. An algorithmic practice model that is linear, mechanistic, and lacks realism will have limited scope in the education of homeopaths who are required to deal with the complex reality of homeopathic practice.

#### *Cognitive and intuitive decision-making*

Brien et al. (2004)<sup>35</sup> examined the validity and consistency of decision-making processes of homeopaths. The participants, 3 homeopaths, were required to analyze a re-proving of Belladonna 30c versus placebo using a questionnaire in order to determine whether the provers exhibited a genuine proving response. Analyzing the proving diaries of 206 provers, the participants reported whether they thought the proving subjects exhibited a proving response, no proving response, or whether they were undecided. Supplied with the provers' diaries, participants were required to rate their use of clinical facts and intuition as decision determinants.

The findings demonstrated inconsistency and variability among homeopaths' reasoning. The level of agreement between the raters was only moderate, even against limited data. The authors found that participants used significantly higher intuition scores when classifying a proving response than when classifying those who had no proving response, in which there was greater reliance on clinical "facts." This may be explained by findings from medicine where experienced doctors were found to revert to deductive models of reasoning when faced with complex and uncertain cases.<sup>14</sup> While it is recognized<sup>42-44</sup> to be an integral component of health professional decision-making, a coherent explanation and definition of intuition is missing from this study. Brien et al. acknowledged that their method was unable to accurately measure homeopaths' decision-making.

The participants in this study were experienced, resourceful homeopaths, yet faced with the same data there was a statistically low correlation as to whether or not the trial subjects had proved Belladonna 30c or whether they had taken placebo. Authors, including some in the homeopathic field,<sup>45</sup> recognize that clinical reasoning processes are highly individualized and based on idiosyncratic knowledge as well as an empathic and therapeutic context between patient and clinician. These aspects of the therapeutic relationship, including patient enablement and relational empathy, have had some investigation<sup>46-49</sup> but not from the perspective of their impact on clinical reasoning processes. Homeopaths utilize a multitude of data through observation, physical examination, and complex practitioner-patient interaction, much of which could not possibly be conveyed in these cases. This brings into question the validity of the study.

Brien et al.<sup>35</sup> found that based on the limited data they were presented with, their participants exhibited only a moderate level of agreement when defining proving symp-

toms and even less agreement when clinically prescribing for a given case. Their discussion reflects similar findings in the literature that it was difficult to validate inter-rater decision reliability.<sup>50-52</sup> Whether the researchers employed article cases, questionnaires, or proving diaries, there was generally a low level of consensus among the participating homeopaths. These studies<sup>35,50-52</sup> uniformly concluded that further quantitative and qualitative research to illuminate how homeopaths reason and make decisions was required.

#### *Pattern recognition, hypothetico-deductive reasoning, intuition, and remedy-matching (the PHIR-M model)*

The later study by Burch et al.<sup>36</sup> used a qualitative approach in the form of interpretive phenomenological analysis, designed to understand *how* homeopaths actually make decisions rather than focusing on measurable, generalizable outcomes that had proved to be difficult. This methodological transition represents a considerable shift in focus from Brien et al. (2004).<sup>35</sup>

The study by Burch et al.<sup>36</sup> is the first detailed and rigorous qualitative study of homeopathic reasoning. The aim of their study was to explore how homeopaths made prescribing decisions during their first consultation with new patients. Their method comprised in-depth, semistructured, face-to-face interviews with 14 homeopaths in private practice. After these were conducted, interpretive phenomenological analysis was carried out on the data by 3 independent researchers.

The authors found that homeopaths in their study used predominantly cognitive processes in achieving prescribing decisions, including pattern recognition and hypothetico-deductive reasoning, leading to a precise remedy match. Four (4) themes emerged from the data: three related to the *process* of identifying a remedy and one to the factors that might *influence* this process. Two (2) further themes emerged: the awareness of practitioner bias in decision-making and the role of the patient-practitioner relationship as it influences decision-making. These themes have not been further explored, but the authors conclude that they fitted into the PHIR-M decision-making model. They contend that their model adds weight to the growing argument that intuition is a valuable component of professional decision-making.

