Research Square

Preprints are preliminary reports that have not undergone peer review.
They should not be considered conclusive, used to inform clinical practice,
or referenced by the media as validated information.

Clinical reasoning processes among clinicians practising Integrative Medicine: an exploratory qualitative study

Emilie Stackelberg
University of Geneva
Sophien Horri
Centre Hospitalier Universitaire de La Réunion
Olga Santis
Centre Hospitalier Universitaire de La Réunion
Marie-Claude Audétat
University of Geneva
Rémi Girerd
remi.girerd@chu-reunion.fr

Reunisim, CHU de la Réunion

Research Article

Keywords: integrative medicine, complementary therapies, clinical reasoning, clinical process

Posted Date: June 5th, 2026

DOI: https://doi.org/10.21203/rs.3.rs-8367721/v1

License: This work is licensed under a Creative Commons Attribution 4.0 International License.
Read Full License

Additional Declarations: No competing interests reported.

Abstract

Background: Integrative Medicine (IM) combines conventional and complementary therapies to promote holistic, patient-centred care. Despite its growing recognition, little is known about how physicians practising IM reason and make clinical decisions.

Methods**:**A qualitative descriptive study was conducted on Réunion Island (France). Ten physicians practising both conventional and integrative medicine were recruited via snowball sampling. Semi-structured interviews explored their understanding of IM, their reasoning processes, and their professional experiences. Interviews were transcribed verbatim and analysed thematically using an inductive–deductive approach guided by the Calgary–Cambridge model and Charlin's framework of clinical reasoning.

Results: Analysis revealed five main themes: (1) diverse definitions of IM; (2) transformation of the physician's reflective posture; (3) the centrality of the therapeutic relationship; (4) distinctive features of reasoning in IM, marked by iterative reflection and integration of complementary knowledge; and (5) perceived benefits and challenges. Physicians described IM as fostering deeper empathy, shared decision-making, and enriched reasoning scripts combining biomedical and holistic perspectives.

Conclusion**:**Practising IM with conventional and complementary therapies encourages a reflective, relational and patient-centred form of reasoning that benefits both patients and physicians. It enhances patient empowerment and clinician well-being, while highlighting the need for institutional recognition, structured training, and further research to strengthen IM's scientific legitimacy.

Background

According to the World Health Organization (WHO), health is defined as "a state of complete physical, mental and social well-being, and not merely the absence of disease or infirmity" (1). This holistic vision emphasises the importance of addressing every dimension of health—preventive, diagnostic and therapeutic—in order to meet individuals' needs and promote their overall well-being. As an example, in the French context, public health initiatives therefore focus increasingly on prevention, patient education, and the promotion of healthy lifestyles (2). However, much progress remains to be made in acknowledging the social factors that shape these lifestyles and hinder patients' ability to achieve their health goals (3). In Europe and Canada, more than half of patients consulting a general practitioner present with co-morbidities (4,5). Many of these individuals, particularly those suffering from side effects of heavy treatments, are seeking emotional, social and psychological support that extends beyond what is traditionally included in conventional medicine (6). Conventional or traditional medicine—an evolving concept defined by the dominant healthcare system within a given country and period—often fails to address the whole-person needs of such patients. A new approach has therefore progressively emerged, combining traditional medicine with non-pharmacological interventions and complementary therapies, defining what is now referred to as IM (7,8). Since 2014, the WHO has expanded its scope to

support this growing field, adopting the concept of “Traditional, Complementary and IM” (TCIM), which unites these three approaches to better meet individuals’ health needs and expectations (9). From this perspective, IM represents a holistic, patient-centred approach that provides personalised care pathways, taking into account lifestyle, medical needs and overall well-being (6). Traditionally, conventional medicine has been regarded as legitimate, whereas non-conventional practices have remained marginalised and weakly regulated. Nonetheless, a gradual shift towards a more integrative approach has emerged in recent years, in which complementary care is gaining recognition (10,11). IM seeks to combine the best evidence and insights from both conventional and complementary medical systems, offering a unifying perspective to guide clinicians in an informed combination of these heterogeneous approaches (12). Yet, the cognitive processes underpinning clinicians’ reasoning in IM remain poorly described. There is consensus in the literature regarding a *dual-process* model of clinical reasoning, in which intuitive and analytical thinking occur simultaneously (13). While diagnostic reasoning—the core focus of conventional medicine—has been extensively studied, far fewer investigations have explored the reasoning processes involved in longitudinal patient management, and even fewer in the context of IM (14,15). From this perspective, longitudinal clinical reasoning (or management reasoning) extends beyond diagnosis to include reasoning processes related to the selection of targeted actions, implementation of alternative strategies, shared decision-making, collaborative reasoning among professionals, follow-up and evaluation of outcomes (14). A few studies focused on reasoning in osteopathy, homeopathy and naturopathy highlight a distinctive feature of IM: its holistic vision and the complex reasoning it entails (16,17). Researchers emphasise the need to better understand reasoning processes within these disciplines to strengthen both practice and education. Further research is needed to clarify the stages and cognitive mechanisms at play in IM. This question is also crucial to support the credibility and scientific legitimacy of IM practitioners when addressing their patients’ problems and making clinical decisions (12). In light of these observations, we sought to gain a deeper understanding of the clinical reasoning of the clinicians practising IM and its complementary therapies, and what key issues emerge from their experience.

Methodology

1. Conceptual frameworks and context

A clear conceptual framework was required to delineate the scope of this study. IM was defined as the combination of conventional medicine with complementary therapies and non-pharmacological interventions. Table 1 presents, in a non-exhaustive way, examples of complementary therapies and non-pharmacological interventions considered within this framework (10,18–21).

Catégories	Exemples de pratiques
Complementary and Alternative Medicine	• Phytotherapy (medicinal plants) • Aromatherapy • Homeopathy (depending on clinical context and country)
Mind-Body Practices	• Mindfulness meditation • Therapeutic yoga • Tai Chi / Qi Gong • Medical hypnosis
Traditional Medicines	• Traditional Chinese Medicine (TCM) • Ayurveda
Nutritional and Lifestyle Interventions	• Personalized nutrition • Adapted physical activity • Health coaching
Manual Therapies	• Osteopathy • Chiropractic care • Therapeutic massage
Energy-Based Therapies (more controversial)	• Reiki, Healing Touch, etc. (sometimes used in spiritual or palliative care settings, although scientific evidence remains limited)

Table 1 : Examples of complementary therapies and non-pharmacological interventions included in the scope of Integrative Medicine.

