INTRODUCTION

The prevalence of multimorbidity is increasing with the rise in chronic diseases and the rapid ageing of the population. This has implications for all health care professions, since patient care is becoming increasingly complex and can only be optimally managed through the interaction of all professionals involved.\(^1\) In addition, more and more patients want to add on complementary medicine to their treatment.\(^2\) Complementary medicine refers to a...
broad set of health care practices that are not integrated into the dominant health care system. At present, neither doctors, nurses nor other health professionals may feel sufficiently qualified to satisfy patients’ preferences for complementary medicine or to advise them appropriately. To meet the demand for holistic care, it is necessary to combine complementary medicine with conventional health care. This integrative medicine is an approach which ‘reaffirms the importance of the relationship between practitioner and patient, focuses on the whole person, is informed by evidence, and makes use of all appropriate therapeutic and lifestyle approaches, healthcare professionals and disciplines to achieve optimal health and healing’. To ensure successful cooperation in the field of complementary and integrative medicine (CIM), the individual professions have to be appropriately qualified through interprofessional training. Being educated in an interprofessional setting provides an opportunity to share skills and knowledge between professions and facilitates the development of shared values and a better understanding of the roles and responsibilities of other health care professionals. So far, interprofessional curricular CIM concepts have been lacking in undergraduate training programmes. The few examples show that students welcome the opportunity to learn more about CIM and to benefit from the experiences and approaches of other professional groups within the interprofessional setting.

To meet the demand for holistic care, it is necessary to combine complementary medicine with conventional health care.

Nevertheless, hardly any such programmes have been established so far in German-speaking countries, possibly due to very different views on the success of such endeavours on the part of the medical faculties. A structured and considered approach to the development of CIM training is important to find a consensus among the different stakeholders concerning goals and strategies for implementation. This article examines the questions of what benefits and challenges are to be expected when implementing interprofessional CIM teaching programmes at medical schools.

2 | METHODS

Experts throughout Germany and German-speaking Switzerland were involved in a three-round Delphi survey from March 2018 to March 2019. The Delphi method is a multi-stage technique for structuring group communication so that the process is effective in dealing with a complex problem. The assessments in all three Delphi rounds related to a potential CIM training programme that could be offered within an interprofessional setting at medical schools. In the first and second rounds, the experts identified and weighted suitable competencies and topics. These results are published elsewhere. In the third round, the experts discussed teaching methods and framework conditions (Figure 1).

Selection criteria for the participating experts were defined by a steering group (AH, general practitioner, nurse, patient representative, teaching coordinator and course administrator); for example, the experts should have various professional backgrounds and a wide range of experience in teaching and patient care. Physicians were selected from the outpatient and inpatient sectors, and from various disciplines such as paediatrics and geriatrics. In addition, students, patient representatives, health insurance representatives and stakeholders, such as institute directors, were invited to incorporate the perspectives of learners, patients and medical faculties. Experts were recruited through professional associations, for example membership...
lists of the Society for Medical Education or through the Association of Representatives of German Students of Medicine and Physiotherapy. Participation in the previous Delphi rounds was a prerequisite for participation in the subsequent rounds to ensure a dynamic consensus-finding process. Anonymity within the survey process was strictly maintained to prevent the authority, personality or reputation of some participants from dominating others. Participants were personally invited by e-mail. A reminder was sent after 3 and 6 weeks. After each round, the participants received a comprehensive report in which all results were summarised and presented.

In all, 40 experts were invited to the third Delphi round to answer the following two open questions used for the analysis in this study.

In your opinion, what are the greatest.

1. benefits and/or opportunities
2. barriers and/or challenges

when offering an interprofessional CIM teaching programme at a medical school?

The statements were analysed directly on the text material by authors AH and BS independently of each other using content analysis. All free-text answers were broken down and arranged according to comparable statements; key categories and subcategories for both questions were formed inductively from these statements with the help of MAXQDA 11 (VERBI Software, 2019) and then all statements were grouped into these categories. Finally, AH and BS discussed their identified categories and assignments until consensus was reached.

3 | RESULTS

The response rate was 90% for the invitation to the third Delphi round (n = 40), and 55% for the original expert panel (n = 65). All participants of the third round (n = 36) answered the two open questions underlying this presentation (Table 1).

