

RESEARCH

Open Access



# Insights into the profile, professional setting, and needs of in-home physiotherapists in Switzerland: a national online survey

Lauriane Rime<sup>1\*</sup>, Chloé Schorderet<sup>2,3,4,5</sup> and Lara Allet<sup>2,3,4,6</sup>

## Abstract

**Background** The aging of the population and the increasing prevalence of chronic diseases result in a growing number of people living with functional disabilities. Swiss public health policy and population preferences lead to an increase in the number of people staying at home rather than in institutions in Switzerland. As a result, the demand for home care services is growing and physiotherapists play a key role. In the absence of available data, this study aims to provide an overview of the profile, patients, collaborations, job satisfaction, and professional needs of in-home physiotherapists in Switzerland.

**Methods** A cross-sectional online survey was conducted in Switzerland from December 1, 2023 to March 17, 2024. Physiotherapists practising in-home physiotherapy were eligible to participate in the survey. Swiss physiotherapy associations disseminated the survey link electronically to their members. Data were collected anonymously online using REDCap software and analysed with RStudio. A subgroup analysis was conducted between French- and German-speaking parts of Switzerland.

**Results** A total of 439 questionnaires were analysed. Participants demonstrated a high level of professional experience, with an average of 23.5 years in the profession and 17.2% of participants exclusively practiced in-home physiotherapy. Geriatrics, orthopaedics and musculoskeletal, and neurology were the primary domains treated, with a notable patient demographic aged 80 and over. Participants most frequently collaborated with physicians, nurses, and occupational therapists. Poor ergonomics was the most prevalent encountered difficulty by participants. Overall job satisfaction was high. Participants expressed a desire to have a facilitated access to patient medical information and to improve interprofessional collaboration, and argued in favour of tariff adjustments.

**Conclusions** This study highlights several aspects of in-home physiotherapy in Switzerland. Although physiotherapists reported a high level of overall job satisfaction, access to patients' medical information, interprofessional collaboration and ergonomics should be enhanced. Future research should assess interprofessional collaboration effectiveness, explore patient needs, and study digitalisation's impact on this practice.

**Keywords** In-home physiotherapy, Home care, Community based services, Survey, Switzerland

\*Correspondence:

Lauriane Rime

lauriane.rime@hotmail.com

<sup>1</sup>School of Health Professions, Discipline of Physiotherapy, Bern University of Applied Sciences, Bern, Switzerland

<sup>2</sup>School of Health Sciences, HES-SO Valais-Wallis, University of Applied Sciences and Arts Western Switzerland, Sion, Switzerland

<sup>3</sup>The Sense Innovation & Research Center, Lausanne, Switzerland

<sup>4</sup>The Sense Innovation & Research Center, Sion, Switzerland

<sup>5</sup>Department of Epidemiology, Care and Public Health Research Institute (CAPHRI), Maastricht University, Maastricht, Netherlands

<sup>6</sup>Department of Medicine, University Hospitals of Geneva and University of Geneva, Geneva, Switzerland



© The Author(s) 2025. **Open Access** This article is licensed under a Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License, which permits any non-commercial use, sharing, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons licence, and indicate if you modified the licensed material. You do not have permission under this licence to share adapted material derived from this article or parts of it. The images or other third party material in this article are included in the article's Creative Commons licence, unless indicated otherwise in a credit line to the material. If material is not included in the article's Creative Commons licence and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder. To view a copy of this licence, visit <http://creativecommons.org/licenses/by-nc-nd/4.0/>.

## Background

An ageing population and longer life expectancy are associated with a higher prevalence of chronic diseases, resulting in a growing number of older people living with functional disabilities and requiring long-term care [1, 2]. According to a recent national survey, the majority of older people in Switzerland express a preference to remain at home rather than be institutionalised [3]. Literature underscores the broader preference for home-based care among diverse patient populations [4–6]. This preference extends to rehabilitation services, including physiotherapy and home-based exercise programs, as patients benefit from the familiarity and comfort of their home environment, along with the autonomy, control, and social support it provides [4–6]. This aligns with the objectives of the Swiss public health policy, which prioritizes home care for older people, individuals with disabilities and those suffering from chronic illnesses [7]. As a result, the demand for home care services is growing in Switzerland [8]. These community based services include a variety of home-delivered interventions such as basic care and nursing care and cater to all age groups, from newborn babies to older adults [9]. In Switzerland, they are generally co-financed by health insurance, public authorities (cantons and municipalities), and by patients themselves [10]. Services are provided by private, for-profit providers, not-for-profit organisations and independent professionals [10]. In-home physiotherapy is following the same trend and is a rapidly expanding field [11].

In order to provide quality care at home, interprofessional collaboration is essential [12, 13]. Physiotherapists play a key role in home care models, as emphasized by several authors [14–16]. These professionals adopt a rehabilitation approach that encourages patients to carry out tasks as independently as possible, recognising the importance of maximising patients' functional abilities in their home environment [17]. The objective of in-home physiotherapy is to identify, assess, support, and respond to the health needs of patients in their own environment, thereby enhancing their autonomy [18]. The effectiveness of in-home physiotherapy has been highlighted by several systematic reviews for various patient groups: older adults with musculoskeletal disorders [19], patients with chronic obstructive pulmonary disease (COPD) [20], cardiac patients [21], and stroke patients [22]. Furthermore, in-home physiotherapy ensures that patients who are unable to visit a traditional physiotherapy facility still have access to essential physiotherapy services [18]. In addition, in-home physiotherapy adapted to patients' needs and disability brings positive outcomes, such as increased patient engagement in their healthcare [23].

Physiotherapists working in people's homes face complex patient situations, which can be physically and

psychologically demanding [24]. According to a Nigerian study, the primary challenge for in-home physiotherapists in Nigeria is poor ergonomics [25]. Moreover, in-home physiotherapy is associated with greater organisational and time constraints [24]. The main obstacles to the effective integration of physiotherapy into home care models in New Zealand include insufficient resources within physiotherapy services and a lack of trust and mutual understanding among different members of the home care team, resulting in contradictory and non-rehabilitation-focused practices [26].

In Switzerland, physiotherapy services are reimbursed by basic health insurance or accident insurance (or other social insurances) if prescribed by a doctor [27]. The Swiss physiotherapy tariff structure is based on a system of tariff points allocated to services [28]. The final cost is determined by multiplying these points by a value set at cantonal level and validated by the relevant authorities [28]. In case of in-home physiotherapy, a flat rate travel allowance is added to the cost [28].

To our knowledge, there are currently no demographic data available on physiotherapists practising in-home physiotherapy in Switzerland, nor data on their job satisfaction, and professional needs. This lack of data is unfortunate, as it would help highlighting the challenges faced by in-home physiotherapists and identifying areas for improving the quality of care. In addition, Switzerland consists of three main linguistic regions. Given the variations in the use of homecare services between these regions [29], investigating potential differences in in-home physiotherapy across linguistic regions could provide valuable insights. The primary objective of this study was to examine the profile, patients, collaborations, job satisfaction, and professional needs of in-home physiotherapists in Switzerland. The secondary objective was to discern potential differences between French- and German-speaking Switzerland in terms of collaboration, job satisfaction, and professional needs of in-home physiotherapists.

## Methods

### Study design

A cross-sectional online survey was conducted in Switzerland from December 1, 2023 to March 17, 2024. Since this study was based on a survey and did not involve any intervention, it was not registered, and no protocol was published.