Figure 1 represents the simplified representation of the Montréal Model of Clinical Reasoning Processes (22).

In parallel, emerging themes directly grounded in the data informed the inductive analysis. The conceptual frameworks mentioned above guided the creation of initial coding categories for the deductive components. The study took place on Reunion island, a unique cultural setting characterised by a rich blending of traditions, including diverse traditional and modern medical practices (23). We hypothesised that such a multicultural environment would be particularly conducive to the practice of IM.

2.2 Participant recruitment and ethical consideration

Participants were recruited through snowball sampling (24). The targeted population comprised clinicians practising on Reunion Island who were engaged in both conventional medicine and IM. The

inclusion criteria required participants to hold a medical degree and to integrate complementary therapies and/or non-pharmacological interventions into their conventional medical practice, as previously defined. The interviewees were treated anonymously according to ethical principles under french law on research involving human participants (“loi Jardé”) and the French Public Health Code. Such secondary analyses of fully anonymized data do not require review by a “Comité de Protection des Personnes” (committee on the protection of the rights of people). The project complied with applicable French and European data-protection requirements, including the General Data Protection Regulation. This study was approved by the Ethics Committee of Universitary Hospital of Bordeaux (France) with approval number CER-BDX 2024-181. A clinical trial number is not applicable here. All participants were assured of their right to reject, withdraw or terminate their participation at any time.

2.3 Data collection

Semi-structured interviews were conducted to explore clinicians’ professional trajectories, perceptions of IM, communication and clinical reasoning. Also, the potential influence of Reunion Island culture on their practice of IM were explored. Table 2 represents the semi-structured interview guide.

The Integrative Medicine	**Communication and clinical reasoning process**	**The intercultural context of Reunion island**
Could you define integrative medicine ?	Based on one of these complaints, which I leave to you to choose, how do you approach this issue ?	What is the value of integrative medicine in the inter-cultural context of Reunion island ?
How long have you been a doctor ?	What are the important elements for you in your thinking ?	Does integrative seem more or less widespread than in mainland France ?
What brought you to complementary therapies and integrative medicine ?	In your opinion, what are the main similarities and differences with clinical reasoning in conventional medicine ?	How would you describe the supply and demand for integrative medicine in Réunion island ?
If you came from mainland France, were you introduced to integrative medicine before or when you arrived in Reunion Island ?	Are there any specific aspects to your reasoning in your integrative practice ?	What are the main/most frequent complaints for which patients consult you in integrative medicine ?
What training did you undertake to specialize in integrative medicine ?	What difficulties do you encounter in using clinical reasoning in your integrative medicine practice ?	Why do patients consult in integrative medicine in Reunion Island ?
What does the integrative medicine specialty you practice consist of ?	What difficulties prevent you from progressing in your reasoning ?	

Table 2 : Semi-structured interview guide by themes

Participants were free to choose the interview location, ensuring flexibility and optimal convenience. The interview schedule was developed based on two conceptual frameworks:

1. the *Calgary–Cambridge model*, which describes the communication processes in medical consultations (25), and

2. the model of *clinical reasoning* (22)

All interviews were conducted by one of the researchers (ES) in French, to ensure the homogeneity of the interview process, with notes. All the interviews were audio-recorded, transcribed verbatim and anonymised by ES. The duration of the interviews was planned to be between 40 and 60 minutes. Data collection continued until thematic saturation was achieved by two of three researchers (ES, SH, RG).

2.4 Data analysis

Data were analysed using a combined deductive and inductive thematic analysis, following the six-phase process described by Kiger and Varpio (26). This involved familiarisation with the data, generation of initial codes, identification of themes, theme review, definition and naming of themes, and final report writing. The analysis was conducted by four authors (RG, ES, SH, MCA) using Taguette©, a CAQDAS (Computer-Assisted Qualitative Data Analysis Software) tool. The three first interviews were analysed by three researchers (ES, SH, MCA and/or RG) to verify the quality of the clinician interview schedule. After independently coding the transcripts, two researchers (ES, SH and/or RG) compared and discussed their codes until reaching consensus. In case of disagreement, the codes were discussed with MCA to find a consensus. The results were then reviewed collaboratively by the full research team to ensure coherence and credibility. Our data are based on quotations from participants. RG and MCA translated the quotations that are used in the manuscript from French to English. The study adhered to the COREQ criteria for reporting qualitative research (27).

Results

A total of ten physicians practising IM participated in this study. The clinicians interviewed come from a variety of specialties, there are as many men as women, and they have practiced conventional medicine for an average of twenty years and IM for an average of nine years. Their profiles varied in terms of specialty and experience in both conventional and complementary medicine. Table 3 represents these characteristics.

Gender	Speciality	Number of years of practice in conventional medicine	Number of years of practice in integrative medicine
Femme	General practice	29	17
Femme	General practice	15	7
Femme	Anaesthesiology	25	13
Homme	Anaesthesiology	29	10
Homme	General practice	28	12
Homme	General practice	13	4
Homme	Pediatry	10	5
Femme	Palliative care	18	13
Femme	Psychiatry	12	7
Homme	Geriatry	27	3

Table 3 : Profiles and characteristics of the participants

The main themes that emerged from our analysis were: the lack of a clear and shared understanding of the definition of IM; clinicians' inclination toward building a trusting patient–physician relationship; the specificities of clinical reasoning in IM; the perceived benefits of these approaches for both patients and healthcare professionals; and finally, the broader challenges and implications associated with this form of medicine.