The PHIR-M model includes existing, well-mapped clinical reasoning characteristics including pattern recognition, hypothetico-deductive reasoning, and intuition. These reasoning characteristics are already well developed and recognized in other health professional disciplines such as general medicine,<sup>14</sup> nursing,<sup>53-55</sup> physiotherapy<sup>56,57</sup> and occupational therapy.<sup>58-59</sup> The authors suggest that remedy matching is *an outcome* of the clinical reasoning process, predominantly employed by more experienced homeopaths, a type of top-down process (understanding of the whole situation at once) that blends both cognitive reasoning and intuitive qualities. This contrasts with the bottom-up approach (process of working from the data), which is more characteristic of hypothetico-deductive reasoning employed typically by less experienced homeopaths. The PHIR-M model is probably well suited to experienced homeopaths, but may be less appropriate for students and novices. Students and novices tend to store knowledge in a more disorganized and disjointed pattern and to retrieve it in a

trial-and-error fashion.<sup>60</sup> They lack sufficient knowledge of homeopathic *materia medica* (comprising over 3000 medicines) to make accurate pattern recognition decisions, and are heavily reliant on deductive reasoning, maximizing the resources required of both the patient and the homeopath.

The authors conclude that intuition is a valuable component of decision-making for homeopaths. They suggest two types of intuition: a cognitive type based on beliefs, experience, and clinical knowledge, and a precognitive type, which refers to gaining information about the future without inference to the past or present. They further propose that their research participants used the former (cognitive) characteristics of intuition, without asking the participants *what they understood* by the term itself. Some of the participants admitted to utilizing intuition more or less as a form of artistic, individual interpretation. Whether intuition can be distinguished from conventional clinical or professional judgment requires further exploration.

The model is complex, dynamic, and integrative in nature and demonstrates that homeopathic clinical reasoning encompasses elements of traditional clinical reasoning identified in medicine, nursing, and the allied health professions. A limitation of this research is the narrow focus on remedy matching in the first visit, when homeopaths clearly make decisions about patient care beyond remedy matching and based often on a longitudinal and holistic understanding of the patient. The focus on the cognitive aspects of reasoning is also a limitation because it ignores the situated and interactive nature of reasoning<sup>61</sup> along with the importance of language.<sup>15</sup> Being a predominantly narrative method of practice, substantial meaning is contained in practitioner-patient dialogue. The focus simply on cognition ignores the practitioner-patient interaction during clinical practice, and its essential influence on decision-making practices.

#### *The use and meaning of intuition*

Brien et al. (2009)<sup>37</sup> investigated intuition in homeopathic clinical decision-making and recognized that the Brien et al. (2004)<sup>35</sup> study had not explored what homeopaths *themselves* understood by intuition in practice. They interviewed 14 non-NHS homeopaths in southern England in 2006. The participants were asked to explore the role and meaning of intuition through open-ended reflective questioning on their

practices. The homeopaths found it difficult to articulate and explicitly define their conceptions of intuition. Nevertheless, four themes emerged inductively from the data ranging from the recognition and description of intuition, beliefs about the origins of intuition, types of intuition, and the selective use of intuition.

The authors argued that, as with conventional medicine and allied health professions, homeopaths utilize intuition and are selective as to whether their intuition should be trusted, in particular concerning homeopathic remedy selection and treatment. They were more inclined to trust their intuition within the therapeutic relationship with patients, than when making treatment decisions where a formal analytical process was used to “check” their intuition. The issue of impression management by the participants in answering questions about the use of intuition in treatment decisions in this research is acknowledged as a limitation by the authors.

#### **Discussion**

Taken together, these four articles provide valuable insight into what is currently known about homeopathic clinical reasoning. The focus on measuring homeopathic clinical reasoning has been problematic and has resulted in some researchers shifting focus toward qualitative research methods in order to understand how homeopaths make decisions. The PHIR-M model<sup>36</sup> and the additional insights into intuition<sup>37</sup> are significant in mapping the characteristics of homeopathic reasoning against the existing clinical reasoning literature from other health professional fields. Homeopathic clinical reasoning processes may to some extent reflect the practices of other health professionals. In our view, homeopathic clinical reasoning embodies certain key models of existing clinical reasoning theory, namely, pattern recognition, hypothetico-deductive reasoning, and some metacognitive elements such as reflection and intuition. Over and above these, it is possible that the “whole person” or “holistic” approach that drives homeopathic practice is a central and distinguishing clinical reasoning feature, yet the gaps in research as well as the particularities of homeopathy suggest that much more research needs to be undertaken as a means of building our understanding of professional practice. Clearly, there is much further work to be done in confirming,