### Questionnaire development

To achieve the objectives of the study, a comprehensive questionnaire was formulated through a multi-step process. Initially, existing literature was reviewed to explore similar studies conducted in other countries. The questionnaire developed by Onyeso et al. in a similar study

conducted in Nigeria [25] served as a foundational framework for our study, while incorporating items pertaining to general information and the profile of physiotherapists, drawn from The Physical Therapy Profile Questionnaire (PTPQ) [30]. The research team led by a professor with expertise in home care, interprofessional collaboration, questionnaire development methodology and psychometric properties, alongside a PhD student with similar experience and a master's student, carefully selected relevant items from these questionnaires. They refined them as necessary and integrated additional questions to ensure a precise alignment with the study objectives and the context of the Swiss healthcare system. Guidelines from various sources, such as the Checklist for Reporting Results of Internet E-Surveys (CHERRIES) were followed to ensure methodological rigor and enhance the quality of the study [31–36]. An iterative process was undertaken within the research team to refine the questionnaire. It was supplemented by input from two external reviewers (a physiotherapist MSc working in the field of research and an employee of a homecare company with a Master's degree in management), who were asked to give written feedback on the content and understanding of the questionnaire. Subsequently, it underwent testing by four French-speaking in-home physiotherapists, who provided valuable feedback on content, relevance, comprehensiveness, and clarity. This feedback was discussed within the research team and led to the development of the final French version of the questionnaire. Following this, the questionnaire was translated into Italian and German by a member of the Swiss Association for Translation, Terminology, and Interpreting (ASTTI) to ensure that it was accessible to all three language regions of Switzerland. The translated versions were reviewed by native-speaking physiotherapists in Italian and German to ensure linguistic accuracy. Adjustments were made, particularly regarding terminology specific to medicine and physiotherapy. The French version of the questionnaire was integrated into the REDCap (Research Electronic Data Capture) software [37, 38], with translated versions incorporated using the multilanguage management tool. The survey's functionality on REDCap was tested by the research team. For each language, two or three in-home physiotherapists were invited to respond online to assess the technology's feasibility [35]. The project moved to production status on REDCap after addressing any identified issues.

The questionnaire was organised into four sections to fulfil the study objectives: (i) participant demographic and background information (age, gender, educational background, years and area of practice, canton of practice, current practice setting(s), activity rate, employment status); (ii) patients profile, professional network and working environment (type of patients treated,

professional network and collaboration, access to patient electronic health record, therapeutic material, means of transport and travel time, supervision of students, difficulties and benefits of in-home physiotherapy); (iii) job satisfaction; and (iv) professional needs. Close-ended question types were predominantly used, with different response formats (radio buttons, check boxes, Likert scale). For some questions, participants had the possibility to tick more than one answer, resulting in some percentages exceeding 100% in the results. Branching logic was implemented to display certain questions depending on participants' responses to previous items. Some questions had an open-ended component to allow participants to expand on their responses. Items were not randomized or alternated. The survey consisted of 11 pages, with approximately ten items pro page. Participants had the option of returning to the previous page to change their answers, as well as stopping the survey and resuming it later.

### Participants and recruitment

Physiotherapists practising in-home physiotherapy in Switzerland were invited to participate in the online survey. Inclusion criteria were as follows: (1) actively practising in-home physiotherapy in Switzerland at the time of completing the survey, (2) conducting a minimum of three in-home therapies per week, (3) having at least one year of experience as an in-home physiotherapist, and (4) understanding and being able to express themselves in French, German, or Italian.

A convenience sampling method was used. To guarantee broad geographical representation and maximize participant reach, electronic recruitment methods were employed. Prior to the commencement of the study, the research team proactively reached out to the cantonal and regional physiotherapy associations of Physioswiss and the Swiss Association of Independent Physiotherapists (ASPI-SVFP). These associations were informed of the study's objectives, and invited to collaborate in the recruitment process by sending the survey link among their members.

### Survey distribution and data collection

The 16 cantonal and regional associations of Physioswiss and the ASPI-SVFP disseminated the open survey link with an introductory message to all their members via email or included it in their newsletters. The message included study objectives, survey duration, language options, and information on respondent anonymity and the investigators. A reminder was sent two months later. Only physiotherapists practicing in-home physiotherapy were invited to participate. To ensure this, participants had to answer two screening questions before starting the questionnaire. The survey was voluntary,

self-administered, and participants could use various devices. No incentives were offered to participate in the survey. Data were collected anonymously online using the REDCap software hosted at the University of Applied Sciences and Arts Western Switzerland [37, 38].

### Data analysis

The data extracted from REDCap were formatted as a CSV file and imported into RStudio version 2023.12.1 for data cleansing and analysis. Both fully completed and partially completed datasets were analysed. Depending on the nature of the question, frequencies and percentages were used for categorical variables, while mean and standard deviation, or median and interquartile range, were computed for continuous variables. For the analysis of textual content, qualitative content analysis was conducted to identify recurring themes within the data [39]. The results were then compiled in a Microsoft Excel file. A subgroup analysis was conducted to compare responses between French-speaking and German-speaking regions of Switzerland for selected items. Categorical variables were summarised using descriptive statistics (proportions), and differences between linguistic regions were assessed using Pearson's Chi-squared tests. These analyses were applied to variables related to interprofessional collaboration (dichotomised as collaboration vs. no collaboration), overall job satisfaction (dichotomised as "good"/"excellent" vs. other), and the various dimensions of professional needs (dichotomised as "yes"/"rather yes" vs. other). The cantons of Fribourg, Geneva, Jura, Neuchâtel, Valais, and Vaud were grouped in French-speaking Switzerland. The cantons of Appenzell Ausserrhoden, Appenzell Innerrhoden, Aargau, Basel-Landschaft, Basel-Stadt, Bern, Glarus, Graubünden, Lucern, Nidwalden, Obwalden, St. Gallen, Schaffhausen, Schwyz, Solothurn, Thurgau, Uri, Zug, and Zurich were grouped in German-speaking Switzerland. The canton of Ticino represented the Italian-speaking part.

## Results

### Survey responses

Out of the 570 participants who responded to the two screening questions, 485 were eligible to take part in the survey. However, 46 participants closed the survey after answering the screening questions but before starting the questionnaire. These participants were subsequently excluded. The analysis thus included data from 439 participants, comprising 347 fully completed questionnaires and 92 partially completed ones (Fig. 1). Due to the survey distribution method, it was not possible to calculate the response rate since third parties were tasked with sending out the survey invitations. Consequently, the precise number of in-home physiotherapists who received the questionnaire link remained unknown. The completion rate (number of completed questionnaires divided by the total number of questionnaires analysed) for this survey was 79.0%. The canton of Ticino, representing the Italian-speaking region, was excluded from the subgroup analysis by linguistic region due to only five participants responding to the survey.

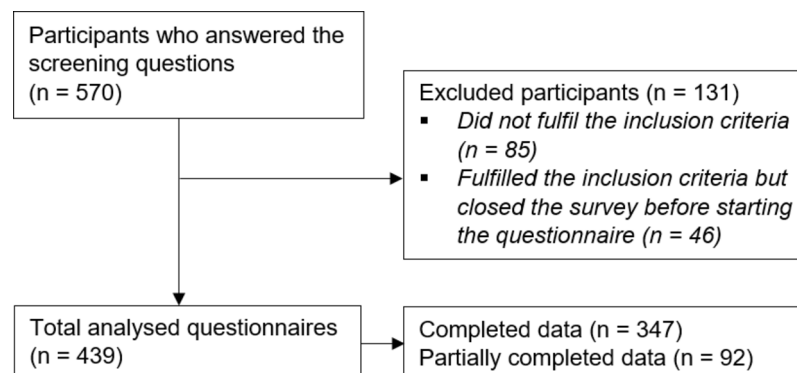
### Participants' demographic information

Participants' characteristics are outlined in Table 1. Regarding regions of practice, 272 participants practiced in German-speaking Switzerland (62.0%) and 162 in French-speaking Switzerland (36.9%). Five participants practiced in the Italian-speaking canton of Ticino (1.1%). In terms of participants' areas, details are shown in Fig. 2.

### Patients, professional network and working environment

Domains addressed by participants in their in-home physiotherapy practice are shown in Table 2. The most represented patient age category was 80 and over. Physicians prescribing in-home physiotherapy were mainly general practitioners (GPs) and doctors working in a hospital or a rehabilitation clinic.