3.1 Definition of IM : still poorly-defined in clinicians' perceptions

Participants described IM in diverse ways. For some, the concept was somewhat vague and could have several definitions :

"I think there are many depictions of alternative medicine. (...) There are many possible interpretations." *(Respondent 7)*

For others, it represents above all a holistic approach to the patient, considering them as a whole person rather than from the perspective of a pathology, without necessarily requiring the practice of complementary medicine:

“So integrative medicine is medicine that focuses on the person (...) in their environment, and really takes a holistic approach, which allows us to effectively integrate the person and their environment into a society, a culture, a religion, and to explore their different representations, experiences, and feelings in order to best modulate and adapt therapeutic possibilities and form a therapeutic alliance with the patient.” *(Respondent 6)*

Others finally envisage a combination of the two approaches:

“A medicine that combines conventional medicine, that is to say very western-countries, with more unconventional medicines, which I would call more traditional or which are called alternative and complementary medicines” *(Respondent 2)*

3.2 A gradual and reflective evolution in the attitude of healthcare professionals

In our sample we have observed that clinicians who practice IM share a reflective approach, which sometimes seems to stem from frustration with conventional medicine as they practiced it, particularly in terms of the clinician-patient relationship:

“Because, in fact, the only tools I had in my toolbox were conventional allopathic medicines, which I would suggest to the patient along with the surgeon, and I felt that this wasn't necessarily what the patient wanted. That's why I trained in hypnosis and, more recently, in herbal medicine and aromatherapy.” (*Respondent 1)*

They express their desire to practice medicine that considers the patient as a whole, paying particular attention to the patient's experiences, beliefs, perceptions, expectations, and lifestyle:

“You see, we continue to say ‘the patient’ when it's actually a man or woman who has a disease. And we still talk about the patient with their diseased organ: the thyroid, the liver, the triple bypass, the aortic valve. (...) So that means we haven't been trained to see the sick people in front of us as whole persons who are suffering. (...) We rarely ask them about their experience of their illness. (...). We rarely take the time. (...) In our checklist of questions, we ask, "What is your medical and surgical history? Do you have any allergies ?” But we never ask them, “How are you feeling?” “ (*Respondent 3)*

This reflective approach leads clinicians to develop new interpersonal skills and leads to a change in their attitude:

"In fact, what I've changed, for example in the way I interact with patients, is that the first thing I used to do when I saw a patient for a consultation was to sit down at my computer, scroll through their file, and say : “Listen, I'm going to look at your file and we'll talk afterwards.” And now, in my everyday interactions, even on the phone (...), the first thing I do when I bring them into my office is ask them how they are. For me, that's huge because it wasn't part of my approach before. You see, I used to dive straight into the medical file. So today, (...), it's one of the things I've learned, or rather, realized." *Respondent 3)*

The approach of clinicians practicing IM is characterized by an openness to listening to patients' needs and a genuine interest in their experiences, beliefs, and perceptions of illness.

“What matters is not my own idea of what I would do if I had this health problem. What matters is you, for you, what you need today.” (*Respondent 1*)

"Well, openness, empathy, being there for the patient, when I'm face to face with them (...) in my care, when I put patients to sleep, I hold their hand, I sense who wants to hold my hand and who doesn't, what the patient is looking for, I often put my hand on their chest too, when the nurse isn't talking to them, I talk to them. (...) Now, in anesthesia consultations, the way I welcome patients has changed, the way I listen has changed (...)." (*Respondent 3)*

3.3 The development of a more engaged and open clinician–patient relationship grounded on mutual trust.

Our results highlight that awareness of this approach promotes the development of a relationship of trust. Clinicians find that patients not only talk more easily about their concerns, but also share valuable information, which in turn informs the clinician's reasoning:

“And even though you feel a little better, when you open your heart a little, when you open yourself, when you are able to give a little more than you usually give in medicine, there is (...) a trust that develops (...). Finally, I mean, when you start practicing integrative medicine, you have greater permeability, and the patient in front of you feels that they can tell you things that may be important in their care.” (*Respondent 3*)

“Yes, it has an impact, (...) because I think that helping relationships and listening are also integrative practices. They effectively allow you to create this therapeutic alliance with the patient, to create a space for discussion, so it also allows you to access information that would not be shared with other clinicians.” (*Respondent 9)*

“And then, it develops gradually over the course of consultations, based on how we tell the story, how the patient tells their story, and how we respond to that story, building a shared history together. ” (*Respondent 6)*

Our participants consider the therapeutic relationship to be a therapeutic tool in itself, which therefore needs to be developed with care:

"And I always tell the students I train: “For patients to get well, you have to take care of them. And not just with medication, not just with surgery. There's also the relationship.” I always say, we often talk about the caregiver-patient relationship. But if you take that term away, it's simply about being human." (*Respondent 4, translate from French)*

3.4 Clinical reasoning and its specificities in IM

Our results suggest that the goal of IM is not to diagnose and/or cure the patient, but to care for them and ensure their well-being and quality of life:

“We had to understand how people functioned in relation to their health problems or perceived health problems, their perceptions, in order to work with them to develop a care plan, particularly an integrative

one, to build this plan with them and lead them to a shared decision with the practitioner, to help them achieve a better quality of life than they currently have." (*Respondent 6)*

"(...) Even if I'm not going to cure cancer by doing a few shiatsu meridians, I'm certainly going to contribute to improving the patient's health, because they will feel better, they will get better, regardless of the effect of the practice or my intentions. It was better and they will be able to heal better with all the other treatments. So the integrative aspect is really about using all the means at our disposal to achieve this state of good health, while also considering well-being, which is part of it." (*Respondent 8)*

When clinicians begin their training in complementary medicine, their reasoning processes—and consequently the clinical scripts underlying integrative and conventional medicine—appear distinct, if not contradictory:

"We have our conventional medicine, which treats each organ and system individually, using therapies that are very specifically targeted at these different organs and systems, and integrative medicine goes slightly against this or complements it, considering more alternative forms of medicine." (*Respondent 7)*

However, our results allow us to formulate the hypothesis of a progressive integration of scripts relating to IM with those of traditional medicine, in parallel with the evolution of their practice and expertise. Thus, we observed among our participants that a process of knowledge alignment developed, followed by the integration of this knowledge and these practices into more comprehensive and enriched clinical scripts as they progressed through their training in complementary medicine:

"The challenge was that I had to use a technique that wasn't my own. So I don't have a stethoscope, I'm going to perceive energies through meridians. You have to unlearn and relearn. And the other thing is that, on the other hand, I knew how to press on a stomach and touch a patient." (*Respondent 8)*

"When I put my hand on a stomach, it's to look for pain, discomfort, an enlarged liver, a tumor, a fracture. And that's not the case here at all. We look for resistance or, on the contrary, yielding a support, it's permissive, I can press in, there's a need for me to continue pressing (...) And it takes three and a half years to get there. To start feeling something that gives us the impression that we are doing something and not just anything. Okay, there you go, it's not the sorcerer's apprentice." (*Respondent 8)*

