

# The Role of Complementary and Alternative Medicine in the Healthcare System: A German Paradox

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## Keywords

Anthroposophy · Homeopathy · German healthcare system · Ethnography · Scientification

## Summary

**Background:** This paper examines a paradox in the German healthcare system: Complementary and alternative medicine (CAM) practices are a major element of medical encounters in Germany. Patients seek them, physicians provide them, and public health insurances pay for them in part. Despite all this, CAM practices are not acknowledged as scientifically valid. **Material and Method:** I will examine this situation in detail based on 2 ethnographic studies. The first study refers to an attempt to introduce homeopathic education at a German university. The second one is a study in the context of cancer and CAM. These cases are perfect examples of the current power struggles that are impeding the expansion of CAM practices in Germany. **Results:** The results should be seen from the theoretical angle of the study of science. The conventional method of proving scientific validity is in contradiction to those frameworks in which the impact of CAM might be demonstrated. There are economic interests invested in preventing the integration of CAM into existing scientific structures. However, the current hybridization of CAM with conventional medicine might be a step towards an institutionalized heterogenization of medical practices in Germany. **Conclusions:** A broader understanding of scientific methods within the CAM community could provide a useful frame for future research. I suggest that the CAM community more actively takes part in the discourse with representatives of conventional medicine and come out of the closet.

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## Schlüsselwörter

Anthroposophie · Homöopathie · Deutsches Gesundheitssystem · Ethnographie · Verwissenschaftlichung

## Zusammenfassung

**Hintergrund:** Dieses Paper untersucht ein Paradox im deutschen Gesundheitssystem: Behandlungen mit komplementärer und alternativer Medizin (CAM) sind ein zentraler Bestandteil medizinischer Begegnungen in Deutschland. PatientInnen fordern sie ein, ÄrztInnen stellen sie bereit und die öffentlichen Krankenkassen bezahlen sie teilweise. Trotzdem sind CAM-Behandlungen wissenschaftlich nicht anerkannt. **Material und Methode:** Ich untersuche diese Situation im Detail anhand von 2 ethnographischen Studien. Die erste Studie bezieht sich auf den Versuch, die homöopathische Ausbildung in eine deutsche Universität zu integrieren. Die zweite Studie steht im Kontext von Krebsbehandlungen und CAM. Die beiden Studien sind hervorragende Beispiele für die derzeitigen Machtkämpfe, die die Expansion von CAM-Praktiken in Deutschland behindern. **Ergebnisse:** Die Ergebnisse müssen unter dem theoretischen Gesichtspunkt der Wissenschaftsforschung betrachtet werden: Die konventionelle Methode zur Generierung wissenschaftlicher Validität steht im Widerspruch zu den Rahmenbedingungen, in denen die Auswirkungen von CAM demonstriert werden können. Zudem gibt es ökonomische Interessen, die verhindern, dass sich CAM in bereits bestehende wissenschaftliche Strukturen integrieren lässt. Jedoch ist die derzeitige Hybridisierung von CAM mit konventioneller Medizin möglicherweise ein Schritt in Richtung auf eine zunehmende institutionelle Heterogenisierung von medizinischen Praktiken in Deutschland. **Schlussfolgerungen:** Ein breiteres Verständnis von wissenschaftlichen Methoden innerhalb der CAM-Gemeinschaft könnte einen sinnvollen Rahmen für zukünftige Forschung schaffen. Ich schlage vor, dass sich die CAM-Gemeinschaft mehr in den Diskurs mit Vertretern der konventionellen Medizin einbringt.

## Introduction

Although the actual practices around complementary and alternative medicine (CAM) may vary geographically, in the scientific literature the term describes anything that is not conventional medicine. In Germany, people mainly use phytotherapy, as well as homeopathy, acupuncture, and chiropractic [1]. CAM is booming in Germany, probably due to its long tradition: During the age of industrialization, practitioners such as Sebastian Kneipp and Adolf Just had already formulated a critique of the increasingly capitalistic and invasive paradigms of conventional practices. Until today, Germany (in line with India and China) can be viewed as the greatest exporter of CAM [2, 3].