In terms of professional network, the majority of participants reported collaborating with doctors, as well as other health and social care professionals. Table 3



**Fig. 1** Survey flow chart

**Table 1** Participants' characteristics

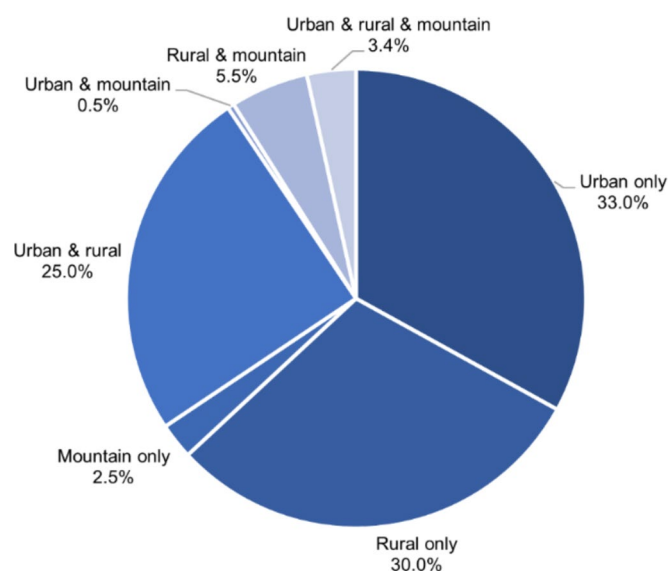
Age (years)	<i>N</i> = 439
Mean (SD)	49.2 (11.5)
Median (IQR)	49 (40, 58)
Gender (n (%))	<i>N</i> = 438
Female	337 (76.9%)
Male	100 (22.8%)
Other	1 (0.2%)
Year of graduation (n (%))	<i>N</i> = 431
< 5 years	19 (4.4%)
5-9 years	34 (7.9%)
10-14 years	57 (13.2%)
15-19 years	51 (11.8%)
≥ 20 years	270 (62.6%)
Number of years practising physiotherapy	<i>N</i> = 433
Mean (SD)	23.5 (11.5)
Number of years practising in-home physiotherapy	<i>N</i> = 435
Mean (SD)	14.7 (10.7)
Employment status (n (%))	<i>N</i> = 435
Employed	72 (16.6%)
Self-employed	318 (73.1%)
Employed and self-employed	45 (10.3%)
Number of in-home physiotherapy sessions pro week	<i>N</i> = 432
Median (IQR)	7 (4, 15)
Practice setting(s) (n (%))	<i>N</i> = 435
Only in-home	75 (17.2%)
Private practice	318 (73.1%)
Hospital	6 (1.4%)
Rehabilitation clinic	6 (1.4%)
Private clinic	6 (1.4%)
Retirement home	111 (25.5%)
Other	25 (5.7%)

SD standard deviation, *N* number of participants who answered the question, *n* number of responses, BSc Bachelor of Science, MSc Master of Science, CAS Certificate of Advanced Studies, DAS Diploma of Advanced Studies, MAS Master of Advanced Studies, IQR interquartile range

provides detailed information on the number of participants involved in these collaborations, the frequency of collaboration, communication methods used and the reasons for collaboration. Additional means of communication with physiotherapists, occupational therapists, nurses, and doctors were instant messaging services. Furthermore, eight participants considered the patient care record book to be a valuable communication tool for interactions with home care staff. Seven participants added that patients themselves facilitated communication between different professionals involved in their care. A significant number of participants (96.9%) reported to include family carers in the therapy.

The subgroup analysis by linguistic region highlighted that participants practising in French-speaking Switzerland tended to collaborate more frequently with other physiotherapists (59.0% vs. 44.1%;  $\chi^2 = 4.80$ , *df* = 1,  $p = 0.03$ ), occupational therapists (76.9% vs. 50.7%;  $\chi^2 = 15.88$ , *df* = 1,  $p < 0.001$ ), and nurses (90.3% vs. 75.8%;  $\chi^2 = 4.29$ , *df* = 1,  $p = 0.04$ ), compared to participants practising in the German-speaking region. No statistically significant differences were found between the two regions regarding collaboration with physicians, assistant nurses (ASSC), dietitians, psychologists, or social workers ( $p > 0.05$  for all comparisons).

Regarding information transfer, 47.8% of participants reported having access to the necessary medical information (e.g. diagnosis, secondary diagnosis, contraindications) for physiotherapy treatment. This information was typically obtained through the prescribing physician via physiotherapy referrals, medical or hospitalization reports, or through phone or electronic communication. Twenty-five participants specified needing to request actively the necessary information. Medical information

**Fig. 2** Areas of practice of participants



**Table 2** Frequency of therapeutic domains addressed by participants in their in-home physiotherapy practice

<b>Domains in-home physiotherapy (N = 390)</b>	<b>Never (n (%))</b>	<b>Sometimes (n (%))</b>	<b>Often (n (%))</b>	<b>Very often (n (%))</b>
Orthopaedics and musculoskeletal	18 (4.6%)	146 (37.4%)	155 (39.7%)	71 (18.2%)
Neurology	34 (8.7%)	158 (40.5%)	117 (30.0%)	81 (20.8%)
Cardiorespiratory	100 (25.6%)	232 (59.5%)	51 (13.1%)	7 (1.8%)
Geriatrics	25 (6.4%)	57 (14.6%)	141 (36.2%)	167 (42.8%)
Oncology	132 (33.8%)	221 (56.7%)	31 (7.9%)	6 (1.5%)
Palliative care	162 (41.5%)	198 (50.8%)	22 (5.6%)	8 (2.1%)
Paediatrics	315 (80.8%)	42 (10.8%)	7 (1.8%)	26 (6.7%)
Sport	319 (81.8%)	49 (12.6%)	17 (4.4%)	5 (1.3%)
Urogynaecology	336 (86.2%)	46 (11.8%)	6 (1.5%)	2 (0.5%)
Wellness/ergonomics/ prevention	227 (58.2%)	121 (31.0%)	26 (6.7%)	16 (4.1%)

N number of participants who answered the question, n number of responses

was also sometimes available from the patient or family carer, who might have documents at home or provide information during the medical history process. If the patient received home care, this data might be available in the patient's care notebook or through contact with home care team. Six participants had access to patient medical data through a computer software and one participant used the Electronic Patient Record (EPR). Among the 326 participants who maintained written therapy records, 41.4% did so electronically and 19.3% of these participants shared their records with other professionals, with physiotherapists, physicians, nurses, and occupational therapists being the most common recipients.

When participants felt uncertain about how to assess or treat a patient's condition (for example, due to a complex pathology or unfamiliar clinical situation), they typically consulted physiotherapy peers or physicians, or referred to the scientific literature. Furthermore, 37 participants used the internet as an information source, 13 referred to documentation from post-graduate courses, 10 sought advices from other healthcare professionals and 11 consulted patients' family carers. Only 10.9% of the participants reported being part of a specific program or network of in-home physiotherapy in their canton or region. Six were members of the central in-home physiotherapy service in the canton of Geneva. Five other participants had a group chat on WhatsApp with colleagues practising in their area, and eight were part of an existing network of specialized physiotherapists. Additionally, eight participants were members of a quality circle and five were involved in prevention programs.

Regarding the materials required for treatment, 90.8% of participants brought equipment with them when visiting patients at their homes. This included muscle-strengthening equipment, brought by 294 participants (82.1%), as well as training equipment for balance, proprioception and coordination, brought by 250 participants (69.8%). Respiratory physiotherapy equipment and walking aids were less indicated, with respectively

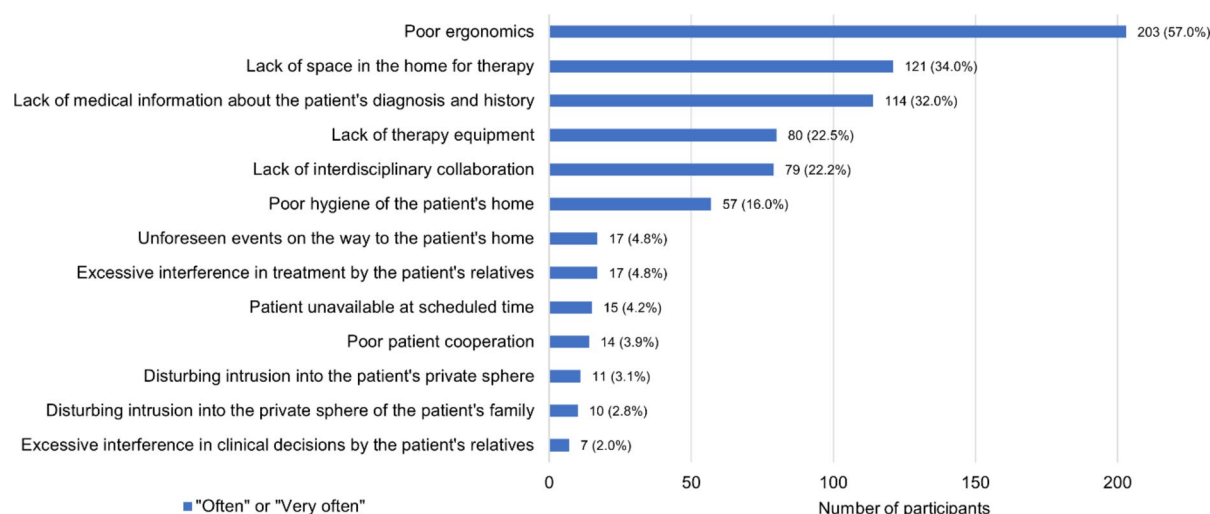
111 participants (31.0%) and 77 participants (21.5%). Within the "Other" category, compressive bandaging material, massage oil or cream, tape, electrotherapy or ultrasound devices, positioning and transfer aids, pedal exerciser, equipment to measure vital signs, equipment for conducting assessments and treatment table were specified. Physiotherapists working in paediatrics took also appropriate games with them. As regards the mode of transport used to get to the patient's home, participants primarily used petrol or diesel car (69.5%), followed by walking (35.0%), electric bike (29.4%) and conventional bike (25.8%), with some participants using more than one. More than half of the participants often or very often travelled distances of zero to two kilometres (52.0%) and distances of three to five kilometres (59.2%). For longer distances, 52.8% of participants reported to never travel distances between 11 and 15 km, rising to 70.1% for distances over 15 km. Only 17 participants stated to supervise physiotherapy students in their in-home physiotherapy practice. On this topic, 102 participants (28.5%) indicated to consider that students have the essential skills to practice at home at the end of their education, while 81 individuals (22.6%) hold the opposite opinion and 175 were undecided.

