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Integrated care for patients with multimorbidity in Switzerland: a qualitative study of general practitioners' perspectives

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Abstract

Background: Integrated care has been proposed as a solution for the Swiss health system to maintain high quality of care while containing costs, particularly for managing individuals with multimorbidity. Translating this concept into practice requires understanding and engaging the general practitioners (GPs), who bear primary responsibility for its implementation in this patient group. This study therefore explored how integrated care is practiced and experienced by Swiss GPs.

Methods: This qualitative study was based on semi-structured interviews with 12 GPs in the canton of Zurich, purposively sampled to capture variation. Interviews took place between April and June 2025. Data were analyzed using thematic analysis, drawing on the Rainbow Model of Integrated Care, which distinguishes four interrelated dimensions of integration: clinical, professional, organizational, and system integration.

Results: Participants described various ways of delivering care that reflected elements of integrated care, most commonly at the clinical and professional dimension (continuity of care, coordinator roles;

collaboration and communication among health professionals, adapted to context and available personnel). Organizational and system-level integration (collaboration across institutions; cross-sectoral governance and regulatory arrangements) were discussed less frequently. Facilitators and barriers to integrated care emerged on three interconnected levels: individual (e.g., attitudes of patients and providers), interpersonal (e.g., frequency of contact and trust between actors), and structural level (e.g., shared information systems, appropriate financing systems, and workforce availability).

Conclusions: Our findings suggest that GPs implement various elements of integrated care, mainly within the clinical and professional dimensions, while broader organizational and system-level integration remains limited. At the same time, there appears to be no single optimal model of integrated care. Given the identified facilitators and barriers, strengthening integrated care requires greater opportunities for exchange and improved coordination across sectors alongside supportive financing, digital communication, and workforce structures.

Keywords: Integrated care; Primary care; General practitioners; Multimorbidity; Care coordination; Interprofessional collaboration; Patient-centered care; Health policy; Qualitative research; Switzerland

1 Background

The Swiss health system is often praised for its high quality of care [1,2] and the population health in Switzerland is among the best worldwide [2,3]. However, the Swiss health system is also among the most expensive (cost per capita) and ranks below average in terms of efficiency and affordability compared to other high-income countries [2,3]. Moreover, like in many European health systems [4], demographic changes and the rising prevalence of chronic diseases are propelling demand, and medical specialization is contributing to care fragmentation, leading to redundancies and information loss. At the same time, healthcare professional scarcity is growing. Ultimately, the system must find ways to maintain the high quality of care while containing rising healthcare costs.

One frequently proposed solution to achieve this is ‘integrated care’. Integrated care, or coordinated care, is loosely defined as improved coordination of care through closer, structured, cross-sectoral

collaboration among service providers, payers, and patients [4–10]. It is expected to improve health systems by fostering patient-centered care across professional, organizational and system boundaries. Integrated care is particularly important for complex, multimorbid patients who often depend on services from multiple providers across sectors and benefit from well-coordinated, continuous care [11].

To strengthen integrated care and further support its development, it is crucial to understand and engage the professionals responsible for its implementation [6,12]. In the Swiss context, general practitioners (GPs) play a critical role [13], as they typically serve as the first point of contact, provide ongoing care to patients throughout their lifespan, and are central in coordinating care for individuals with multimorbidity.

This study therefore aims to analyze how integrated care is practiced and experienced by Swiss GPs, by answering the following research questions (RQs):

RQ 1: How is integrated care currently practiced?

RQ 2: Which facilitators and barriers do GPs perceive to influence the implementation of integrated care?

2 Methods

2.1 Study design

This qualitative study used semi-structured interviews to examine GPs' perspectives on integrated care for complex, multimorbid patients in the canton of Zurich, Switzerland. The Rainbow Model of Integrated Care [14–16] guided the analysis. This conceptual framework served to disentangle the flexible, context-sensitive, and often ambiguous concept of integrated care into four distinct but interrelated dimensions: clinical, professional, organizational, and system integration (see Definitions below).

2.2 Study setting

This study took place in the Swiss primary health care setting, specifically in the canton of Zurich, Switzerland's most populous canton. The following section summarizes key aspects of this setting; for an in-depth overview, see [17,18].

The Swiss health care system is federally regulated, with responsibilities and duties divided among the national, cantonal, and municipal levels [4]. Funding and reimbursement, training requirements of health professionals, and electronic health records are regulated at the federal level, whereas the organization of health services (including hospital planning, subsidizing health facilities, and regional health policy) is mainly in the responsibility of Switzerland's 26 cantons. In the canton of Zurich, responsibility for long-term care and social service lies with the municipalities.

Primary care is predominantly delivered by GPs working in the private sector. In the canton of Zurich in 2024, around 1400 GPs (49% female) provided care for about 1.6 million inhabitants (18% of the Swiss population) [19,20]. While over 80% of GPs currently document medical records electronically [21], Switzerland still lacks a nationwide, interoperable digital infrastructure for data exchange. Over two thirds of Swiss GPs practice in group settings, and about half work with nurses or case managers – usually medical practice coordinators (MPCs) – to provide care for multimorbid patients [21]. MPCs are medical practice assistants (MPAs) with additional education and work-based training [22,23], enabling them to provide delegated clinical services such as chronic disease management for diabetes or pulmonary disease. Some practices also employ advanced practice nurses (APNs) who provide advanced nursing activities and medical activities that were previously reserved exclusively for doctors, particularly for patients with chronic conditions [24]. However, the role of APNs in primary care is not yet standardized and direct reimbursement is currently not possible [24].