Since the inscription of certain CAM treatments in the German Medicines Law of 1976, health insurances increasingly replace some conventional treatments with CAM. Germany holds a special position as the only country in Europe where ‘Heilpraktiker’ (naturopathic practitioners) without a medical university degree are legally allowed to treat patients. In a better position when it comes to insured treatments, physicians practice several CAM treatment modalities [4]. Every second person has already tried homeopathic treatment and every fourth one continues to use it [5]. The use of all CAM modalities reaches from 60% up to 86% of the population. The estimate of annual sales of naturopathic medication amounts to 3.3 billion [6]. There are more than 23,000 physicians who regularly prescribe naturopathic treatments – without counting general practitioners who do not have further training. By the end of 2009, almost 63,000 practitioners with a further qualification in CAM were registered, most of them in the area of outpatient supply [7]. This number already reflects more than 15% of the total medical fraternity, although the estimated number of additional trainings in CAM is much higher than the official accreditations offered by the German Medical Association. Those physicians who practice CAM stand out in achieving higher rates of professional satisfaction [7, 8]. German public health insurances paid for more than half of the CAM methods – most of them implemented by physicians and only a minor percentage by Heilpraktiker [1].

These numbers imply that CAM has become part of the daily medical routines. Apparently, there is a huge demand for treatment procedures that are less invasive than some conventional practices and more sustainable in case of chronic diseases. However, the GMA-accredited (GMA = Gesellschaft für Medizinische Ausbildung, German Association for Medical Education) institutional medical training in Germany does not reflect these conditions. There is only 1 medical university (Witten/Herdecke) that structurally integrates complementary theories and practices in the curriculum. At all other medical universities, students must be content with minor electives or nothing at all. 72% of the physicians who practice CAM adopted their skills after their residency [9]. Medical universities as spaces of knowledge production, knowledge transfer, training, and establishment of academic offspring are oriented towards conventional clinical medicine and not towards the reality of everyday medical practice.

## Material and Method

This paper is about a peculiar discrepancy in the healthcare landscape in Germany: CAM practices are a major element of medical encounters in Germany. Patients seek them, physicians provide them, and public health insurances at least partly pay for them. However, CAM practices are not acknowledged within the scientific community and are sometimes even laughed at. I will illustrate this situation in detail based on 2 ethnographic studies.

The first study refers to an attempt to introduce homeopathic education within the curriculum of a German university. The second one is a famous study in the context of cancer and CAM. These cases demonstrate the power struggles impeding the expansion of CAM practices in Germany.

## Results

### *Case 1: No Dr. hom. in Germany*

In Germany, the homeland of homeopathy, it is practiced by both Heilpraktiker and physicians. In order to enhance their differentiation from other medical programs and expand their professional network, the medical university of Magdeburg in East Germany planned to offer a vocational master course in homeopathy for physicians, veterinarians, dentists, and chemists, which was to begin in 2010/2011. Teachings about homeopathic research and drug studies were scheduled. Within the medical university, initiators discussed the possibility of a homeopathic Ph.D.

The announcement of the course’s establishment sparked an immediate backlash: Several people, mainly natural scientists, labeled the course as ‘institutionalized quackery’ [10] and started an online campaign against it. Especially in a German version of ScienceBlogs, where a great number of the members of the so-called skeptic movement are active, articles about the introduction of the course gathered up to 1,000 comments ranging from ‘And what should the degree be called? Master of Pseudoscience, MPSc?’ to ‘Maybe the university should be renamed Hogwarts’ [10].