Responses related to the difficulties encountered by participants when practising in-home physiotherapy are shown in Fig. 3. In addition, 96 participants (27.0%) reported encountering difficulties other than those in the predefined list of responses. Among these mentioned difficulties, most were related to temporal constraints. Traffic, parking availability and housing access were mentioned by 24 participants. Scheduling management and time collision with other home care providers were cited 14 times. Furthermore, some participants reported that communicating with insurance companies was time-consuming. In addition, another reported difficulty was prolonged delays in obtaining payment guarantees which have led to cases where therapy has begun without any assurance of payment.

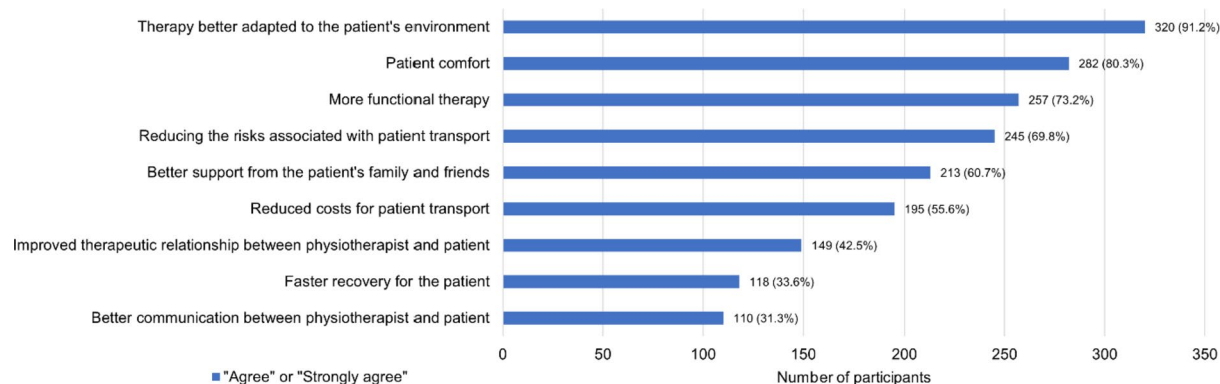
**Table 3** Collaboration of in-home physiotherapists with other health and social care professionals

Collaboration of in-home physiotherapists with other health and social care professionals	Frequency		Means of communication				Type of collaboration						
	Sometimes (n (%))	Often (n (%))	Very often (n (%))	Phone (n (%))	Email (n (%))	Face-to-face (n (%))	EPR (n (%))	Computerised patient file (other than EPR) (n (%))	Other (n (%))	Asking the professional to intervene with a patient (n (%))	Exchanging patient-related information and general knowledge (n (%))	Co-therapy (n (%))	Other (n (%))
Physiotherapists (N=181)	155 (85.6%)	16 (8.8%)	10 (5.5%)	157 (86.7%)	141 (77.9%)	73 (40.3%)	3 (1.7%)	5 (2.8%)	15 (8.3%)	68 (37.6%)	153 (84.5%)	71 (39.2%)	17 (9.4%)
Physicians (N=328)	176 (53.7%)	108 (32.9%)	44 (13.4%)	270 (82.3%)	311 (94.8%)	57 (17.4%)	7 (2.1%)	5 (1.5%)	12 (3.7%)	171 (52.1%)	300 (91.5%)	19 (5.8%)	17 (5.2%)
Occupational therapists (N=219)	187 (85.4%)	25 (11.4%)	7 (3.2%)	194 (88.6%)	163 (74.4%)	72 (32.9%)	2 (0.9%)	5 (2.3%)	8 (3.7%)	112 (51.1%)	197 (90.0%)	72 (32.9%)	0 (0.0%)
Nurses (N=295)	223 (75.6%)	54 (18.3%)	18 (6.1%)	218 (73.9%)	167 (56.6%)	183 (62.0%)	3 (1.0%)	4 (1.4%)	11 (3.7%)	131 (44.4%)	277 (93.9%)	45 (15.3%)	2 (0.7%)
Community health and nursing assistant (N=161)	131 (82.4%)	21 (13.2%)	7 (4.4%)	86 (54.1%)	62 (39.0%)	110 (69.2%)	2 (1.3%)	1 (0.6%)	6 (3.8%)	62 (39.0%)	143 (89.9%)	24 (15.1%)	0 (0.0%)
Dieticians (N=13)	11 (84.6%)	2 (15.4%)	0 (0.0%)	9 (69.2%)	8 (61.5%)	5 (38.5%)	2 (15.4%)	0 (0.0%)	1 (7.7%)	2 (15.4%)	11 (84.6%)	4 (30.8%)	0 (0.0%)
Psychologists (N=45)	42 (93.3%)	2 (4.4%)	1 (2.2%)	38 (84.4%)	30 (66.7%)	10 (22.2%)	1 (2.2%)	0 (0.0%)	1 (2.2%)	15 (33.3%)	40 (88.9%)	5 (11.1%)	1 (2.2%)
Social workers (N=65)	61 (93.8%)	4 (6.2%)	0 (0.0%)	57 (87.7%)	39 (60.0%)	22 (33.8%)	1 (1.5%)	0 (0.0%)	1 (1.5%)	29 (44.6%)	58 (89.2%)	5 (7.7%)	1 (1.5%)

N number of participants who answered the question, n number of responses, EPR Electronic patient record



**Fig. 3** Difficulties relating to in-home physiotherapy



**Fig. 4** Benefits of in-home physiotherapy

Responses regarding the benefits of in-home physiotherapy are shown in Fig. 4. Additionally, 127 participants highlighted further advantages beyond those listed in the questionnaire. Notably, accessibility to physiotherapy was cited as a benefit by 38 participants and 35 participants highlighted the reduction in stress and fatigue for the patient, who does not need to travel.

### Job satisfaction

Responses related to job satisfaction are shown in Fig. 5.

The proportion of participants reporting high overall job satisfaction (ratings of "good" or "excellent") was significantly higher among those working in French-speaking Switzerland (89.3%) than among those working in German-speaking Switzerland (76.3%) ( $\chi^2 = 8.23$ ,  $df = 1$ ,  $p = 0.004$ ).