As clinicians integrate their knowledge of complementary medicine into their conventional medicine scripts, they become able to link this knowledge and use it in a targeted and integrated way when treating patients:

"Well, actually, that's what the micronutrition assessment tells us. So often it's people who have repeated infections, who have bloating, all those people who are told, 'You have a gluten intolerance,' things like that. And often, that's a sign of intestinal impermeability. In this case, prescribing glutamine tightens the intestinal junctions. And that simply corrects the problem." *'Respondent 4)*

“(...) In herbal medicine, we talk a lot about purifiers and excretory organs, or rather emunctory organs. These are conditions involving the accumulation of metabolic waste or slightly toxic waste, which we find in the blood, for example. (...) I realize that people who may have these conditions, when they have difficulty eliminating toxic molecules at the renal level, will tend to accumulate uric acid, creatinine, things like that, which can have effects on the joints, and in the same way as at the hepatic level, when there are problems with bile elimination, they will tend to have digestive problems. So that's the connection I'm making.” *(Respondent 7)*

The conceptual framework of clinical reasoning developed by Charlin et al. has enabled us to highlight that these integrated scripts appear to promote a more comprehensive and richer perspective on some of the key stages of the clinical reasoning process.

3.5 An initial representation of the problem which is more enriched

Our participants emphasized the importance they place on an information gathering process that explores biomedical concepts, the patient's perspective, their life context, their culture, etc. in a comprehensive and holistic manner:

“So, let's say I try to consider the symptom as the tip of the iceberg, that there are other things that are a little more interesting to look for. (...) When there are problems, such as lower back pain, for example, it's a way of expressing a perhaps deeper malaise, and that's where it's interesting to look (...).” (*Respondent 7)*

“In any case, all the topics I just mentioned are systematic. Diet, physical activity, sleep quality. These are really criteria for quality of life that I take into account. And the inner circle of relationships is also extremely important: family, close friends. When there are problems in that circle, you often have to deal with them, otherwise you can't move forward.” *(Respondent 4)*

“I would say that it is in the best interest of every healthcare professional to understand the social system in which they operate. This will give them the keys to understanding people's behaviors. And I would say that here, the fact that we are multicultural and multi-ethnic means we have to pay close attention to this (...).” (*Respondent 6)*

The participants developed a more holistic approach to observation, listening, and also touching the patient. This enables them to gather subtle but crucial information about their patient:

“In speech, in facial expressions, emotions, discourse, everything that conveys how we feel. And we speak mainly through emotion. We perceive what the patient is sending back to us, the energies, the energy flows, which are either good or bad, too empty or too full.” *Respondent 8)*

3.6 Co-constructing the care plan to select appropriate actions

Our results highlight our clinicians' desire to bring out patients' health needs, wanting above all to listen to what makes sense to them:

“In fact, the patient already has the answer and clearly tells us what makes sense to them. So listen to the patient to find out what speaks to them, what makes sense to them. I think that as a practitioner, it's about maintaining an attitude of openness and humility, because yes, we may not know everything.” (*Respondent 2)*

“So that he can help you take care of him and respond to his requests, which may be spontaneous requests for care, but sometimes hidden requests. And what is increasingly difficult is to generate appropriate care requests for the patient when he is not yet aware of them. Take the example of primary prevention, where we look at their lifestyle habits, even though that's not why they came in. So maybe they don't want that at all, even though they need it." (*Respondent 6)*

3.7 A wider range of actions and treatment options

Our results highlight that the treatment and care options offered are more diverse. Clinicians who train in IM very often do so with the intention of enriching their therapeutic options in order to meet needs that are sometimes more comprehensive.

“That's right, continuing to be able to learn other tools than those I learned in college, I would say, and with a much more comprehensive and holistic approach and vision, and that's it, and being able to speak the same language as the patients.” *(Respondent 1)*

“So for me, the reasoning must be the same. It's just that the tools we offer, in terms of therapy and care, will not be the same. It's just that we will have a much wider range of tools.” *(Respondent 2)*

“Finally, there you go. So every time in these things, there are also very general issues that concern everything related to healthy living, whether it's sleep patterns, screen use, diet, or physical activity. Finally, there you go. That's a very important part of it.” (*Respondent 2)*

Clinicians, with the wealth of tools at their disposal, can therefore offer a wider range of care options and a broad range of treatments, which will be chosen in agreement with the patient, in a more targeted and personalized way.

“The idea (is) to find the best treatment, which may be conventional or unconventional, often combined, and it is also very much the patient who will guide us in this because there are people who are more sensitive or who have a greater appetite for a certain type of care than others.” (*Respondent 2*)

3.8 Enriching the dynamic representation of the problem

We observed that exploring all the information about the patient through multiple questions (biomedical, patient's perspective, life context, etc.) and using multiple senses (listening, observation, touching, etc.) allows the clinician to form an enriched and holistic representation of the patient - a characteristic of IM.

The representation of the problem is thus no longer centered on the disease or the reason for consultation, but on the patient as a whole. It is interesting to note in this context a perception of increased patient satisfaction:

“Understanding cultural differences, ethnic differences, differences in perception of illness depending on one's culture. It will give you a comprehensive understanding of things.” (*Respondent 6)*

“Whereas when I take a much more open approach, which is ultimately much more comprehensive, and I am equally interested in the social, psychological, and physical impact of their illness, I feel that we understand each other better and that patients are more satisfied.” (*Respondent 2)*

3.9 A more comprehensive reasoning ?

In order to navigate these reasoning processes that rely on enriched scripts, it is interesting to note the intensity of the clinicians' reflective approach, illustrated by numerous cycles of reassessment:

"As a general rule, at the end of the consultation, I review the elements. So I do the opposite, I start with the proposed diagnosis, the shared decision, and I go back over the elements to see if they are consistent. So I do that, and then I make notes for certain patients, the ones who raise questions for me, I make a list to see how to follow up, which then allows me to validate or invalidate my reasoning.” (*Respondent 6)*

This reflective approach to their clinical reasoning could improve the quality of care provided by potentially identifying certain personal barriers (emotions, doubts, difficulties, etc.) or by allowing new ideas to emerge regarding patient care:

“But it's true that I'm going to have questions about that. Once again, as I said, to identify obstacles and emotions that would be personal to me in relation to... and try to identify what could interfere with my clinical reasoning and which depends only on me, on my emotions.” (*Respondent 9*)

“Well, first of all, I talk about it with colleagues. Especially colleagues who use hypnosis, which is particularly helpful when there are difficulties or doubts. So that's interesting. (...) So yes, and it also helps me improve.” (*Respondent 4*)

This practice is also used by healthcare professionals to enhance their teaching. By becoming more aware of their clinical reasoning processes, they are then able to explain them more clearly to students.