Basic health insurance is mandatory for all residents [25]. With standard insurance, people can access all covered services. However, alternative insurance models offering lower premiums for restricted provider access are popular. In one subcategory, GP practices or health maintenance organizations act as gatekeepers and coordinators of care and assume some degree of financial responsibility for the healthcare costs of enrolled patients through contracts between managed care organizations and insurers. In 2025, approximately one third of the population in the canton of Zurich was enrolled in

such a plan [26]. Beyond these managed care arrangements, reimbursement of ambulatory services in 2025 was primarily based on a fee-for-service tariff.

2.3 Participants

GPs were eligible if they were familiar with the term ‘integrated care’ and had worked as a GP in the canton of Zurich within the last three years. Participants were recruited from the authors’ professional network, by referrals from participating peers (snowball sampling), or through cold emails. A purposive sampling approach was used to ensure variation in practice type, geographic location, urbanity, physician network, roles, and age. Recruitment was guided by purposive variation and information power rather than a formal saturation criterion. All but one contacted GP agreed to participate (reason for refusal: lack of time).

In total, 12 interviews were conducted with 12 different GPs. The participants’ key characteristics are presented in Table 1. About half the participants worked on their own account or as employees in self- or partially-owned practices; the rest were salaried staff. All but two held additional roles, such as teaching, practice management, or involvement in physician networks or professional associations.

Table 1: Main characteristics of participants

ID	Gender	Age (years)	Work experience as GP (years)	Workload as GP	Urbanity	Practice type
P0 ^a	male	60-69	33	30%	Urban	Medium-sized group practice with 2-4 additional health professionals
P1	female	30-39	6	50%	Semi-urban	Medium-sized group practice with 2-4 additional health professionals
P2	male	30-39	8	40%	Urban	Large group practice with various health professionals
P3	male	50-59	20	100%	Rural	Medium-sized group practice with 2-4 additional health professionals
P4	female	60-69	20	100%	Rural	Small group practice with GPs and MPA only
P5	female	70-79	36	40%	Semi-urban	Large group practice with various health professionals

P6	female	40-49	9	60-80%	Urban	Large group practice with various health professionals
P7	male	30-39	0.5 ^b	80%	Urban	Medium-sized group practice with 2-4 additional health professionals
P8	male	40-49	9	100%	Urban	Large group practice with various health professionals
P9	male	50-59	23	100%	Rural	Medium-sized group practice with 2-4 additional health professionals
P10	male	60-69	28	80%	Semi-urban	Medium-sized group practice with 2-4 additional health professionals
P11	male	40-49	5	100%	Rural	Small group practice with GPs and MPA only

All data was self-declared, but practice type was cross-checked with information on practice websites.

^a The first interview served as a pilot interview to test the interview guide and was included in the analysis, as no substantial modification to the guide was required.

^b One participant was not currently working as GP

Abbreviations: GP, general practitioner; MPA, medical practice assistant

2.4 Data collection

All interviews were conducted by author YR in April-June 2025 and took place either in person at the GP's practice (n = 6), the cantonal health authority (n = 4), another location proposed by the participant (n = 1), or online (n = 1), and lasted a median of 51 minutes (min 43, max 68 minutes).

Only the participant and the interviewer were present during the interviews. Interviews were conducted in Swiss German or German, recorded, and transcribed verbatim to German using

Microsoft 365 Word's 'Transcribe' function and manual word-for-word correction. To contextualize results, participants also provided demographic and organizational data in a short questionnaire prior to their interviews (see Additional file 1 and Table 1).

The interviews were structured in three parts, which were disclosed to participants at the beginning of the interview (see Additional file 2 for the interview guide, which was not shared with participants).

Part 1 (Introduction) was set up to ease participants into the interview and allowed them to share their understanding of integrated care and express their general views about the topic. In Part 2 (Current Situation), participants were presented with a case vignette of a community-dwelling, 67-year-old multimorbid patient (see Additional file 3 for the case description). The case vignette, which was developed in collaboration with two GPs (including author SNJ) was designed to depict a typical but

complex patient situation, inspired by multimorbidity clusters frequently observed in Swiss primary care [27]. If time allowed, the case vignette incorporated a time jump to introduce a second level of complexity, building on the case already familiar to participants. The case vignette was used to standardize the discussion and enable participants to tangibly and concretely illustrate how they provided care for these patients and whom they collaborated with, thereby allowing examination of how integrated care was currently practiced and what facilitated or hindered it. Participants were invited to sketch the patient's care system while narrating. In Part 3 (Future Directions), building on the case vignette, participants were invited to share their perspectives on the future direction of (integrated) care, for the case vignette patient and beyond. Depending on their responses, they were specifically asked about anticipated challenges and recommendations.

2.5 Analysis

Interviews were analyzed by author YR using combined inductive and deductive thematic analysis, informed by Braun and Clarke [28]. The analysis was structured around the two RQs: participants' current integrated care practices (RQ 1) and facilitators/barriers influencing these (RQ 2). For RQ 1, data segments related to integrated care were coded deductively according to the Rainbow Model of Integrated Care's four dimensions (see Definitions, below), with subthemes developed inductively. For RQ 2, facilitators and barriers were organized into levels that emerged inductively from the data: individual (i.e., factors related to individual characteristics, skills, and attitudes), interpersonal (i.e., factors related to interactions and relationships), and structural (i.e., contextual conditions such as information systems, financing, and workforce availability). Coding was conducted in MAXQDA [29]. Codes were iteratively refined, with patterns across participants examined to develop higher-order themes.