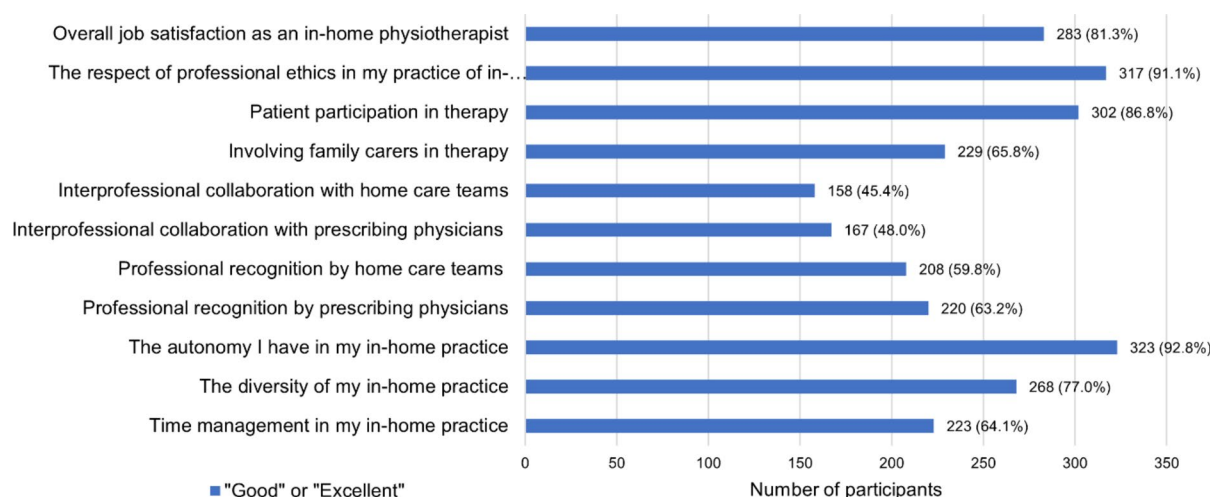
### Professional needs

The final section of the questionnaire focused on the professional needs of the participants. Their responses are shown in Fig. 6. Nearly a quarter of the participants

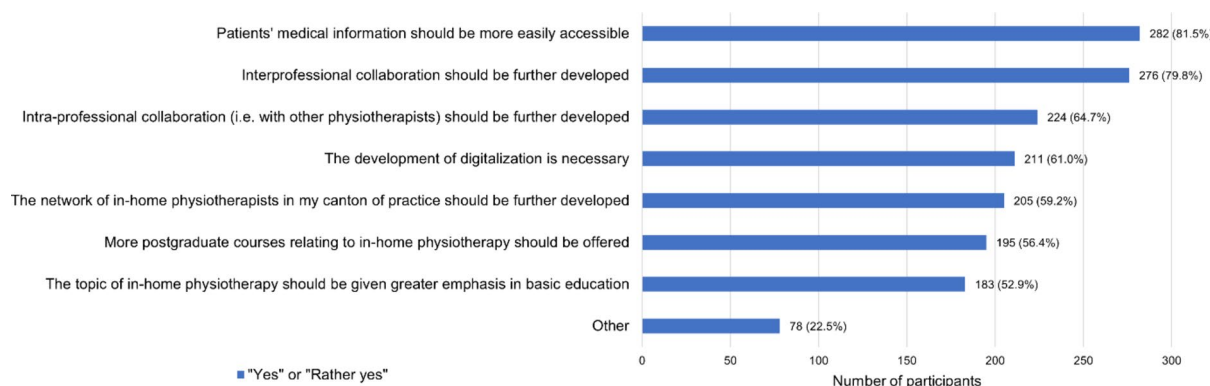
specified additional needs beyond those listed in the questionnaire. Most of these responses concerned the need for a tariff adjustment. Participants advocated changes to the reimbursement of travel expenses, as well as the introduction of a travel allowance for physiotherapy visits to specialised institutions (e.g. institution for people with disabilities or nursing home). Twenty-six participants stressed the need for better financial recognition, and nine participants highlighted the currently unpaid time spent outside direct patient care, such as administrative tasks and collaboration with other professionals.

The subgroup analysis by linguistic region revealed that physiotherapists working in the German-speaking region expressed a slightly greater demand for digitalisation development (63.7%) compared to their French-speaking counterparts (55.0%), although this difference was not statistically significant ( $\chi^2 = 2.19$ ,  $df = 1$ ,  $p = 0.14$ ). The most notable disparity between the two regions was in the emphasis placed on in-home physiotherapy within basic education, which was considered more essential in





**Fig. 5** Job satisfaction of the participants



**Fig. 6** Professional needs of the participants

French-speaking Switzerland (64.3%) than in the German-speaking part (45.6%), with this difference being statistically significant ( $\chi^2 = 10.64$ ,  $df = 1$ ,  $p = 0.001$ ). No other item showed a statistically significant difference between the two linguistic regions.

## Discussion

This online survey aimed to provide an insight on in-home physiotherapy in Switzerland by exploring sociodemographic characteristics of in-home physiotherapists, their working environment and type of patients, collaboration, job satisfaction and professional needs. Differences between French-speaking and German-speaking parts of Switzerland were analysed for some items, with few differences reported. Key findings indicate that participants practising in-home physiotherapy had extensive professional experience and the main domains treated were geriatrics, orthopaedics and musculoskeletal, and neurology. Participants reported collaborating most frequently with physicians, nurses, and occupational therapists. Overall job satisfaction was reported as high, with autonomy being highly valued. Finally, participants

expressed a desire for easier access to patient medical information and better interprofessional collaboration and advocated for tariff adjustments.

The mean age of participants in this study (49.2 y. o.) is higher than in two recent Swiss studies using online questionnaires targeted at physiotherapists [40, 41]. Duc et al. found a median age of 44 years among physiotherapists assessing fall risks in older people ( $n = 938$ ) [40], while Keller et al. reported a mean age of 41.7 years for physiotherapists involved in triage and diagnosis ( $n = 1492$ ) [41]. This disparity in age could be explained by broader physiotherapy skills required in the home setting, as patients' situations are often highly complex [42]. Moreover, social skills and adaptability are necessary to address situations at home effectively, which require a high level of expertise [18, 24]. The proportion of independent physiotherapists in our study is higher compared to general data from Physioswiss, where 60% of their members hold independent status [43]. Most participants of our study work in another setting alongside their in-home practice, consistent with Onyeso et al. who assessed the profile of in-home physiotherapists

in Nigeria, as well as factors influencing in-home physiotherapy model of practice [25]. Participants from French-speaking Switzerland account for 36.9% of the total, slightly surpassing the 28.2% reported by the Swiss Health Observatory (OBSAN) for physiotherapists working in the French-speaking region of Switzerland [44]. Therefore, this region might be somewhat overrepresented in our study. Another possibility is that there are more physiotherapists practising in-home in this part of Switzerland, given that on average, more older people live at home with home care services in French-speaking cantons than in German-speaking cantons [29]. It is particularly surprising that only five participants from the canton of Ticino took part in our study, especially considering that its cantonal association reported 571 members in 2022 [43]. Moreover, Ticino is one of the cantons with a higher-than-average use of home care services in Switzerland and has a significant proportion of residents aged 65 and older [29]. This low participation could stem from factors such as the survey's length, time constraints, and lack of interest or knowledge of the study in this region. This low participation rate represents a limitation in terms of geographical representativeness. The limited number of participants serving mountainous regions was expected. However, these areas make up 70% of the country's territory, and a quarter of the population lives there [45]. Despite this significant proportion, access to healthcare remains a major challenge. Given the longer travel distances in these regions, physiotherapists face significant difficulties, as journey times are considerably extended.

Our results highlight that the most commonly treated domains at home by physiotherapists are geriatrics, orthopaedics and musculoskeletal, and neurology, in line with the findings of Onyeso et al. [25]. Additionally, our findings show that the older population represents the largest patient group, reflecting both the aging population and healthcare policies aimed at enabling older individuals to remain at home [7, 46]. Regarding interprofessional collaboration, participants frequently collaborate with doctors, nurses, and occupational therapists, but fewer reported to be actively involved in formal networks, and the effectiveness of collaboration remains unexplored. The reported limited engagement with dietitians is concerning, given the importance of nutrition and physical activity, particularly in conditions like sarcopenia [47]. Similarly, participants reported relatively rare collaboration with social workers. Given the complex nature of patient needs in home care settings, strengthening interprofessional collaboration is vital for achieving healthcare outcomes [48]. Furthermore, despite recent efforts to implement the EPR in Switzerland and the Federal Law on EPR (LDEP) [49], only a few participants mentioned using this tool, highlighting challenges in integrating it

into daily practice. Harmonized access to medical data is essential for coordinated patient care at home. To this end, enhancing the standardization of information exchange through secure digital platforms like the EPR is crucial for improving access to medical data [50]. This could include training initiatives for healthcare professionals on the use of EPR and investment in digital infrastructures, taking account of regional disparities. A vast majority of participants reported involving family carers in therapy, highlighting their crucial role in patient compliance and therapy success, as noted by Coke et al. [51].