“And then, of course, I also analyze things, but also because I teach, I often have students, and so when I explain my clinical reasoning processes, why I asked this or that question, etc.” (*Respondent 9)*

“Since I do a lot of training, it forces me to review my sessions and be able to detail them, always with the idea that ‘what is well conceived is clearly expressed.’ ” (*Respondent 4)*

3.10 What are the impacts of IM on patients and healthcare professionals?

Although our data reflect only the perceptions of clinicians, our results suggest that the practice of IM offers many benefits for both patients and clinicians.

3.10.1 For patients

Our results show that IM encourages patients to become more involved in managing their own health.

“(...) I can see that attitudes are changing, because I've been doing this for a few years now... I can see that patients want to be actively involved, and I think they're right.” (*Respondent 1)*

According to our participants, this empowerment of patients would allow them to better cope with their illness, particularly in the case of chronic conditions, and improve their quality of life:

“For example (...), this morning I did this in the yoga workshop, I felt that for the patient, this idea of reclaiming her body image, muscle reconditioning, rehabilitation, I think it was something that was quite interesting for her to be less focused on the idea of suffering from the disease and more on being able to do something herself and not suffer from pain, discomfort, and loss of autonomy. ” (*Respondent 9)*

Moreover, the patient is encouraged in the self-management of their health, through the development of new skills, such as for example, self-hypnosis, or through an approach such as therapeutic education:

“A patient with chronic pain, whom we are going to train in self-hypnosis for the management of their pain, (…) Yes and then above all, since they know that it is useful, well, they are creative and they arrange their lessons according to their convenience. And that validates the idea of making them autonomous.” (*Respondent 4)*

Our results also suggest that the practice of IM would make it possible to create and promote a better therapeutic alliance and therapeutic adherence concerning care management:

“It allows patients better acceptance, better adherence, better self-confidence.” (*Respondent 3)*

“ In fact, for me that’s the best treatment for the patient, it’s the one that speaks to them actually. And thus the one perhaps more in which you believe and the one that is the most feasible for them, and acceptable for them.” *Respondent 2)*

Our results make it possible to assume that the IM approach could promote significant and positive changes in patients. These benefits would manifest themselves both on the physical level — through the adoption of new, healthier lifestyle habits — and on the psychological level by strengthening self-esteem, resilience, as well as by improving the subjective experience of the illness. This approach appears as a potential lever to promote better health in its entirety.

“(…) The objective of integrative health is precisely to improve all these parameters. And when a patient is less anxious, they will sleep better, and necessarily in the healing process, we hope, there will be less inflammation, (…). Maybe for Cartesian clinicians, saying that one self-heals is not acceptable. I think

that we will prevent many factors in one's metabolism that will in any case slow down, that may not make certain illnesses disappear, but that will at least slow down and prevent others from appearing, you see. People who will be in better health, who will have better social relationships. Isolation, absence of sport, all that, we know that these are factors having a huge impact on patients' health, on mental health. That will lead to less medication intake, less dependence on conventional medicine, I think." *Respondent 3)*

3.10.2 For caregivers

Our results reveal that caregivers show a renewed motivation in the practice of their profession, notably due to the meaning they give to IM, the creativity they can develop there, and the richness of encounters during the support of their patients.

"You see, I was passionate body and soul for my job, but it ran out of steam for many reasons, (…) and then I had a real loss of meaning. I was no longer doing it with as much love." (*Respondent 3)*

"And that's it, (…) everything is possible. (…) I find that saying 'I don't know what is going to happen and we will knit as we go along the interview and we will show creativity,' that's great, that's what makes me continue to do this work with joy, and that every time I come here, which was no longer the case unfortunately when I was coming to palliative care, I say to myself: 'Ah, what a beautiful day, there will be beautiful encounters, it's going to be nice.' And not: 'Here, I'm going to see so many patients, I'm going to prescribe them antibiotics.' That doesn't interest me at all." ((*Respondent 1)*

It seems interesting to note that this approach has the potential to also help clinicians by allowing them to develop this posture and this reflexivity for their own ailments.

"(…) there is a lot of suffering among caregivers. So I think that, you see, the more clinicians there are who practice integrative health, the more there will be clinicians in good health." (*Respondent 3)*

3.11 IM in our care contexts: what are the issues ?

Our participants first express that patients are very much in demand of these IM practices.

"The future of medicine is there, I think. People are very much in demand for medicine like that." (*Respondent 4)*

"In December 2022, we did a survey over 2 weeks, on patients taken care of at the University Hospital, patients all combined, they were patients of surgery or medicine or day hospitalization. And we questioned, I could give you the results, 440 patients, and we wanted to question them on the use of non-conventional care practices. And over those 2 weeks, among those 440 patients, there were 60%, 6/10 who told us that during their life, they had used these practices. And 46% during the last year. You see what i mean." (*Respondent 1)*

However, we observed a major paradox between this medicine sought by patients, which seems very rich — whether in terms of clinical reasoning, of the holistic vision of the patient that is promoted there, or of the diversity of the therapeutic approaches proposed — and a reluctance expressed, notably on the part of the caregiver community.

“For now in any case at the hospital, because I work here at the hospital, there is a lot of resistance.” (*Respondent 1)*

Several reasons for this resistance are mentioned in the interviews. First, a lack of scientific framework, such as recognized training, scientific studies regarding the effectiveness of the different approaches, the lack of learned societies: these aspects harm IM because of the potential drifts that result from them.