The study is reported in accordance with the Consolidated Criteria for Reporting Qualitative Research (COREQ; see Additional file 4). In reporting the findings, quotations were translated into English with the assistance of DeepL (DeepL SE) and ChatGPT (OpenAI) and were checked by author YR. Participant identifiers (see Table 1) were included with direct quotes and to highlight minority or

divergent perspectives. For views shared by multiple participants, prevalence was indicated qualitatively (e.g., “several participants,” “many participants”).

Researcher YR, who conducted the interviews and coding, holds a PhD in health sciences and has experience in health services research in primary care settings. Participants were informed that the study was conducted in the context of her master’s thesis. As YR was employed at the cantonal health authority during the study, her professional background may have influenced participant responses and interpretations of the data. Reflexive consideration of these potential influences formed part of the analytical process. To enhance credibility and consistency of interpretation, findings and interpretations were discussed within the multidisciplinary study team, whose members had backgrounds in health services research, general practice, and digital health. In addition, participants were invited to provide feedback on a preliminary manuscript draft; feedback was sparse but generally supportive of the interpretations presented.

2.6 Definitions

In this article, we understand integrated care broadly as ‘improved coordination of care through closer, structured, cross-sectoral collaboration among service providers, payers, and patients’ [4–10]. To disentangle and structure this concept, we used the Rainbow Model of Integrated Care by Valentijn et al. [14], which distinguishes four dimensions of integrated care according to the (micro to macro) level at which integration occurs: Clinical, professional, organizational, and system integration (see Table 2).

Table 2: Integration dimensions according to the Rainbow Model of Integrated Care.

Dimension	Description
Clinical (or service) integration	Coordination of person-focused care for a complex need at stake in a single process across time, place and discipline.
Professional integration	Inter-professional partnerships based on a shared understanding of competences, roles, responsibilities and accountability to deliver a comprehensive continuum of care to a well-described population ^a
Organizational integration	Inter-organizational partnerships (e.g. agreements, contracting, strategic alliances, knowledge networks, mergers) based on collaborative accountability and shared governance mechanisms, to deliver a comprehensive continuum of care to a well-described population.
System integration	Coherent set of (informal and formal) political arrangements to facilitate professionals and organizations to deliver a comprehensive continuum of care for the benefit of people and populations

Reproduced verbatim from Valentijn et al. [16]. ^a We used ‘professional integration’ synonymously with ‘interprofessional collaboration’ [30]

Valentijn et al. have refined the Rainbow Model taxonomy over time [14–16]. In this study, we primarily drew on the most recent definitions of the dimensions and their corresponding key features, developed through an international Delphi process [16], while also considering earlier conceptualizations to inform our analysis. In particular, the 2013 definition of system integration emphasizes a “set of rules and policies between care providers and external stakeholders” [14], extending beyond a narrow focus on political arrangements. This broader understanding is particularly relevant in the Swiss context, where healthcare is shaped by a plurality of market-based actors (including health insurers).

Building on this conceptualization, we operationalize system integration as macro-level governance and regulatory arrangements. We acknowledge that the boundary between system integration and structural facilitators and barriers (as inductively defined in this study; see Analysis above) is not always clear-cut. As noted by Valentijn et al. [16], integration at the system level may enable integration at other levels (e.g., professional or organizational), which leads to some conceptual overlap. For analytical clarity, structural facilitators and barriers are understood as (resulting) operational conditions (i.e., information systems, financing, and workforce availability).

Importantly, in line with the study aim, we intentionally withheld our definition of integrated care and the Rainbow Model from participants to capture GPs’ own perspectives.

2.7 Use of artificial intelligence

Generative artificial intelligence (large language model) tools were used to support manuscript preparation: ChatGPT (OpenAI) was used as a writing support tool to assist with sentence formulation, clarity, and refinement of English wording; DeepL (DeepL SE) was used to improve grammar and assist with the translation of interview quotations (see Analysis above); and Anthropic's Claude was used for language editing (grammar, wording, and typographical corrections) and formatting consistency checks. The two illustrations of the fictional patient in the case vignette (Additional file 3) were generated using an AI image tool and formed part of the original stimulus presented to participants. Generative AI was not otherwise used in study design or data collection, and was not used to generate or analyze data, develop interpretations, or create new scientific content. All AI-assisted output was reviewed and verified by the authors, who take full responsibility for the content of this work.

3 Results

3.1 Current practices (RQ 1)

3.1.1 Clinical integration

Participants displayed multiple practices aligning with the concept of clinical integration: coordinated, person-focused care in a single, minimally fragmented process. They emphasized the importance of care coordination and continuity of patient care – both aspects participants felt were well addressed by GPs.

3.1.1.1 Patient-centered and holistic care

Many participants placed the patient at the center of their diagrams and narratives: “*So the patient would be at the center – she is what matters most*” (P4). They often mentioned how they assessed and respected patients’ preferences: “*The big question is: what does she want?*” (P3). Some participants explained how patients’ wishes were respected even when they conflicted with medically optimal

options, for example relocation to a nursing home: *“But often they’re just not ready, and that’s totally fine, too”* (P1).

Participants repeatedly emphasized their holistic view of the patient, which often extended beyond medical aspects: *“[The specialists] focus on their field: the cardiologist looks at the heart; the dermatologist looks at the skin (laughs)... we look at everything”* (P6). In their assessments of the case vignette, some specifically suggested solutions that addressed multiple needs at once – for example, a gymnastics group to support both physical function and social engagement (P0, P5). Understanding the patient’s situation at home, e.g., through home visits, was considered crucial to gain a full picture, and several participants mentioned advanced care planning as part of a holistic approach (P5, P6).