Most participants reported covering travel distances of less than 10 km. As a result, the demand for in-home physiotherapy may not be fully met, especially in rural and mountain areas, where travel distances are generally greater than in urban regions [52]. A systematic review showed that rural beneficiaries in the United States of America benefited less from home care and in-home physiotherapy than people living in urban areas [53]. A qualitative study conducted in the canton of Wallis, Switzerland, highlighted that transport is a significant barrier to in-home physiotherapy practice, as the profitability of this practice mainly depends on the distance travelled to reach the patients' home [54]. The introduction of a remuneration based on travel time, as for occupational therapists [55], could encourage practitioners to travel greater distances.

The low number of participants supervising students in their in-home physiotherapy practice reported in our study is concerning. This could possibly be due to a lack of financial reward, as supervising a student requires time and specific training. Moreover, students cannot provide services that are billable under Swiss health insurance [56], which can also be a hindrance to student supervision.

The most commonly encountered difficulty by participants is the lack of ergonomics, similar to the findings of Onyeso et al. [25]. Addressing this issue in basic education could be beneficial, so that strategies can be developed to support professionals in their practice. Additionally, consulting an ergonomist could provide practical solutions to improve working conditions at home. Despite these challenges, participants recognized the added value of in-home therapy, particularly in its ability to tailor treatments to the patient's living environment. This unique advantage, which cannot be replicated in other settings, lies in the direct observation of the patient's environment [51].

Overall job satisfaction among participants was high, consistent with a recent Swiss study showing greater satisfaction among healthcare professionals in home care settings compared to other healthcare environments, such as acute care or nursing homes [57]. Participants also rated their autonomy positively, which is

encouraging, as perceived autonomy in home care is linked to greater professional commitment [58]. The difference in overall job satisfaction between the French- and German-speaking regions may be attributed to differences in the functioning of home care services and policies [29]. Collaboration with prescribing physicians and home care teams appears to be less satisfying for participants, which is concerning as effective interprofessional collaboration improves both professional satisfaction and quality of care [59]. Patient involvement was positively rated, aligning with the findings of Coke et al. who mentioned that the success of home rehabilitation largely depends on the patient's motivation to participate in therapy [51].

In terms of professional needs, communication emerges as a central theme, particularly regarding access to medical data, inter- and intra-professional collaboration, and digitalisation. The participants' desire for easier access to patient medical data resonates with the ongoing trend towards digitalisation, although some did not prioritize advancing digital tools themselves. The use of information and communication tools could significantly improve in-home physiotherapy services [23]. Despite its potential, Switzerland is lagging behind in digitising its healthcare system, hence the development of initiatives such as the Digisanté programme run by the Federal Office of Public Health to catch up [60]. Another key theme is the need for enhanced interprofessional collaboration. While regional networks are rare, participants emphasized the importance of improving interprofessional collaboration, aligning with the findings of an OBSAN report [61]. Policies could be implemented to encourage this collaboration, such as financial incentives for interprofessional teams and joint training programmes. In addition, time spent on interprofessional collaboration and administration should be remunerated, an aspect currently absent from the Swiss tariff structure of physiotherapy [28]. Optimizing communication among healthcare professionals in home care settings is also essential to improve information transfer, reduce overlapping visits, and enhance planning and coordination. The development of specialized agencies for in-home physiotherapy could address unique challenges by providing structured resources, training, and a coordinated framework for practitioners. Travel reimbursement, billed on a flat-rate basis [62], is another issue. Furthermore, travelling to specialised institutions is not currently chargeable. Some participants reported that it was therefore economically unattractive to practice physiotherapy in specialised institutions, which meets the conclusions of a recent Swiss study [54]. A future change in the billing practice may, in this regard, counterbalance the differences observed between rural/mountainous and urban areas. Additionally, the use of telerehabilitation

could also be further developed to reach patients in remote areas. Delays in payment guarantees and time-consuming communication with insurers create financial insecurity, reflecting broader inefficiencies within the healthcare system. The call for tariff adjustments suggests that existing reimbursement structures may not adequately reflect the complexity or time investment required for in-home physiotherapy. Adjusting tariffs to better align with the actual demands of in-home physiotherapy could improve service accessibility and incentivize practitioners to extend their coverage areas. To improve the sustainability of in-home physiotherapy, policies should streamline communication with insurers, adjust reimbursement structures, and ensure fair compensation for all aspects of the profession. Such changes would improve service accessibility and care quality for both practitioners and patients.

Finally, raising awareness of this particular setting into basic education, including training in interprofessional skills, digital technology use, and strategies for overcoming home care challenges, remains crucial, as emphasized by Jutzet et al. [54].

### Strengths and limitations

To our knowledge, this study represents the first quantitative investigation into the practice of in-home physiotherapy in Switzerland, and the sample size was notably large. The strengths of the study lie in the development of the questionnaire, which was based on validated instruments and underwent thorough review by an experienced research team in survey methodology and home care. Additionally, the questionnaire content was tested by four practising in-home physiotherapists and the pilot test involved seven participants. Furthermore, its availability in the three national languages facilitated nationwide participation. However, using the questionnaire in multiple languages may introduce linguistic bias due to potential differences in interpretation of the questions across languages. To limit this bias, several physiotherapists tested the questionnaire in their respective language and gave feedback to ensure the items were clear. The recruitment strategy precluded calculating a response rate, potentially introducing participation bias, especially among non-members of Physioswiss or ASPI-SVFP. However, these associations include many physiotherapists working in all clinical settings. Selection bias may also exist, as participants likely had a high interest in the topic. Additionally, some respondents may have completed the survey more than once, although this is unlikely. A limitation of our study is the length of the questionnaire, which may have discouraged some potential participants from completing it. Moreover, given the convenience sampling method, the study's representativeness of the target population is uncertain. Finally, it

would have been interesting to include the Italian-speaking part of Switzerland in the subgroup analysis, but the small number of participants practising in Ticino did not allow this.

### Future research

Several areas of research could provide a deeper understanding of in-home physiotherapy practice. Firstly, the effectiveness of interprofessional collaboration in this specific context should be assessed with the aim of improving quality of care. A mixed-methods approach, combining longitudinal observational study and qualitative research, would offer a comprehensive perspective. The longitudinal study would track patient outcomes, while qualitative research would explore stakeholders' experiences. Additionally, investigating patient perspectives through qualitative research could help develop more personalized, patient-centred services. The impact of digitalisation on in-home physiotherapy should also be evaluated, tracking patient and practitioner outcomes before and after digitalisation. Finally, the potential of telerehabilitation should be explored, focusing on its role in improving access to care in remote areas, enhancing patient engagement, fostering collaboration, and leveraging AI for personalised treatment. Future studies could also examine the psychosocial benefits of virtual interactions, the cost-effectiveness of telerehabilitation, and the development of innovative tools like motion sensors and virtual reality for home-based rehabilitation.

### Conclusions

This study highlights several aspects of in-home physiotherapy in Switzerland. Despite its lack of statistical representativeness, it offers a broad overview of the profile, patients, collaborations, job satisfaction, and professional needs of in-home physiotherapists in Switzerland. Although participants report a high level of overall job satisfaction, several challenges persist, including limited access to patient medical information, suboptimal communication among stakeholders and poor ergonomics conditions. There is a need to enhance interprofessional collaboration, to reform the current tariff structure, and to integrate greater awareness of in-home care into basic education and training. Future research should aim to assess the effectiveness of interprofessional collaboration, explore patient needs, analyse the impact of digitalisation on in-home physiotherapy practice, and explore the potential of telerehabilitation. Investing in these research areas will provide a better understanding of the current challenges and pave the way for improved quality of care in in-home physiotherapy.

### Abbreviations

ASPI SVFP	Swiss Association of Independent Physiotherapists
ASTTI	Swiss Association for Translation, Terminology and Interpreting

BSc	Bachelor of Science
CAS	Certificate of Advanced Studies
CER-VD	Ethics Committee of canton of Vaud
COPD	Chronic obstructive pulmonary disease
DAS	Diploma of Advanced Studies
EPR	Electronic patient record
GPs	General practitioners
IQR	Interquartile range
LDEP	Federal Law on electronic patient record
LRH	Swiss Federal Human Research Act
MAS	Master of Advanced Studies
MSc	Master of Science
OBSAN	The Swiss Health Observatory
PTPQ	Physical Therapy Profile Questionnaire
REDCap	Research Electronic Data Capture
SD	Standard deviation

### Supplementary Information

The online version contains supplementary material available at <https://doi.org/10.1186/s12913-025-12827-1>.