TABLE 1. QUESTIONS ON CLINICAL REASONING FOR HOMEOPATHS, EDUCATORS, AND RESEARCHERS

<i>Clinical reasoning questions for:</i>	
<i>Professional homeopaths</i>	<i>Homeopathic educators/researchers</i>
What theories or models inform my clinical reasoning?	What key clinical reasoning and decision-making factors inform how I teach homeopathic history taking and case analysis?
Am I (critically) reflective about my reasoning practices? <sup>61</sup>	Can I adapt clinical reasoning theory to reflect practice in the real world? <sup>64</sup>
Does my reasoning approach suit my practice and my practice philosophy?	How can existing clinical reasoning research inform homeopathic education?
Do I reason cognitively, intuitively, and interactively?	What is the relationship between knowledge and action in homeopathic teaching and have I reflected on it? <sup>65</sup>
Do I use other skills and processes?	
Does my reasoning (capacity) represent what is already known in the clinical reasoning literature? <sup>14</sup>	
How can I develop a therapeutic relationship that supports shared decision-making?	

modifying, or refuting these models or in developing more explanatory models of real practice.

Further investigation into the nature of homeopathic practice can inform education and practice. Although the existing homeopathic literature has begun to investigate theories and processes as they affect clinical practice, it has not explored the impact of homeopaths' values, beliefs, and interests on their reasoning and decision-making behaviors, nor has it considered the extent to which these influences are consciously understood or acknowledged. Clinical reasoning is a socially and culturally constructed phenomenon; therefore, it is influenced by context.<sup>17,62</sup> Building on the existing research would require viewing clinical reasoning not only as a cognitive phenomenon but also as a cognitive and interactive phenomenon. This would generate new knowledge regarding the complex, holistic practice approach adopted by homeopaths which, based on the findings of this review, is currently under-researched.

### Implications

The literature is beginning to generate important research questions about clinical reasoning that need to be asked of practicing homeopaths, of the homeopathic profession, and of professional educators. These questions will inform intraprofessional debate and stimulate homeopathic discourse, and help resolve (explore) the differences between critical and practical standpoints. Such debate and discourse can provide a basis for homeopathic educators to critically reflect on their practice, and help develop the research agenda. For example, by reflecting on their own clinical reasoning and decision-making factors, educators can include evidence-based ways to encourage novice homeopathic history taking and case analysis.

Having explored clinical reasoning in their respective domains for nearly 3 decades, medicine and the major allied health professions including nursing, physiotherapy, and occupational therapy have slowly incorporated clinical reasoning theories and frameworks into their educational curricula. Homeopathic education is yet to recognize this need and to make this transition. This is due to the paucity of research highlighted in this article as well as the lack of critical dialogue necessary to transform the educational agenda.

The questions that might be asked of professional homeopaths, homeopathic educators, and researchers are summarized in Table 1. The questions for homeopaths are most likely beyond the scope of most novice practitioners. Such questions demonstrate the need to explore how homeopaths reason, what forms of knowledge, attitudes, and beliefs underpin their reasoning experiences, and endeavor to integrate theory, practice, and education. Applying reflective questions to the cognitive processes and factors influencing decision-making promotes self-awareness (or metacognitive awareness).<sup>63</sup> This serves two functions: (1) By bringing a capability that is often subconscious to awareness, clinicians are able to critique their decision-making more readily; and (2) It improves the clarity of communicating reasoning whether when caring for clients, teaching students, or communicating with colleagues.<sup>16</sup> It is then more likely that clinicians can contribute to debate about the profession in a self-aware and informed way (Table 1).<sup>64,65</sup>

The reasons for the lack of current research investigating homeopathic reasoning are complex and multidimensional. They range from insufficient industry funding to a lack of professional vision in addition to sustained opposition from within and without.<sup>66,67</sup> As homeopathic education (in Australia) progresses into the higher-education sector, the educational agenda must be aligned to both theoretical and practical developments. Rigorous research that reflects and represents actual professional practice is imperative, as it will contribute to the growth and development of a sustainable educational model.

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