3.1.1.2 Coordinator roles

For complex patient situations, participants repeatedly emphasized the importance of someone being in charge: *“To minimize fragmentation, someone has to be in charge – ideally the patient. Unfortunately, most are unable to do this or struggle to understand because it becomes too complex”* (P6). Being the coordinator was related to feeling responsible for the patient. One participant described instructing junior doctors in his practice: *“Now you’re responsible, you have someone there, you know, and now you really have to take good care of that person”* (P9). The coordinator’s role was described as multifaceted. It entailed overviewing all relevant information, referring patients to suitable professionals, serving as a point of contact for both patients and providers, and ensuring smooth transitions between care settings. Most participants saw this role best filled by GPs or professionals within the GP practice, such as APNs. One participant explained APNs’ suitability as follows: *“She has a nursing background, she has a different approach, sees the patient with different eyes [...] she is a specialist in that, whereas the doctor is not. [...] Medical school and even residency do neither include coordination skills, motivational interviewing skills, nor any knowledge about other health professions”* (P8). The fluidity of roles of different health professionals is discussed under Professional integration below.

3.1.1.3 Continuity of care

Another often-mentioned aspect of clinical integration was continuity of care, both in terms of seamless care provision as well as relational continuity (serving as a facilitator, see Interpersonal factors). Participants emphasized that unlike case managers, GPs not only coordinate but deliver care themselves. Several participants (P0, P5, P10) contrasted continuity of care with interprofessional care, i.e., the distribution of tasks among professionals. Management of complex patients in the GP practice allowed for treatment “*in one flow*” (P11), or as one participant explained: “*I just do everything myself, so there’s really nothing to organize. It’s a one-stop shop for patient care.*” (P11). In contrast, interprofessional collaboration was perceived as follows: “*It’s not only a gain. [...] You get more disruptions in the system*” (P2).

Participants’ preference for continuity through single-provider care was not limited to GPs. One participant explained how their practice employed APNs “*who provide everything as a kind of all-inclusive package*” (P8). Similarly, other participants explained that they preferred assigning home care organizations that were already involved in the care process with tasks like blister-packing medication, rather than an additional provider such as the pharmacy.

3.1.2 Professional integration

Professional integration was common in participants’ accounts and characterized by flexible role boundaries and different modes of collaboration across health professions. Participants described both continuous forms of collaboration and more selective, task-specific involvement of external professionals. The most comprehensive care constellation envisioned for the vignette patient is illustrated in Figure 1, although some participants also proposed more limited care arrangements centered primarily on the GP.

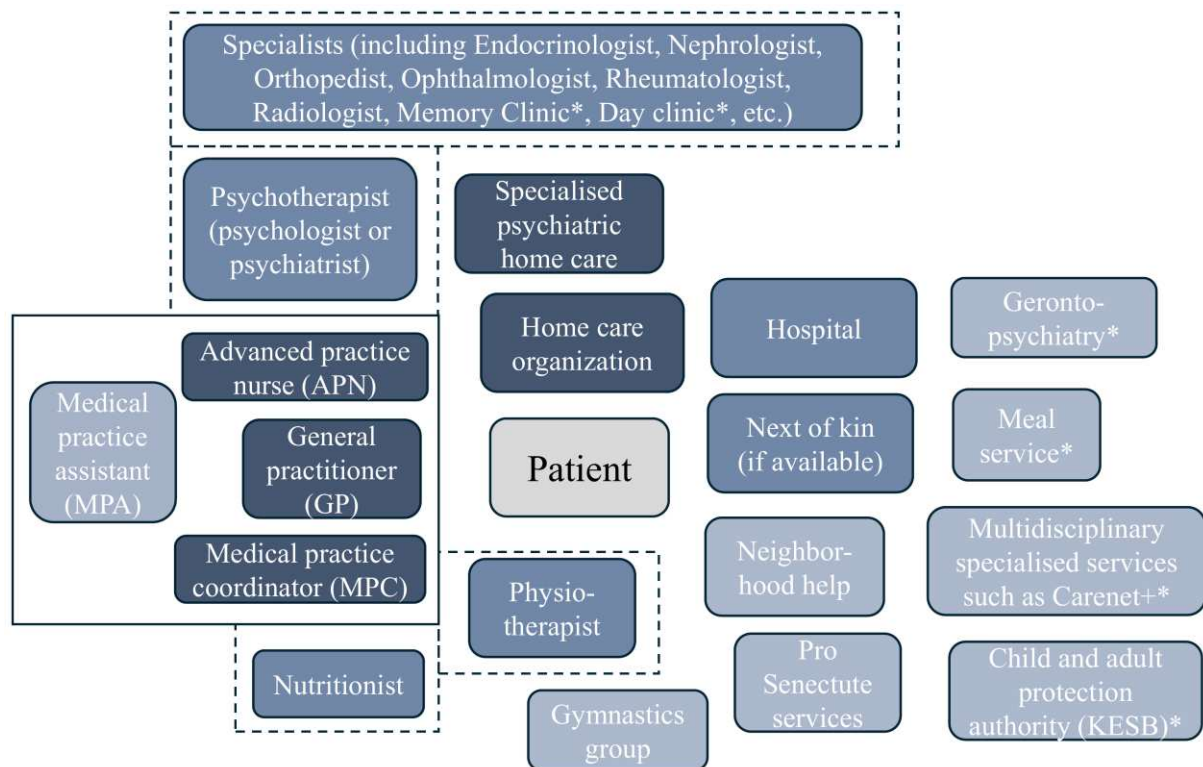


Figure 1: Care system for an illustrative case of a complex, multimorbid patient: Summary of participant responses. Darker color denotes more frequent mention (qualitative, not exact measure). The black rectangle indicates health professionals typically working together in the same practice. Dashed rectangles indicate health professionals working together in the same practice in some cases, and in other cases working in separate organizations. Otherwise, spatial arrangement of services in the figure has no interpretive meaning. Asterisks indicate services that were suggested primarily for the older case vignette patient (after the time jump).