Supplementary Material 1.

Supplementary Material 2.

### Acknowledgements

Not applicable.

### Authors' contributions

The protocol for this study was drawn up by the three authors. All authors contributed to the development of the questionnaire. LR and CS managed the survey on REDCap, while LR extracted and analysed the data. The data analysis and results were discussed collectively by all authors. LR wrote the manuscript and CS and LA reviewed it. Each author has read and approved both the submitted and revised versions of the manuscript. Additionally, each author 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, even ones in which the author was not personally involved, are appropriately investigated, resolved, and documented in the literature.

### Funding

This project received financial support from the Swiss Physiotherapy Association (Physioswiss) through its Research Fund, which aims to support scientific research in physiotherapy and contribute to the strategic objectives of the association.

### Data availability

The data can be shared upon request to the authors, under specific conditions and through a contractual agreement.

### Declarations

#### Ethics approval and consent to participate

The Ethics Committee of canton of Vaud (CER-VD) confirmed that, as no health-related data were requested, the study did not fall within the scope of the Swiss Federal Human Research Act (reference number: Req-2023-00677). The study was conducted in accordance with the Declaration of Helsinki. Participants were informed of the nature of the study and of their anonymous and voluntary participation before completing the questionnaire in the introductory message containing the link to the survey. As no health-related nor sensitive data were requested, their decision to complete the questionnaire was therefore considered as implicit informed consent. Participants could stop the survey at any time. No identifying information was collected during data collection and the data was analysed anonymously.

#### Consent for publication

Not applicable.

#### Competing interests

The authors declare no competing interests.



Received: 12 November 2024 / Accepted: 29 April 2025

Published online: 21 May 2025

## References

1. Monod-Zorzi S, Seematter-Bagnoud L, Büla C, Pellegrini S, Jaccard Ruedin H. Maladies chroniques et dépendance fonctionnelle des personnes Âgées: Données épidémiologiques et économiques de La littérature. Neuchâtel: Observatoire suisse de la santé; 2007.
2. OCDE. Health at a Glance 2019: OECD Indicators. OECD Publishing; 2019.
3. Höpflinger F, Hugentobler V, Spini D. Habitat et vieillissement: Réalités et enjeux de la diversité. Age Report IV. Zürich: Éditions Seismo; 2019.
4. Burton JK, Guthrie B, Hapca SM, Cvoro V, Donnan PT, Reynish EL. Living at home after emergency hospital admission: prospective cohort study in older adults with and without cognitive spectrum disorder. *BMC Med*. 2018;16:231.
5. Haley WE, Roth DL, Coletan MI, Ford GR, West CA, Collins RP, et al. Appraisal, coping, and social support as mediators of well-being in black and white family caregivers of patients with Alzheimer's disease. *J Consult Clin Psychol*. 1996;64:121–9.
6. Luppá M, Luck T, Weyerer S, König H-H, Brähler E, Riedel-Heller SG. Prediction of institutionalization in the elderly. A systematic review. *Age Ageing*. 2010;39:31–8.
7. Balavoine M. Maintien à domicile ou placement en institution: une question financière? *Planete sante*. 2014. Accessed 7 Feb 2024. <https://www.planetesante.ch/Magazine/Autour-de-la-maladie/Alzheimer-et-demences/Maintien-a-domicile-ou-placement-en-institution-une-question-financiere>.
8. Federal Statistical Office. Aide et soins à domicile. Swiss confederation. 2023. Accessed 7 Feb 2024. <https://www.bfs.admin.ch/bfs/fr/home/statistiken/gesundheitswesen/hilfe-pflege-zuhause.html>.
9. Swiss Health Observatory. Soins à domicile: de nouvelles données. 2020. Accessed 7 Feb 2024. <https://www.obsan.admin.ch/fr/publications/2020-soins-domicile-de-nouvelles-donnees>.
10. Office fédéral de la statistique OFS. Services de soins à domicile: évolution du financement, de 2013 à 2022. 2024. Accessed 29 Jan 2025. <https://opendata.swiss/fr/dataset/pflegeleistungen-zu-hause-entwicklung-der-finanzierung-2013-2022/resource/d77e15e8-8bcf-41ce-a90d-9b75d3d87699>.
11. Nydegger D. Physiothérapie à domicile: un secteur en pleine expansion. *Physioswiss*. 2024. Accessed 31 Mar 2025. <https://physioswiss.ch/fr/news/physiotherapie-a-domicile/>.
12. Donnelly C, Ashcroft R, Mofina A, Bobbette N, Mulder C. Measuring the performance of interprofessional primary health care teams: Understanding the teams perspective. *Prim Health Care Res Dev*. 2019;20:e125.
13. Supper I, Catala O, Lustman M, Chemla C, Bourgueil Y, Letriliart L. Interprofessional collaboration in primary health care: a review of facilitators and barriers perceived by involved actors. *J Public Health Oxf Engl*. 2015;37:716–27.
14. Baker DI, Gottschalk M, Eng C, Weber S, Tinetti ME. The design and implementation of a restorative care model for home care. *Gerontologist*. 2001;41:257–63.
15. Parsons JGM, Sheridan N, Rouse P, Robinson E, Connolly M. A randomized controlled trial to determine the effect of a model of restorative home care on physical function and social support among older people. *Arch Phys Med Rehabil*. 2013;94:1015–22.
16. Tinetti ME, Charpentier P, Gottschalk M, Baker DI. Effect of a restorative model of posthospital home care on hospital readmissions. *J Am Geriatr Soc*. 2012;60:1521–6.
17. Barnes P, Frock A. The expanded role for rehabilitation in home care. *Home Health Care Manag Pract*. 2003;15:305–13.
18. Paz-Lourido B. Home physiotherapy: the relevance of social determinants of health in the development of physiotherapy in the home environment. In: Bettany-Saltikov J, editor. *Physiotherapy - Practice and Research*. Rijeka: InTech; 2012. p. 197–218.
19. Stolee P, Lim SN, Wilson L, Glenn C. Inpatient versus home-based rehabilitation for older adults with musculoskeletal disorders: a systematic review. *Clin Rehabil*. 2012;26:387–402.
20. Vieira DSR, Maltais F, Bourbeau J. Home-based pulmonary rehabilitation in chronic obstructive pulmonary disease patients. *Curr Opin Pulm Med*. 2010;16:134–43.
21. Taylor RS, Dalal H, Jolly K, Moxham T, Zawada A. Home-based versus centre-based cardiac rehabilitation. *Cochrane Database Syst Rev*. 2010;2010(1):CD007130.
22. Langhorne P, Taylor G, Murray G, Dennis M, Anderson C, Bautz-Holter E, et al. Early supported discharge services for stroke patients: a meta-analysis of individual patients' data. *Lancet Lond Engl*. 2005;365:501–6.
23. Postolache G, Oliveira R, Moreira I, Postolache O. Why, What and When in-Home Physiotherapy? In: *Information Resources Management Association, editor. Health Care Delivery and Clinical Science: Concepts, Methodologies, Tools, and Applications*. Hershey (PA): IGI Global; 2018. p. 884–908.
24. Richter K, Greiff C, Weidemann-Wendt N. Der ältere mensch in der physiotherapie. Berlin, Heidelberg: Springer; 2017.
25. Onyeso OKK, Umunnah JO, Ezema CI, Anyachukwu CC, Nwankwo MJ, Odole AC, et al. Profile of practitioners, and factors influencing home care physiotherapy model of practice in Nigeria. *Home Health Care Serv Q*. 2020;39:168–83.
26. Parsons J, Mathieson S, Parsons M. Home care: an opportunity for physiotherapy. *N Z J Physiother*. 2015;43:24–31.
27. Physioswiss. Tariffs [Internet]. Physioswiss; 2025. [cited 2025 Jan 29]. <https://physioswiss.ch/fr/tarifs/>.
28. OFSP O fédéral de la santé publique. Physiothérapie. 2024. Accessed 29 Jan 2025. <https://www.bag.admin.ch/bag/fr/home/versicherungen/krankenversicherung/krankenversicherung-leistungen-tarife/Nicht-aerztliche-Leistungen/Physiotherapie.html>.
29. Dutoit L, Füglistner-Dousse S, Pellegrini S. Soins de longue durée dans les cantons: un même défi, différentes solutions [Internet]. Neuchâtel: Swiss Health Observatory (OBSAN); 2016. [cited 2023 Jan 4]. Available from: <https://www.obsan.admin.ch/fr/publications/2016-soins-de-longue-duree-dans-les-cantons-un-meme-defi-differentes-solutions>.
30. Dizon JMR, Grimmer-Somers K, Kumar S. The physical therapy profile questionnaire (PTPQ): development, validation and pilot testing. *BMC Res Notes*. 2011;4:362.
31. Artino AR, Durning SJ, Sklar DP. Guidelines for reporting Survey-Based research submitted to academic medicine. *Acad Med J Assoc Am Med Coll*. 2018;93:337–40.
32. Eysenbach G. Improving the quality of web surveys: the checklist for reporting results of internet E-Surveys (CHERRIES). *J Med Internet Res*. 2004;6:e34.
33. Kelley K, Clark B, Brown V, Sitzia J. Good practice in the conduct and reporting of survey research. *Int J Qual Health Care J Int Soc Qual Health Care*. 2003;15:261–6.
34. Lumsden J, Morgan W. Online-questionnaire design: 2005 information resources management association international conference. *Manag Mod Organ Inf Technol*. 2005. <https://doi.org/10.4018/978-1-59140-822-2.ch098>.
35. Regmi PR, Waithaka E, Paudyal A, Simkhada P, van Teijlingen E. Guide to the design and application of online questionnaire surveys. *Nepal J Epidemiol*. 2016;6:640–4.
36. Survey Design Software: Design A Successful Survey System [Internet]. Creative Research Systems. [cited 2023 Mar 12]. Available from: <https://www.surveysystem.com/sdesign.htm>.
37. Harris PA, Taylor R, Thielke R, Payne J, Gonzalez N, Conde JG. Research electronic data capture (REDCap)—A metadata-driven methodology and workflow process for providing translational research informatics support. *J Biomed Inf*. 2009;42:377–81.
38. Harris PA, Taylor R, Minor BL, Elliott V, Fernandez M, O'Neal L, et al. The REDCap consortium: Building an international community of software platform partners. *J Biomed Inf*. 2019;95:103208.
39. Graneheim UH, Lundman B. Qualitative content analysis in nursing research: concepts, procedures and measures to achieve trustworthiness. *Nurse Educ Today*. 2004;24:105–12.
40. Duc M, Mittaz Hager A-G, Zemp D, Roulet G, Bridel A, Hilfiker R. Current practices of physiotherapists in Switzerland regarding fall risk-assessment for community-dwelling older adults: A National cross-sectional survey. *F1000Res*. 2022;11:513.
41. Keller F, Allet L, Meichtry A, Scascighini L, Scheermesser M, Wirz M, et al. Diagnostic and decision-making abilities of Swiss physiotherapists in a simulated direct access setting. *Physiother Theory Pract*. 2023;39(11):2336–51.
42. Heckman KA, Cott CA. Home-Based physiotherapy for the elderly: A different world. *Physiother Can*. 2005;57:274–83.
43. Physioswiss. Rapport annuel de l'Association suisse de physiothérapie 2022. Bern: Physioswiss; 2023.
44. Merçay C, Grünig A, Dolder P. Personnel de Santé En Suisse— rapport National 2021. Effectifs, besoins, Offre et mesures pour assurer La relève (Obsan rapport 03/2021). Neuchâtel: Observatoire suisse de la santé; 2021.