The stated benefits/opportunities could be assigned to the main categories of patient care, teaching and learning, and faculty development. Two statements could not be assigned because they were too general. One of them emphasised the importance of interprofessional teaching (Table 2).

The cited barriers/challenges could be assigned to the main categories of teaching and learning, faculty development, and implementation. Three statements could not be assigned because they emphasised the benefits of interprofessional teaching (Table 3). The complete quotations are available in the Supporting Information.

4 | DISCUSSION

The experts named numerous different benefits and barriers that could arise from offering an interprofessional CIM training. In the following, the results are discussed according to the key categories.
cooperation between health professionals, coordinating effective patient care and helping members of different disciplines to understand the priorities, needs and challenges of their colleagues and thus also contributes to a better outcome for patient safety.\(^\text{11}\)

The experts assume that a CIM seminar will have a positive effect on holistic care and team-based care and that both areas have a positive influence on each other.

### TABLE 2 Example quotations regarding the question: In your opinion, what are the greatest benefits and/or opportunities when offering an interprofessional CIM seminar at a medical school?

| Categories                                | Example quotations                                                                                                                                                                                                 |
|-------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Patient care                              | • The activation of patients and the view of the whole person and not just the specialist area (5)  
• The opportunity to experience diseases and therapies from the perspective of another medical or therapeutic profession and to get to know, assess and apply complementary diagnostic and therapeutic procedures from different areas of complementary and conventional medicine with a deeper perspective (9)  
• The approach is basically wonderful because complementary medicine thrives on interprofessionalism. The professional groups have different focuses in the treatment/care of patients. Interdisciplinarity enables the participants to gain a more comprehensive picture of treatment options (22)  
• Overcoming stereotypes, achieving an interprofessional sense of unity (1)  
• Preparation for successful interprofessional cooperation in professional practice (especially in the interest of the patients). Better understanding of the other professional groups and thus reduction/overcoming of profession-specific conflicts (13)  
• Integration of CIM in health care (3)  
• To create a different image of and a wider audience for CIM (31)  
• To meet the requirements of everyday medical practice and to proceed scientifically, especially since education and information are becoming increasingly important (29)  
• Looking beyond conventional medical procedures can be helpful in assessing the procedures themselves, and allows new procedures to be assessed in terms of evidence and effectiveness (34)  
• Learning from, with and about each other by learning common skills (16)  
• In interprofessional teaching. The students have the opportunity to get to know each other during their studies (32)  
• It could provide an overview of the diversity of care services offered in addition to traditional orthodox medicine (27)  
• Important discussions can take place since complementary and integrative medicine is certainly connoted with philosophical and ethical questions (32)  
| Strengthening holistic and patient-centred care                                                                                   |                                                                                                                                                   |
| Strengthening interprofessional collaboration                                      |                                                                                                                                                   |
| Implementation of CIM in patient care                                            |                                                                                                                                                   |
| Strengthening evidence-based medicine/care                                        |                                                                                                                                                   |
| Teaching and learning                                                               |                                                                                                                                                   |
| Learning together                                                                    |                                                                                                                                                   |
| Broadening horizons                                                                  |                                                                                                                                                   |
| Faculty development                                                                 |                                                                                                                                                   |
| Opening up new perspectives                                                          |                                                                                                                                                   |
| Strengthening scientific orientation                                                 |                                                                                                                                                   |
| Modernising training                                                                 |                                                                                                                                                   |

Notes: \(N = 36\); Numbers in brackets indicate experts’ sequential identification number; quotations are arranged according to the frequency of mention in the main categories, subcategories and identification numbers.