3.1.2.1 Role flexibility and task distribution

Professional roles and responsibilities were described as fluid and overlapping, with boundaries between different health professions often not clearly delineated. Task distribution depended strongly on the local context, including the composition of the care team and the availability of specific professional groups. Competencies of GPs, APNs, MPCs, and home care professionals frequently intersected, with responsibilities allocated pragmatically based on available resources. For instance, in practices without MPCs or APNs, GPs assumed a broader range of tasks themselves and collaborated more closely with home care organizations (P4, P11). Even within the same practice, responsibilities were not fixed but could shift over time. Several participants emphasized that coordination roles were dynamic and often assumed by the professional most involved in a given situation. This flexibility reflects a context-sensitive approach to

interprofessional collaboration, in which role boundaries are negotiated rather than formally standardized. Despite this fluidity, participants emphasized the GP's overarching responsibility for maintaining continuity and oversight: *"When patients are so immobile that they can't come to the practice anymore, our APN does home visits and she is the manager [...] if someone has an asthma problem, then the MPC sees the patient five times and I only once. [...] but I'm always informed and up to date"* (P6). This illustrates a model of delegated task distribution in which responsibilities are shared across professionals, while overall clinical accountability remains with the GP. This context dependency was also evident in the role of pharmacists: they were rarely mentioned, as medication dispensing and management was typically performed by GPs. Only in the one setting without self-dispensing did pharmacists assume a more active role in medication management (P0).

3.1.2.2 Modes of collaboration

Participants described different modes of interprofessional collaboration, ranging from close, continuous cooperation to more episodic and task-specific involvement. These modes depended strongly on the type of health professionals involved but were also shaped by contextual factors such as organizational proximity.

Within GP practices, collaboration was described as close and continuous. MPCs and APNs, embedded within the same organization, were not experienced as additional interfaces but as part of a closely integrated internal team. In some cases, APNs also acted as intermediaries between GPs and external providers, such as home care services.

Collaboration with home care professionals was also described as close and ongoing, based on regular, bi-directional communication, sometimes including face-to-face interactions. Participants highlighted the home care professionals' importance in identifying early warning signs in patients' everyday environments and feeding this information back into the care process. In some situations, responsibilities were negotiated between GPs and home care professionals, reflecting the relational dimension of collaboration: *"[when] we decide to file a risk report, [we] agree among ourselves who will do it. Because [this information] always gets back to the patients, and then you're the bad one, and then you're out of the system"* (P6). Depending on the context, the GP or home care organization

might take on the ‘bad cop’ role, strategically preserving trust between the patient and the party who will remain more involved in future care.

In contrast, collaboration with other professionals, such as medical specialists, physiotherapists, or nutritionists, was typically more episodic and focused on specific clinical questions. Communication was often mediated through written reports, with phone calls reserved for situations requiring clarification. While these professionals contributed to patient care, overall coordination and continuity remained centered with the GP: *“I see such patients a lot myself and simply gather the specialists’ opinions. In the long term, I usually continue to manage them myself and then refer them to a specialist from time to time”* (P1).

Generally, when health professionals were co-located within the same practice, collaboration was often more extensive, involving both formal meetings and informal exchanges about patients’ conditions, as well as communication via the practice information system. One participant summarized the different internal and external modes as follows: *“We have a half-hour team meeting every day, the internal people. All the GPs, specialists when needed [...] and otherwise it’s just quick door-to-door interactions. And with external providers, you just have to use the phone or email”* (P6).

3.1.3 Organizational integration

While participants generally focused more heavily on interprofessional dynamics within or between organizations (see Professional integration above), several also described organizational structures to foster care integration within their organizations, or partnerships that shaped integration efforts across institutional boundaries.

3.1.3.1 Integration of services within an organization

Most participants worked in practices involving additional healthcare professionals beyond MPAs or MPCs, with some working in large multidisciplinary practices with several specialist physicians and additional health professionals such as physiotherapists (see Table 1). Participants often reflected on the benefits and drawbacks of such a high degree of organizational integration for both clinical and professional integration (see Facilitators and barriers).

3.1.3.2 Strategic partnerships and institutionalized cooperation

Some participants described formalized collaborations with other organizations. For instance, several GPs described close, structured collaboration with home care organizations, including regular joint meetings. One participant also mentioned ‘preferred providers’ for their physician network, i.e., carefully selected specialist physicians who are subject to annual quality and cost reviews (P6). Another participant mentioned the regional education program for younger doctors, in which GPs worked together with the regional hospital to train junior GPs (P10).

3.1.3.3 Networks and institutionalized meetings

Multiple participants mentioned ‘quality circles’ (organized by physician networks as part of managed care arrangements) as a platform for exchange. One participant described the value of these meetings in offering an opportunity for exchange with other physicians: *“In a quality circle, almost all [GPs] from the region take part. [...] There are maybe 12 or 13 practices from the surrounding area, and we exchange ideas, which is very helpful. [...] Specialists also join us there, [...] colleagues from the area with whom we already work together anyway [...]. We share experiences and get to know each other better.”* (P10).

Such meetings were valued not only for facilitating information exchange and building relationships, but also for fostering a quality culture (and thereby integrated care) within the network (P2, P11). Additional mentions of institutionalized exchange included interdisciplinary training events hosted by hospitals (P3, P5), or regular regional meetings of different healthcare providers focused on specific domains such as psychiatric care, palliative care, or dementia (P3).

3.1.4 System integration

System integration was primarily discussed in terms of its absence: Participants described fragmentation across actors and domains and a limited focus on population-based approaches.