45. About Switzerland. Géographie— faits et chiffres. Confédération suisse. 2023. Accessed 21 Apr 2024. <https://www.eda.admin.ch/aboutswitzerland/fr/home/umwelt/geografie/geografie---fakten-und-zahlen.html>.
46. Rausa F. Portrait démographique de La Suisse - État, structure et évolution de La population En 2020. Neuchâtel: Office fédéral de la statistique; 2022.
47. Anton SD, Hida A, Mankowski R, Layne A, Solberg LM, Mainous AG, et al. Nutrition and exercise in sarcopenia. *Curr Protein Pept Sci*. 2018;19:649–67.
48. Vaseghi F, Yarmohammadian MH, Raeisi A. Interprofessional collaboration competencies in the health system: A systematic review. *Iran J Nurs Midwifery Res*. 2022;27:496.
49. Confédération Suisse. Loi fédérale du 19 juin 2015 sur le dossier électronique du patient (=LDEP; RS 816.1; état le 1er janvier 2022). Bern: Fedlex; 2015. Available from: <https://www.fedlex.admin.ch/eli/cc/2017/203/fr>.
50. OFSP O fédéral de la santé publique. Développement du dossier électronique du patient. 2024. Accessed 5 Feb 2025. <https://www.bag.admin.ch/bag/fr/home/strategie-und-politik/nationale-gesundheitsstrategien/strategie-eh-alth-schweiz/umsetzung-vollzug/weiterentwicklung-epd.html>.
51. Coke T, Alday R, Biala K, Luna S, Martinez P. The new role of physical therapy in home care. *Home Healthc Nurse*. 2005;23:594–9.
52. Office fédéral de la statistique OFS. Services à la population et disparités régionales: Distances d'accès aux services de la vie courante, en 2015. 2018. Accessed 30 Apr 2024. <https://www.swissstat.bfs.admin.ch/collection/ch.admin.swissstat.fr.issue182115911800/article/issue182115911800-01>.
53. Quigley DD, Chastain AM, Kang JA, Bronstein D, Dick AW, Stone PW, et al. Systematic Review of Rural and Urban Differences in Care Provided by Home Health Agencies in the United States. *J Am Med Dir Assoc*. 2022;23:1653.e1-1653.e13.
54. Jutzet B, Güdel S, Mittaz-Hager A-G. Facilitateurs et barrières à La pratique de La physiothérapie à domicile: Une étude qualitative par focus group. *Mains Libr*. 2022;122:16–22.
55. Association Suisse d'Ergothérapie. Ergothérapie - Conventions tarifaires. 2024. Accessed 21 Apr 2024. <https://www.ergotherapie.ch/exercice-de-la-profession/conventions-tarifaires/>.
56. Physioswiss. Nouvelles admissions cantonales en vue de la facturation à l'Assurance obligatoire des soins (AOS)– Éléments de réponse pour le document «Preuve de satisfaction aux exigences de qualité conformément à l'art. 58 g de l'OAMa». Bern: Physioswiss; 2021.
57. Peter KA, Voirol C, Kunz S, Gurtner A, Renggli F, Juvet T, et al. Factors associated with health professionals' stress reactions, job satisfaction, intention to leave and health-related outcomes in acute care, rehabilitation and psychiatric hospitals, nursing homes and home care organisations. *BMC Health Serv Res*. 2024;24:269.
58. Maurits EEM, de Veer AJE, van der Hoek LS, Francke AL. Autonomous home-care nursing staff are more engaged in their work and less likely to consider leaving the healthcare sector: A questionnaire survey. *Int J Nurs Stud*. 2015;52:1816–23.
59. Bosch B, Mansell H. Interprofessional collaboration in health care. *Can Pharm J CPJ*. 2015;148:176–9.
60. Office fédéral de la santé publique. DigiSanté: promouvoir la transformation numérique du système de santé. Confédération suisse. 2024. Accessed 21 Apr 2024. <https://www.bag.admin.ch/bag/fr/home/strategie-und-politik/nationale-gesundheitsstrategien/digisante.html>.
61. Brandt SK, Essig S, Balthasar A. Zukünftige ambulante Grundversorgung: einstellungen und Präferenzen von Medizinal- und gesundheitsfachpersonen ausgewählter berufsgruppen (Obsan Bericht 06/2023). Neuchâtel: Schweizerisches Gesundheitsobservatorium; 2023.
62. Confédération Suisse. Ordonnance sur la fixation et l'adaptation de structures tarifaires dans l'assurance-maladie du 20 juin 2014 (RS 832.102.5; état le 8 mai 2018). Bern: Fedlex; 2014. Available from: <https://www.fedlex.admin.ch/eli/cc/2014/337/fr>.

## Publisher's Note

Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.