However, concerning teaching and learning, the experts also clearly express the need for interprofessional education to overcome existing stereotypes and create common ground. It is assumed that cooperation in patient care can only succeed if learning together is already done during the course of studies.\(^\text{1}\) Most of the barriers are considered to be in the field of teaching and learning. In addition to the challenges of interprofessional learning in general,\(^\text{12}\) students already have very different experiences and attitudes in the field of CIM. This requires an open approach on the part of the lecturers to integrate these different conditions constructively into the teaching process. To prepare medical and health care students for care practice, it is necessary to equip them with the ability to deal with multiple perspectives and treatment options which cannot be clearly assessed, since in practice a mosaic of different cultures usually already exists.\(^\text{13}\) This places high demands on the lecturers.
It is therefore not surprising that difficulties are suspected in the area of implementation. It is assumed by the experts that it can be difficult to find suitable lecturers who can master teaching in both the interprofessional and complementary fields. It is possible that among the experts interviewed, as well as in general, there are only a few lecturers who have experience in both areas. Since CIM has not yet established itself as an independent discipline in Europe, there is also a lack of structures to not only provide a pool of scientists and practitioners but also clearly define the subject area. This means that pioneers are needed to take up the field and give it an evidence-based foundation. It has already been shown that evidence-based medicine and complementary medicine can be combined well conceptually. This connection also seems important in view of the concern that scientific knowledge might be lost through teaching in this area.

In particular, the key category of faculty development contains very controversial statements. Respondents suspected that there may be little openness and acceptance for such a seminar at the faculties and that there is a fear that the reputation and scientific rigor of the faculty could be jeopardised. However, the experts also see the implementation of interprofessional CIM training as an opportunity to overcome traditional structures, to question the scientific approach more critically and to modernise teaching in general. Overall, the results show that the experts expect effects at all levels: with learners, within faculty development and for patient care, though only positive aspects are named for patient care. The implementation of interprofessional teaching in the field of CIM seems promising because of these effects, although much structural work still needs to be done for curricular implementation.

**TABLE 3** Example quotations regarding the question: In your opinion, what are the greatest barriers and/or challenges when offering an interprofessional CIM seminar at a medical school?

| Categories | Example quotations |
|------------|--------------------|
| **Teaching and learning** | | |
| Uncritical teaching | To present the diversity of complementary medicine and enable students to form their own judgment (6) |
| | Teaching an open but also critical approach to CIM methods (36) |
| Content overload and arbitrariness | To develop a curriculum that covers as many important complementary fields as possible and also clearly sets out the limits of complementary methods (9) |
| | Wanting to teach too much content or competencies (10) |
| Differences in prior knowledge and experience | To design CIM contents in such a way that every student is challenged and benefits without being overburdened. The students from the different areas have different levels of prior knowledge according to the respective courses of study with their main focus. Thus, the students are at different starting levels (1) |
| | Different previous knowledge, learning requirements. Profession-specific reservations about the other professional groups. Different levels of experience with regard to teaching/learning methods and potentially, as a result, reservations about certain formats (13) |
| Lack of openness and motivation among students | The motivation of the students will be very different (10) |
| | Depending on the level of training, especially of medical students, orthodox medical thinking is already strongly developed. Therefore, complementary medicine could be difficult to accept (16) |
| **Faculty development** | | |
| Lack of acceptance | Lack of acceptance by the scientific disciplines (28) |
| | Institutions/faculty may not support the programme, may not award any credits relevant to doctoral studies, and consequently the seminar is not taken (32) |
| Fail to reach an agreement | The relevance of CIM may vary in the different areas (8) |
| | To compile a curriculum that is relevant and interesting for the participating students (9) |
| Loss of scientific thinking | Loss of critical reflection on medicine, nursing and care in general, because CIM is for the most part not evidence-based (21) |
| | Lack of evidence. Promotion of procedures and methods that would be taught at the scientific level without proof of benefit and thus may not fulfil the task of teaching and research in terms of quality (29) |
| **Implementation** | | |
| Difficult scheduling | Scheduling different study programmes (18) |
| | That it represents an additional time burden and that the workload is too great for interested students (35) |
| Recruitment of lecturers | Difficulty in finding suitable lecturers with a university degree and sufficient experience (10) |
| | Selection of suitable lecturers who critically evaluate the available data and communicate it in a balanced way to the students (36) |
| Unequal composition of participants | If too few people from one professional group participate, this can confirm stereotypes or make the implementation of learning with each other more difficult (3) |

Notes: N = 36; Numbers in brackets indicate experts’ sequential identification number; quotations are arranged according to the frequency of mention in the main categories, subcategories and identification numbers.
4.1 | Limitations

This is a non-representative qualitative approach among various experts. Other experts would have brought up different aspects and the results provide only a current picture. Due to the very open questions, the results show the attitudes, fears and hopes associated with this sensitive topic. Since curriculum development takes place in negotiation processes, knowledge of these aspects can be very beneficial.