3.1.4.1 Fragmented responsibilities and limited cross-domain coordination

Participants described responsibilities for different aspects of care as divided across multiple actors. While healthcare providers focused on medical care, municipalities were described as responsible for broader social domains, including social care, aging, and housing. This division of responsibilities was not uniformly perceived as problematic. One participant considered it appropriate that social issues were addressed by public or municipal structures rather than within healthcare: *“From my perspective, it makes much more sense for public structures to take care of these [broader social issues], rather than intervening directly in medical care”* (P2). However, others criticized the limited involvement of municipalities in primary care, particularly in relation to planning and sustaining services: *“The [municipalities] somewhat, I would say, shirk their responsibility [...]. They only start paying attention to us GPs when they can’t find one anymore – then suddenly it’s all hands on deck – but before that, they’re not really interested”* (P10). At the same time, coordination across these domains was described as limited and challenging. Participants emphasized the lack of structured interaction between healthcare providers and municipalities, resulting in gaps in addressing patients’ broader needs. Only one participant described a more integrated regional approach, in which healthcare organizations and municipalities collaborated on a shared strategy and structures addressing housing, care coordination, and prevention (P3). The missing collaboration across domains was considered particularly problematic regarding services of social workers, given that social support needs were prevalent in primary care.

3.1.4.2 Lack of population-based approaches to care

Participants’ accounts focused primarily on individual patients and their medical needs, with limited reference to population-based or anticipatory approaches to care. Several participants reflected on the need to move beyond this focus, particularly in light of demographic changes. For example, one participant highlighted the importance of developing coordinated approaches to aging that include housing and community structures: *“With an aging population, we should be developing networks, building appropriate housing, and also think about how we design urban spaces today so that people are not so isolated”* (P4). However, such perspectives were rarely reflected in current care models,

with the exception of one region described above. One participant also pointed to the potential role of physician networks in enabling more population-based approaches, for example by taking responsibility for defined regions or populations: *“Physician networks could take a completely different approach to care and say, for example, ‘In neighborhood XY in the city, we’re implementing integrated care. We receive certain mandates and fulfill them as well and effectively as possible’. But that would, of course, require working towards different contracts with the health insurers”* (P0).

Structural conditions shaped by system integration, i.e., information systems, financing, and workforce availability, which enable or constrain integrated care, are discussed below as facilitators and barriers (see Structural factors).

3.2 Facilitators and barriers (RQ 2)

3.2.1 Individual factors

Participants highlighted the importance of patients’ commitment to the GP’s coordinator role as a facilitator (or barrier, when lacking) to clinical integration (see Table 3 for an overview of all facilitators/barriers). One participant explained how in his rural area, the GP was seen as the default coordinator, which greatly facilitated coordination: *“[...] out here, I have to say, coordination happens naturally, at the latest when patients [after they’ve seen the specialist] come and ask, ‘So, now I’d like to know, what are we actually supposed to do now?’”* (P11). Besides patient behavior, specialist physicians’ behavior was also described to influence clinical integration and was often described as a challenge. Several participants described how patients sometimes ‘disappeared’ in big hospitals, with specialist physicians undermining the GP’s coordinator role and confusing patients: *“So, the problem is that [some hospitals] haven’t understood that GPs expect a treatment recommendation from them, not [...] taking over the reins. [...] With onward referrals, they undermine my coordinating role and my overview, and in the end, the patient is completely lost”* (P6).

Regarding professional integration, the attitudes of health professionals were considered crucial. Most participants emphasized how health professionals had to recognize the role of other health professionals and the importance of interprofessional collaboration, but different attitudes could also

be observed among the participants: While many believed that involving other health professionals improved patient care, some questioned whether the added benefit justified the added cost, e.g., in the case of chronic care management by MPCs (P11). Another factor that facilitated professional integration was the participants' belief that other professionals relieved the workload on GPs by taking over 'non-core activities'. These included simple medical cases as well as 'social problems' that would be better addressed by other professionals, while currently, as one participant noted, *"everything ends up with the GP, in the end"* (P2). Knowledge of the competences of other health professionals was also mentioned as a facilitator: *"With specialists, that is not a new element, it has always existed and actually works very well"* (P9). In contrast, the lack of knowledge about APNs (due to the novelty and lack of standardization of the role) was described as a barrier, and the experience of working together was mentioned as a facilitator in this respect. As one participant explained: *"Especially in this initial phase that we're still in, a common problem can be that on the medical side there isn't full awareness of what competences the respective professionals do or do not have. I think when you have [an APN] in your team, you get some insight into it, and this can then grow"* (P7).

Professional integration was not only influenced by the attitudes of health professionals but also of patients: Participants described different experiences with patients' reactions to other health professionals taking on roles previously filled by physicians. While one participant said that there was *"no problem at all"* (P8), another recounted: *"But there were also cases where I said, 'Unfortunately, I can't do a home visit now, I'll send you a nursing specialist instead.' And some patients, who had been so fixated on me for years, were deeply offended [...] and took it so badly that they changed the practice"* (P2). This also seemed to depend on patients' experience with and knowledge of the new health professionals. As one participant explained with regard to MPCs: *"At the beginning, [patients] are a bit critical, but then they realize that the access is very low-threshold and that they can even ask silly questions, and after that it's no longer a problem at all"* (P6).