“The problem (…), is that today, it’s easy to say, I did two weekends in plantar reflexology, and I set myself up to practice plantar reflexology. It’s not quite the same thing as doing a one- or two-year training in plantar reflexology. So the pitfall I see is that if there is no framework, (...), there is no learned society to supervise these practices, well, we can find the best as well as the worst. That’s what is complicated.” (*Respondent 1)*

“That is to say, not to go do a 3-4 day yoga workshop and then become a yogi, huh. Not either 3-4 heated stones and to do medicine. (…) that, I can’t hear about it, I don’t want to, that precisely harms all the other possible therapies that could be adjunct or related and could be added to allopathic medicine.” *Respondent 8)*

Moreover, our results highlight that the practice of this holistic medicine requires time, which is a major issue and which today is a rare commodity in the daily life of clinicians.

“The major difficulty is time. The consultation time that regularly forces us not to explore as much as we would like. But we have a very effective weapon in general medicine, it’s that we can see people again. And so what we didn’t do in one consultation, we can do at the next one. We can even ask the patient to make a dedicated consultation for a specific issue.” (*Respondent 6)*

“Integrative health also requires a lot of time, and maybe that’s also why it’s difficult to implement in hospitals, because sometimes we don’t have time.” (*Respondent 3)*

However, clinicians see an interest and even an imperative that conventional medicine should explore more of these complementary approaches, sought by patients, in order to be able to offer them in a safe framework.

“As patients are in demand, and since at the hospital there is resistance, and that nothing is being done, at least for now, well, things are developing in town, with clinicians.” *(Respondent 1)*

“And I find that a pity. A pity for the patients, but I’m not so worried for the patients, because the patients will have the resources and they will find them. On the other hand, I am worried for the medical board, because if they don’t catch the train of this medicine, they will miss something.” *(Respondent 1)*

Another key issue lies in the concern of participants to teach and transmit the subtleties of this approach in a rigorous and scientific way.

“Well, it’s about teaching students the importance of words, the importance of posture, the importance of everything that is non-verbal, non-verbal communication, and also how to capture a patient’s attention to reduce their anxiety, even their pain. Basically, it’s the global management of patients.” *(Respondent 4)*

“When I was in the mobile team, we sometimes received interns, it was very important to show how I establish a connection with a patient, how I make contact. I knock when I enter the room, I wait to be given permission, I enter, I sit down, I ask for permission to sit next to them, I never stay standing at the foot of the patient’s bed, I sit at their level, and I introduce myself, here’s who I am, here’s who you are. (…) And that is very, very important for me. And at one point, we welcomed, with the mobile team, interns for semiology placements. (...). And I told them: ‘We are going to do clinical examinations, for sure that will be interesting, but what you will learn is much less the know-how than the know-how-to-be.’ ” *(Respondent 1)*

Discussion and implications

This study aimed to explore the clinical reasoning processes of physicians practising (IM); our results revealed that the definition of IM remains somewhat unclear for our participants, nevertheless, most of them described integrating IM into their clinical practice as a process that progressively enriches both the therapeutic relationship and their clinical reasoning with patients.

Participants demonstrated particular attentiveness to the relational dynamics established between themselves and their patients, whether to develop a more comprehensive understanding of the situation or to encourage patients to become active partners in managing their illness. This perspective echoes the work of Mainous (28), who emphasised how the physician–patient relationship evolves over time based on shared experiences during repeated consultations, hospitalisations, or home visits. Our findings also align with Stewart’s work (29), which underscores the core components of a patient-centred approach: exploring not only the disease but also the illness experience; understanding the person as a whole; negotiating shared ground in care management; and emphasising prevention and health promotion. Pomey et al. (30) have shown that engaging patients in managing their own health is a promising avenue. The patient partnership model developed by these authors is based on recognising patients’ experiential knowledge, acquired through their journey with illness, as a complement to the scientific knowledge held by health professionals. The description of clinical reasoning processes provided by our participants are consistent with recent research on longitudinal clinical reasoning, which primarily seeks to maintain patients’ quality of life and provide ongoing support throughout their health trajectories (14). Such reasoning processes are often perceived as complex: they involve setting

priorities among several potential treatment options, making shared decisions with patients and their relatives in light of their circumstances and values, and ensuring follow-up by adapting to the evolving course of the disease (28). It is noteworthy that our participants described their reasoning processes in IM as the progressive integration of new knowledge into their pre-existing illness scripts. Illness scripts are knowledge structures oriented toward clinical action, designed to enable the efficient performance of professional tasks (29). Initially, clinicians in IM training appear to manage these new forms of knowledge separately or even at a distance from their usual clinical scripts. However, as they develop expertise, one may hypothesise a gradual alignment and eventual integration of this new knowledge into their existing scripts.

This process mirrors Charlin's notion of *script enrichment*, where experience and reflection refine the clinician's mental representations, enabling greater flexibility and contextual adaptation (31). Such enriched reasoning fosters creativity and resilience in complex or uncertain clinical situations — qualities increasingly recognised as essential for sustainable healthcare practice. This enrichment represents an important dimension, as it appears to contribute to renewing clinicians' motivation in their caring practice (32).

5. Strengths and limitations

This study provides original insights into physicians' reasoning in IM, a relatively unexplored area. The use of in-depth interviews allowed for the emergence of nuanced, experience-based themes, while triangulation and reflexive analysis enhanced rigour. Nevertheless, limitations should be acknowledged. The study involved a small number of participants, all practising on Reunion island — a unique socio-cultural context that may limit transferability. Moreover, our participants are not representative of the cultural diversity of Réunion. Our findings did not allow us to determine whether this context is more conducive to the practice of IM. Further studies in different cultural and institutional environments are warranted.

Conclusion

Moreover, numerous therapies remain insufficiently regulated, both in terms of implementation and the recognition of professional qualifications and titles. IM potentially offers valuable perspectives and enhances the management and follow-up of patients. This approach could have a significant impact on population health by improving individuals' physical and psychological health, as well as their overall well-being. However, the boundaries and applications of IM still require clearer definition and appropriation. Indeed, although many patients turn to IM—often without informing their physician for fear of a negative reaction–the scarcity of available studies and limited dedicated research funding continue to hinder the integration of IM into care pathways (8). Nevertheless, the WHO, in its report Traditional Medicine Strategy 2025–2034 (33), states that traditional and complementary medicines "constitute an important and often underestimated component of health care, and that many countries recognise the need to adopt a cohesive and integrative approach to health care". With regards to clinical reasoning, as

well numerous studies have been conducted in clinical reasoning processes, rigorous research should be conducted to better understand this field of clinical reasoning in order to promote IM.