Most commentators argued that homeopathic treatments do not withstand the standards of modern scientific research such as randomized controlled trials and reproducible evidence, and therefore they are out of place at a university. The initiators of the course and the dean of the university felt forced to defend themselves publicly. Finally, the university abandoned the course due to this backlash.

In 2013, the idea was taken up again by the same people at the University of Magdeburg, this time with the title ‘Professional Course of Lectures for Homeopathic Research Methods’ (Professionskolleg). At the moment, the content, schedule, and time frames are under negotiation so as to start the course in 2017/2018. A homeopathic Ph.D. is no longer a possibility, and even the M.Sc. degree as an academic qualification was dropped. This gives the course an unobtrusive appearance and, hopefully, prevents another public relations nightmare that might damage the university’s reputation. The initiators also backpedaled in terms of the course content: The emphasis is now on qualitative methods and case studies.

It seems as if current attempts to professionalize homeopathic education within a biomedical institution have failed, at least in the

self-confident form in which it was planned at first. The whole conflict centers on the question of whether homeopathy – with its highly individual, healer-dependent medication and the paradigm of a vital force that has to be strengthened – can be presented in a scientific framework.

#### Case 2: *The Tröger Study*

Mistletoe therapy can be regarded as the heart of anthroposophic cancer treatments. It is based on Rudolf Steiner's insight dating from 1920 that the main characteristic of benign tumors and mistletoe is similar, namely, in simplified terms: parasitic growth at the wrong time and in the wrong place [11]. Since then, mistletoe therapy has become a standardized method with 2 main producers on the market.

In the anthroposophic hospital Havelhöhe in the outskirts of Berlin, intravenous application of liquid mistletoe belongs to the standard therapies. Anthroposophic physicians act on the assumption that mistletoe counteracts the side effects of chemotherapy, such as fatigue and nausea [12]. Moreover, mistletoe is said to extend the life expectancy and can even hinder tumor growth in an adjuvant setting. Since 1976, mistletoe therapy has been officially recognized by the German Medicines Law as a part of anthroposophic medication, and since 1989, it is positioned in the Code of Social Law. Since German health insurances pay based on diagnosis and not dependent on details of the therapy, patients get the mistletoe treatment refunded by all public health insurances if it is offered in the respective hospital. Outpatients, however, must pay for the therapy themselves as long as they are not in palliative care.

Amongst all medicinal plants, the effect of the mistletoe is probably the most thoroughly researched [13]. This may be because the performance of the therapy is restricted to biomedical physicians. The latter are strictly trained in the evidence-based paradigm and want mistletoe therapy to be one of the front runners in the game of cancer treatments. However, until recently, the scientific database on the effect of mistletoe therapy was not in their favor. The scientific community criticized most studies on this therapy due to a lack of ethical concerns and methodological accuracy – for example, too few cases, euphemistic statistical evaluation, or the lack of a control group [14–16].

In the early 2010's, a small group established a setting that created the context for a huge study about mistletoe therapy and pancreatic cancer. The study was carried out in Serbia, one of the few countries in Europe where mistletoe was practically unknown for cancer treatment. 220 inoperable patients without a recommendation for chemotherapy were included in the study. The goal was to increase the life expectancy and preserve the quality of life. The outcome was so successful that the principal investigators who carried out the study ended it prematurely in order not to withhold the mistletoe therapy from the control group. The group using mistletoe not only lived significantly longer, it was also healthier than the control group with regard to decreased weight loss, fatigue, pain, and digestion problems [17, 18].

The community of anthroposophic physicians celebrated the study accordingly. However, in the conventional oncological com-

munity it was immediately rejected due to methodological biases. Although it was the third biggest study of pancreatic cancer worldwide, it was criticized for the small number of patients, and the assumption was raised that the quality-of-life parameter rose only due to the increased care for those patients who joined the study [19]. A different review, however, examining 284 trials with similar methodological approaches, arrived at the conclusion that the study did not only measure up to the expectations of the study design but came off as one of the most successful studies of the evaluation [20]. This result suggests that the raised methodological shortcomings of the study are disputable and may have been used to disguise the source of the non-acceptance of the study.