477 **Table 3: Summary of facilitators of and barriers to integrated care from the perspective of GPs.**

Level	Facilitators of vs. barriers to integrated care
Individual	- Patient- and specialist behavior: committing to vs. undermining the GP's coordinator role - Patient attitudes towards non-medical health professionals: openness vs. prejudice, fixation on the GP - GPs' knowledge about other health professionals' competences: shared experience, training vs. lack thereof - GPs' attitudes towards interprofessional collaboration: believing it relieves the workload on GPs and/or improves quality of care vs. concern regarding added costs/inefficiencies
Interpersonal	- Close relationships between GP and patients: in-depth knowledge of patients and trust vs. new patients - Close relationships between health professionals: easier communication and trust vs. lack thereof - Personal compatibility between health professionals: similar thinking vs. interpersonal tensions - Power dynamics between organizations: Leverage used to increase vs. decrease integration
Structural	Information systems: - Shared patient health records: availability of patient information vs. lack thereof - Direct communication channel/platforms: ease vs. difficulty of reaching and communicating with health professionals Financing: - Managed care insurance models (facilitating and remunerating coordination) vs. fee-for-service (inappropriate referral incentives) - Coverage of services by health insurance vs. lack or insufficient reimbursement for certain professionals Workforce availability: - Ease of involving other health professional vs. workforce shortages, lack of time on all sides - Need to substitute GPs with other professionals vs. lack thereof - Practice size: increased GP availability vs. fragmentation, reduced continuity of care

478 Abbreviations: GP, general practitioner; MPC, medical practice coordinator; APN, advanced practice
479 nurse
480

481 **3.2.2 Interpersonal factors**

482 The relationship between health professionals and patients, often developed as a consequence of
483 continuity of care (see Continuity of care), was seen as crucial for clinical integration. One important
484 facilitator was the depth of knowledge that health professionals, and specifically GPs, developed about
485 their patients over time: *"Because not everything is in the medical record; much is between the lines*
486 *or depends on the relationship. I've known many of these people for 30 years, and we share a history"*
487 (P10). Consequently, new patients could pose a challenge to participants: *"The initial effort is very,*
488 *very high, until you get to know each other, understand how the patient functions, whether everything*

489 *works, how the care is organized [...]*” (P10). Continuity also fostered trust from the patient’s side,
 490 which was described as a powerful facilitator for the GPs in fulfilling their coordinator role. For
 491 instance, one participant shared how her trusted relationship with a patient with chronic
 492 procrastination and hoarding tendencies facilitated his uptake of psychiatric home care support: “I
 493 literally wrote down *for him [...]* ‘please help me with my administrative tasks’ [...]. And then he did it
 494 *[he gave the note to the psychiatric home care professional]*, which was really cool” (P1). However,
 495 trust could also become a barrier when patients placed expectations on their GPs that went beyond
 496 medical responsibilities (P2), or when difficult decisions were required, for instance regarding the
 497 transition to a nursing home. Having a close relationship could make it harder to break the news
 498 without damaging the patient’s trust (P7).

499 Regarding professional integration, frequent interaction and shared experiences between professionals
 500 were described to be key, facilitating collaboration in different ways: “*Everything you share is helpful*
 501 *(laughs). Short distances, and you know how each other works, you can quickly exchange ideas over*
 502 *coffee or in a team meeting [...]. And when you know each other, you work together better*” (P6).

503 Another advantage mentioned was the increased trust between professionals: “*It’s all about trust. You*
 504 *know each other and each other’s work*” (P4). Importantly, participants described the facilitating effect
 505 of interactions not as static, but as a reinforcing cycle: interaction enabled smoother communication,
 506 which in turn led to more collaboration and stronger relational ties. This was affected, for example, by
 507 practice size as well as years on the job. One participant described how there had been more
 508 networking in her previous small practice than in her current big practice, but that her job experience
 509 facilitated contact with health professionals outside her organization: “*Of course, after 30 years, I*
 510 *simply know how certain specialists tick, and they know how I tick, so I can just write them a letter*
 511 *and it works*” (P5). This also illustrates how beyond frequent contact, interprofessional collaboration
 512 often comes down to personal compatibility. Participants emphasized how shared mindsets or
 513 “*thinking similarly*” (P1) acted as facilitators, while interpersonal tensions could act as barriers to
 514 collaboration (P11).

515 For organizational integration, power dynamics were mentioned as both facilitator and barrier. One
 516 participant noted that larger “*privileged*” networks had higher leverage in negotiating favorable

contracts with insurers than smaller networks, which, for example, allowed them to employ APNs (P0). In contrast, another participant recounted how large institutions exercised their power in ways that hindered collaboration. Specifically, a home care organization, after scaling up, declined to come by the GP practice to engage in individual exchanges: *“From that moment on, they said [...] ‘well, that won’t work – we can’t have an exchange with all these doctors, that’s just not possible”* (P9). As with interprofessional relationships, physical proximity and trust were cited as important factors for smoother cooperation between organizations.

3.2.3 Structural factors

Participants identified various structural facilitators and barriers to integrated care, which are presented below in the three categories – information system, financing, and workforce availability – but cautioned against radical changes to the current Swiss health care system. As one participant put it: *“When I compare our healthcare system internationally, it actually works very well. [...] I mean, you can build on what we have – if you tear everything down, it won’t do any good”* (P5).

3.2.3.1 Information systems

Information sharing was an important factor across integration dimensions. As one participant emphasized: *“We need to develop some kind of tools to ensure the flow of information between individual actors”* (P7). Working within the same patient documentation system/information platform (typically within the same organization) was described as a crucial facilitator, not only because patient information was then readily available but also because it facilitated direct messaging: *“We all work with the same information system and can also exchange information with each other there, quickly leaving a note like, ‘At the next diabetes consultation, please make sure to check the injection technique again’, and that is of course then just totally simple”* (P9). Across organizations, such platforms were often missing. This was particularly problematic for medication management, where many professionals were involved and it was difficult to keep the information up to date: *“[Medication plans] are a pain point for everyone involved, whether it’s the interface from the hospital to us, from us to the home care organization, or from us to institutional long-term care”* (P9).