List of abbreviations

IM : Integrative Medicine

WHO : World Health Organization

Declarations

Ethics approval and consent to participate

This study was approved by the Ethics Committee of Universitary Hospital of Bordeaux (France) with approval number CER-BDX 2024-181. This study was conducted in accordance with the ethical principles of the Declaration of Helsinki (2013 revision). Participation in this study was voluntary. All participants provided informed consent prior to completing the survey. The survey was anonymous and participants were informed that their data would be used for research and publication purposes. A clinical trial number is not applicable in this non interventional qualitative study.

Consent for publication

Not applicable.

Availability of data and materials

The datasets used and/or analysed during the current study are available from the corresponding author on reasonable request.

Competing interests

The authors declare that they have no competing interests

Funding

Not applicable

Authors' contribution

SH, ODS, MCA and RG conceptualized the study of this qualitative research. ES acquired the qualitative data collection. ES, SH, MCA and RG interpreted the data. ES, MCA and RG drafted the work, SH and ODS substantively revised it. All the authors approved the submitted version and have agreed both to be personally accountable for the author's own contributions and to ensure that questions related to the accuracy or integrity of any part of the work.

Acknowledgements

Not Applicable

References

1. World Health Organization. *Constitution of the World Health Organization*.; 1946. Accessed July 8, 2025. https://apps1. World Health Organization. Constitution of the World Health Organization [Internet]. New York, NY; 1946 July [cited 2025 July 8]. Available from: https://apps.who.int/gb/bd/pdf/bd47/en/constitution-en.pdf
2. Ministère des Solidarités et de la Santé. National Health Strategy 2018–2022: Summary. English version [Internet]. Paris: Ministère des Solidarités et de la Santé; 2017. Available from: https://sante.gouv.fr/IMG/pdf/dossier_sns_2017_synthesev6-10p_anglaisv2.pdf
3. The Healthcare Imperative: Lowering Costs and Improving Outcomes: Workshop Series Summary [Internet]. Washington, D.C.: National Academies Press; 2010 [cited 2025 Nov 7]. Available from: http://www.nap.edu/catalog/12750
4. Déruaz-Luyet A, N'Goran AA, Senn N, Bodenmann P, Pasquier J, Widmer D, et al. Multimorbidity and patterns of chronic conditions in a primary care population in Switzerland: a cross-sectional study. BMJ Open. 2017 June;7(6):e013664.
5. Starfield B. New paradigms for quality in primary care. Br J Gen Pract. 2001 Apr;51(465):303–9.
6. McEwen L. La médecine intégrative aux États-Unis et en France: Hegel. 2020 Jan 1;N° 1(1):52–7.
7. Gannotta R, Malik S, Chan AY, Urgun K, Hsu F, Vadera S. Integrative Medicine as a Vital Component of Patient Care. Cureus [Internet]. 2018 Aug 4 [cited 2025 Nov 16]; Available from: https://www.cureus.com/articles/13426-integrative-medicine-as-a-vital-component-of-patient-care
8. Nizard J, Paille F, Verneuil L, Berna F. [Principles of integrative medicine, usefulness and risks of nondrug interventions and complementary therapies]. Rev Prat. 2025 Mar;75(3):333–9.
9. World Health Organization. WHO Traditional Medicine Strategy: 2014–2023 [Internet]. Geneva, Switzerland: World Health Organization; 2013. Report No.: 9789241506090. Available from: https://iris.who.int/bitstream/handle/10665/92455/9789241506090_eng.pdf
10. Maizes V, Rakel D, Niemiec C. Integrative Medicine and Patient-Centered Care. EXPLORE. 2009 Sept;5(5):277–89.
11. Payrau B. Une santé intégrative à la française : un défi à relever: Hegel. 2024 Oct 8;Vol. 14(3):273–7.
12. Willms L, St-Pierre-Hansen N. S'harmoniser. Can Fam Physician. 2008 Aug;54(8):1093–5.
13. Pelaccia T, Tardif J, Triby E, Charlin B. An analysis of clinical reasoning through a recent and comprehensive approach: the dual-process theory. Medical Education Online. 2011 Jan;16(1):5890.
14. Audétat MC, Sader J, Notari SC, Ritz C, Fon NC, Maisonneuve H, et al. Understanding and Promoting Clinical Reasoning in Chronic and Multimorbid Conditions: A Call for GPs and Healthcare Professionals. Health. 2019;11(10):1338–46.

15. Cairo Notari S, Sader J, Caire Fon N, Sommer JM, Pereira Miozzari AC, Janjic D, et al. Understanding GPs' clinical reasoning processes involved in managing patients suffering from multimorbidity: A systematic review of qualitative and quantitative research. Int J Clin Pract [Internet]. 2021 Sept [cited 2025 Nov 7];75(9). Available from: https://onlinelibrary.wiley.com/doi/10.1111/ijcp.14187
16. Grace S, Orrock P, Vaughan B, Blaich R, Coutts R. Understanding clinical reasoning in osteopathy: a qualitative research approach. Chiropr Man Therap. 2016 Dec;24(1):6.
17. Levy D, Ajjawi R, Roberts C. How Do Homeopaths Reason and Make Decisions? Integrating Theory, Practice, and Education. The Journal of Alternative and Complementary Medicine. 2010 Dec;16(12):1321–7.
18. Graham KD, Steel A, Wardle J. Making sense of complexity: A qualitative 'Framework' analysis of naturopathic case management and clinical reasoning. Complementary Therapies in Clinical Practice. 2023 Aug;52:101773.
19. Kligler B, Maizes V, Schachter S, Park CM, Gaudet T, Benn R, et al. Core Competencies in Integrative Medicine for Medical School Curricula: A Proposal: Academic Medicine. 2004 June;79(6):521–31.
20. Snyderman R, Weil AT. Integrative Medicine: Bringing Medicine Back to Its Roots. Arch Intern Med. 2002 Feb 25;162(4):395.
21. Zollman C, Vickers A. ABC of complementary medicine: What is complementary medicine? BMJ. 1999 Sept 11;319(7211):693–6.
22. Charlin B, Lubarsky S, Millette B, Crevier F, Audétat M, Charbonneau A, et al. Clinical reasoning processes: unravelling complexity through graphical representation. Medical Eudcation. 2012 May;46(5):454–63.
23. Govindama Y. Corps et médecine à l'île de la Réunion. bupsy. 1995;48(419):321–31.
24. Goodman LA. Snowball Sampling. Ann Math Statist. 1961 Mar;32(1):148–70.
25. Kurtz S, Silverman J, Benson J, Draper J. Marrying Content and Process in Clinical Method Teaching: Enhancing the Calgary–Cambridge Guides. Academic Medicine. 2003 Aug;78(8):802–9.
26. Kiger ME, Varpio L. Thematic analysis of qualitative data: AMEE Guide No. 131. Medical Teacher. 2020 Aug 2;42(8):846–54.
27. Tong A, Sainsbury P, Craig J. Consolidated criteria for reporting qualitative research (COREQ): a 32-item checklist for interviews and focus groups. International Journal for Quality in Health Care. 2007 Sept 16;19(6):349–57.
28. Mainous AG. Patient-Physician Shared Experiences and Value Patients Place on Continuity of Care. The Annals of Family Medicine. 2004 Sept 1;2(5):452–4.
29. Stewart M. Towards a global definition of patient centred care. BMJ. 2001 Feb 24;322(7284):444–5.
30. Pomey MP, Flora L, Karazivan P, Dumez V, Lebel P, Vanier MC, et al. Le « Montreal model » : enjeux du partenariat relationnel entre patients et professionnels de la santé: Santé Publique. 2015 Mar 18;S1(HS):41–50.