## Discussion

As the 2 examples show, CAM practices in Germany are not yet accepted in the scientific community. A homeopathic master course at a medical university cannot be established and a study on the efficacy of a herbal remedy cannot be seen as a progressive contribution to the body of knowledge on the treatment of cancer. Both attempts, which put certain CAM practices up for discussion, were dismissed with overt hostility from scientists. It seems to be a German paradox that CAM treatments are widely accepted by the society, implemented by practicing physicians, and to a certain degree institutionalized – and at least partly paid for by health insurances – but, at the same time, are denied scientific legitimacy.

In this paper, I aim to contextualize possible explanations for this paradox.

Competing understandings of the meaning of science in place are not a new phenomenon, especially not in the field of medicine. As the physician and medical anthropologist Kleinman stated, medical systems always should be seen as cultural systems with specific diverging constructions of health, disease, strategies of healing, explanatory models, and health care relationships [21]. All medical systems, including conventional medicine, are particular models of reality, frozen in the use of adequate language, created and recreated through social actions such as regular implementations and negotiations [22]. Kuhn [23] referred to the plurality of ontologies as scientific paradigms that are partially incommensurable, i.e., certain logics, purposes, sequences of action, or causalities can only be explained within the specific *Weltanschauung* of the paradigm. Unless no revolutionary act happens, scientific consensus and development takes place only within the paradigm itself. As Kuhn further claims, scientific progress is not cumulative but always has to be seen as a series of gaps and frictions [23]. Specific to Kuhn's work is the reference to political power within the struggle for scientific legitimization, a position that can be supported through Foucault's work on the development and the mechanisms of the interpretative power of conventional medicine in modern Europe [24]. Latour [25] further demonstrated the specific strings in the 'cycle of credibility' that form the process of accumulating relevant capital for scientific legitimization, such as publications, subsidies, or arguments.

In this paper I argue that anthroposophy, homeopathy, and conventional medicine are diverging cultural belief systems or paradigms that can only be interpreted within their own *Weltanschauung*. Thereby, they are subject to a matrix of political and economic power. The example of the discourse on evidence – the latter being a fundamental trait of character in the logic of conventional medicine [26] – hereby illustrates the conflict between CAM-associated medical systems and conventional medicine.

The discourse on the term ‘evidence’ in the context of CAM is almost as old as the introduction of randomized controlled trials and control groups in evidence-based medicine. The argument is that most CAM practices are multilayered and long-lasting, and have to be seen within a context. Control groups, double or dual blinding, and randomization contradict the idea of personalized healing methods [27]. However, there can be different kinds of evidence than this ‘evidence of effectiveness’ [28] ascribed to randomized trials. For example, qualitative research methods and case reports can provide ‘competing bodies of evidence’ [26].

As the first example shows, the attempt to increase the value of homeopathic practices through its integration into a medical university failed. The conveners only planned a postgraduate course for experienced physicians and other health professionals who use homeopathic medication to treat patients every day – just as every fourth general practitioner in Germany has already done. The fact that the faculty had to withdraw the academic title of a Master of Science, not to mention the Ph.D. degree, shows that authority is clearly not on their side. In the eyes of the sceptic movement, homeopathic knowledge contradicts the process of recognition in science since it is not based on reproducibility. Most supporters of homeopathy (Heilpraktiker and physicians) agree on the assumption that reproducible evidence is not necessary; it is their experience that shows that homeopathy works [29–31].

The second example demonstrates that even ‘playing by the rules’ does not necessarily lead to widespread acknowledgement in the scientific scene. Tröger and his colleagues [17, 18] presented the first study that convincingly showed how mistletoe significantly improved the quality of life of Serbian cancer patients. This is striking as it is one of the rare examples where 1 element of a CAM treatment was isolated – in this case the mistletoe – and separately applied to patients. The study is celebrated within the CAM community at respected conferences but does not attract a mainstream audience or even curiosity from oncologists.