4.2 | Conclusion

The results suggest that, from the experts’ point of view, interprofessional education focusing on CIM is suitable to meet future challenges in the health care sector. In particular, it is assumed that the different perspectives of the individual professional groups on the needs of the patient, as well as consider the different care paradigms (conventional and complementary medicine) in interprofessional training, will have positive effects on holistic and team-based care and on faculty development. It might be challenging to teach the topics within an interprofessional setting in a critical manner. However, the results indicate that it is important to create structures to define CIM content in the interprofessional field and underpin it with a scientific basis to provide high-quality teaching that meets the scientific demands of the faculties, as well as the individual expectations of the patients.

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CONFLICT OF INTEREST

None.

ETHICAL APPROVAL

Ethical approval for the Delphi survey was obtained from the ethics committee of the Medical Faculty of the University of Heidelberg, May 15, 2017 (Approval no. S-087/2017).

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REFERENCES

1. Reeves S, Pelone F, Harrison R, Goldman J, Zwarenstein M. Interprofessional collaboration to improve professional practice and healthcare outcomes. Cochrane Database Syst Rev. 2017;6:CD000072.
2. Kemppainen LM, Kemppainen TT, Reippanen JA, Salmenniemi ST, Vuolanto PH. Use of complementary and alternative medicine in Europe: Health-related and sociodemographic determinants. Scand J Public Health. 2018;46(4):448–55.
3. Aveni Eleonore, Bauer Brent, Ramelet Anne-Sylvie, Decosterd Isabelle, Ballabeni Pierluigi, Bonvin Eric, Rodondi Pierre-Yves, et al. Healthcare professionals’ sources of knowledge of complementary medicine in an academic center. PLoS One. 2017;12(9):e0184979.
4. Academic Collaborative for Integrative Health (ACIH). Competencies for Optimal Practice in Integrated Environments. 2018. Available from: https://integrativehealth.org/competencies-integrated-practices/ (accessed on 2 October 2020).
5. Reeves S, Fletcher S, Barr H, Birch I, Boet S, Davies N, et al. A BEME systematic review of the effects of interprofessional education: BEME Guide No. 39. Med Teach. 2016;38(7):656–668.
6. 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. Acad Med. 2004;79(6):521–31.
7. Kutt A, Mayan M, Bienko I, Davies J, Bhatt H, Vohra S. An Undergraduate Course Combining Interprofessional Education and Complementary Health Approaches Learning Objectives: Successful Integrative Learning that Improves Interest and Reduces Redundancy. Explore. 2019;15(4):273–82.
8. Linstone HA, Turoff M. The Delphi Method: Techniques and Applications. Reading, Mass: Addison-Wesley; 1975.
9. Homberg A, Klafke N, Glassen K, Loukanova S, Mahler C. Role Competencies in Interprofessional Undergraduate Education in Complementary and Integrative Medicine: A Delphi Study. Complement Ther Med. 2020;54:102542.
10. Flick U. An Introduction to Qualitative Research. 5th edn. Los Angeles: Sage; 2014.
11. Templeman K, Robinson A, McKenna L. Advancing medical education: connecting interprofessional collaboration and education opportunities with integrative medicine initiatives to build shared learning. J Complement Integr Med. 2016;13(4):347–55.
12. Schwarzbeck V, Hundertmark J, Wipfler K, Mahler C, Frankenhauser S, Schultz JH. Suggestions for interprofessional educational courses from a students’ perspective - a qualitative study. GMS. J Med Educ. 2019;36(1):Doc4.
13. Witt CM, Perard M, Berman B, Berman S, Birdsall TC, Defren H, et al. Using the framework of corporate culture in “mergers” to support the development of a cultural basis for integrative medicine - guidance for building an integrative medicine department or service. Patient Prefer Adherence. 2015;9:113–20.
14. Leach MJ, Canaway R, Hunter J. Evidence based practice in traditional & complementary medicine: an agenda for policy, practice, education and research. Complement Ther Clin Pract. 2018;31:38–46.

SUPPORTING INFORMATION

Additional supporting information may be found online in the Supporting Information section.

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