31. Charlin B, Tardif J, Boshuizen HPA. Scripts and Medical Diagnostic Knowledge: Theory and Applications for Clinical Reasoning Instruction and Research. Academic Mdicine. 2000 Feb;75(2):182–90.
32. Norton J. The Science of Motivation Applied to Clinician Burnout: Lessons for Healthcare. Frontiers of Health Services Management. 2018;35(2):3–13.
33. Alice Wong YM, Ahn S, Bana A, Kumar Dua P, Eggers R, Kuruvilla S, et al. Policy implications of WHO's global traditional medicine strategy 2025–2034. Bull World Health Organ. 2025 Nov 1;103(11):715–21. o.int/gb/bd/pdf/bd47/en/constitution-en.pdf

Figures

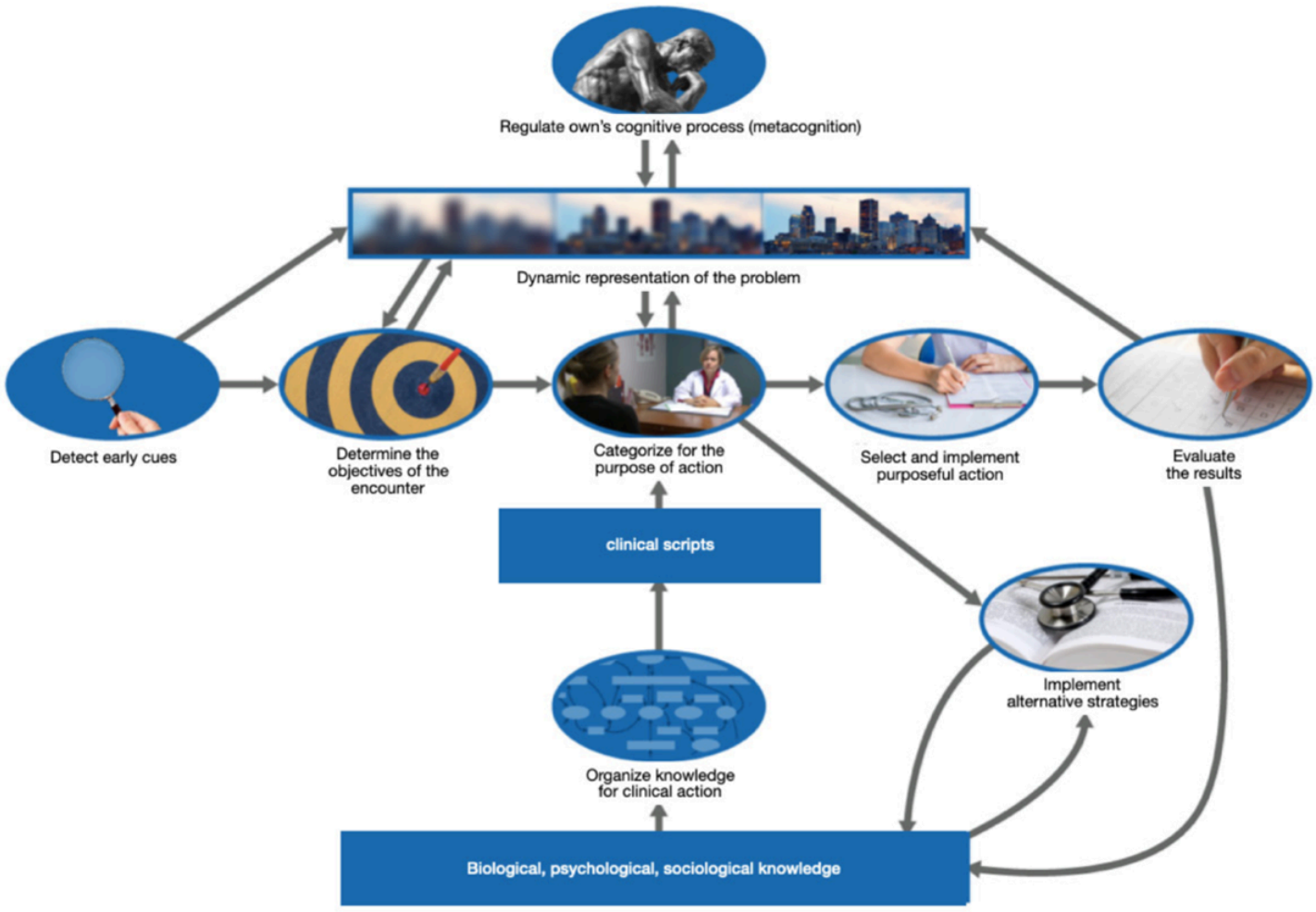


Figure 1

Simplified representation of the Montréal Model of Clinical Reasoning Processes (adapted from Charlin et al. (22)), extracted from the MOOC "Supervision du raisonnement clinique en contexte de soins.", with the permission of the authors.