To conclude, a narrow understanding of evidence by many scientists (including members of the sceptic movement) makes it difficult for CAM supporters to achieve scientific acknowledgement. Arguing within the conventional paradigm, as Tröger and his colleagues did in their study [17, 18], did not lead to approval, nor did the attempt of the university in Magdeburg to enlarge or enrich the paradigm with the logic of another medical system.

However, authoritative power over the notion of science is clearly not the only motive to dismiss CAM-related logics. The healthcare landscape is not only a matrix where factors such as efficacy, impact, and pluralistic models of health play a role, but it is percolated by economic interests. Health insurances aim to keep

the cost of a treatment low, and practitioners intend to excel with unique features in their treatments in order to sustain their position in the healthcare market.

In the first example, it is clear that an academic title in homeopathy might generate trust and professionalism and would probably lead to a higher frequency of patients. Homeopathic medications represent a fractional amount in comparison to their biomedical counterparts [32]. In the second example, economic interests are also involved, as Dr. Tröger explained when I met him at a conference on CAM in Stuttgart in June 2016: ‘They feel threatened’, he said, referring to oncologists who fundamentally criticized his study, ‘because a treatment for EUR 950 a year challenges their approach and they don’t even understand how the mistletoe works.’ CAM treatments are seen as a possible menace for well-established and high-priced palliative care because they are potentially far more cost effective [33]. In both cases, arguments that center around the notion of science are put forward in order to disguise economic or political interests.

However, in the discussion on medical systems, one has to keep in mind that the latter are never static but are constantly confronted with new treatments and paradigms that go through processes of negotiation, ‘feazing’, appropriation, denial, legitimization, and/or integration. In the last 2 decades, conventional medicine has been moving towards the integration of the psychosocial condition of the patient, i.e. shared decision-making, a cooperative doctor-patient relationship, and emphasis on other aspects concerning the quality of life of patients. CAM can offer a lot in terms of patient-centered care [34].

As the 2 case studies in this paper show, through the increasing interest in providing evidence of any kind in the field of homeopathy, this area will undergo changes in the next years. Although the plan for the Homeopathic Master failed, the newly planned course will be a first step in developing a professional network of physicians practicing homeopathy. At the same time, Dr. Tröger’s team will expand their research on different kinds of cancers in order to get more specific results on the efficacy of mistletoe. The conflicts in these cases demonstrate that the hybridization of medical practices is proceeding and that many CAM therapies might soon become standard medical practice.

## Conclusions

The aim of this paper was to shed light on the predominant contradiction within the medical pluralism of Europe. Although CAM is widely practiced and partly paid for by health insurances, it is not quite accepted in the scientific community. I argued that medical paradigms are in an ongoing competition. The popular definition of scientific validity is strongly connected with the concept of evidence – in contradiction to a framework where the impact of CAM might be demonstrated. Additionally, economic interests prevent the integration of CAM into existing scientific structures. However, the current hybridization might be a step towards an institutionalized heterogenization of medical practices in

Germany. As a key condition for the latter, I plead for the opportunity of less positivistic research within a broader concept of science and scientific methods, as it is already accepted in social sciences. Although many CAM practitioners criticize the one-dimensional, functional paradigm in medical science that excludes non-organic processes, they still seek evidence as an integrative part of this paradigm. First attempts to standardize and integrate the everyday practice of CAM in the context of conventional medicine have already been made [35]. At the same time, it is doubtful if grouping together all non-conventional methods is a constructive approach on the road to acknowledgement. In some of the complementary practices, the differences are actually bigger than the commonalities. Presenting and discussing the results of the Tröger study in one of the largest conventional cancer conferences would be one step towards dissolving the line between the research of CAM and non-CAM.

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