One participant pointed out that a platform dedicated to documentation does not automatically work as a communication platform: *“It would be cool to also have a central communication system. The EPD [i.e., a shared electronic health record in Switzerland] wouldn’t necessarily provide that. It’s not designed for any kind of communication function – like a chat or some other form of exchange”* (P9).

Generally, the ease and straightforwardness with which external health professionals could be reached played an important role for collaboration: *“We actually have an unnecessarily high number of interfaces today, which leads to loss of information and also to contacts not being made at all because it’s too much effort, and you just do whatever is most straightforward”* (P0). Some participants also mentioned lack of an overview of services as a barrier to involving them, such as not knowing about specialized services (e.g., for outpatient geriatric assessment, P1), or having too many different providers in one region (e.g., different home care organizations, P10).

3.2.3.2 Financing

Many participants discussed the impact of current payment and remuneration aspects on integration. Participants discussed how coverage of services by health insurance (e.g., psychiatric home care) was a facilitator to collaborate with these services whereas lack of coverage (e.g., social workers, APNs) was a barrier. In that respect, insufficient coverage of home visits by advanced clinical professionals, such as GPs or APNs, was a particular concern of participants. Participants also discussed the lower remuneration (and thus salary) of primary care physicians including GPs compared to specialist physicians, which limited the attractiveness of the profession and – in light of the important role of GPs for integrated care – acted as a barrier. Moreover, participants emphasized the problematic incentives inherent in the current fee-for-service structure – where actors are incentivized to retain services in-house in order to benefit financially, thus acting as a barrier to interprofessional and interorganizational collaboration. One participant described the inner conflict these structures can create: *“If I assess [X-rays] myself, I can bill for it; if I send them to [the radiologist] for assessment, then they bill for it. There’s a bit of a sneaky incentive behind that, which I don’t think is right”* (P1). Participants also spoke about the downsides of having specialists working within the same organization as GPs, as it could potentially cause GPs to

unnecessarily refer patients to those specialists: *“As soon as you have [specialists], you’re also a bit in danger of compromising your medicine and doing something just because you have them”* (P2). This was also described to apply to hospitals, which were incentivized to refer patients within their own specialist networks (P6, P7). In this context, two participants (P2, P9) also mentioned how integrating GP practices with hospitals could cause hospitals to take advantage and try to land more operations due to the lack of independent gatekeeping.

In contrast, alternative payment systems implemented in managed care contracts were mentioned as facilitators to integration on different dimensions. They rewarded and incentivized GPs to take on the coordinator role: *“the institution [...] really has an incentive to look after you [as a patient]”* (P2). Moreover, they required patients and specialists to respect this coordination and facilitated professional integration by allowing for remuneration of new roles such as APNs and MPCs (that were not adequately captured by the current tariffs).

3.2.3.3 Workforce availability

Workforce shortages were identified as a major barrier to interprofessional collaboration: *“The main problem is that everyone is facing staffing shortages. [...] The entire system is simply overloaded, which really is the fundamental issue”* (P10). Participants described staff shortages across both primary care and hospital settings, which limited communication and care coordination: *“They’re short-staffed everywhere, just like us, and then they don’t have the time to call us to say that Mr. XY is going home [from the hospital]”* (P4).

Staffing constraints were perceived as particularly severe among psychotherapists, especially in rural areas and for older patients with complex needs such as those described in the vignette: *“You can forget about psychologists. Someone like that won’t get a therapy spot in our area; the waiting times are six months or even not at all”* (P11). The availability of different professional groups also influenced collaboration preferences, with some participants reporting a greater reliance on MPCs than APNs simply because MPCs were more readily available.

Participants further highlighted workforce shortages within their own profession. Limited GP capacity restricted the time available per patient, thus limiting home and nursing home visits as well as

extensive communication with other professionals: *“And thus, of course, you can’t interrupt your consultation to spend half an hour discussing such a complex case with a psychiatrist”* (P1). One participant illustrated how staffing constraints on both sides could impede collaboration: as a time-pressured GP, she sometimes refrained from contacting hospital physicians because they were difficult to reach due to staffing shortages in hospitals (P1). Given these challenges, many participants emphasized strengthening the primary care workforce and addressing GP shortages as key priorities for advancing integrated care in the future.

At the same time, the scarcity of GPs could serve as a facilitator for interprofessional collaboration, as other health professionals were brought in to alleviate the GPs’ workload. One participant commented on APNs’ activities in his practice as follows: *“If there were plenty of doctors and it were simply part of routine, then we would do it. But in the end, involving the doctor is actually something valuable”* (P8). Workforce shortages were also described as a potential facilitator to organizational integration.

One participant discussed how hospitals were incentivized to get involved in primary care because of the lack of GPs: *“I also suspect that hospitals will increasingly have to take the reins a bit more and support, finance, or even run such [primary care] centers themselves. I think this will be something hospitals will have to deal with – not the large city hospitals, but the rural ones.”* (P9).

Practice size was described as an ambivalent factor for clinical integration, as having multiple GPs within the same practice increased availability for patients, e.g., if GPs worked part-time or were away on holidays, but posed a risk of fragmentation and loss of oversight. One participant reflected on this dilemma, stating: *“I keep telling my [junior] colleagues, ‘Watch out, we’ve somehow passed this Mrs. “so-and-so” around, she was twice with you, twice with you, twice with you. That’s not good medicine [...] No one is in charge, so please, we need to agree again: she’s assigned to you, and she has to be a little patient if you’re not there this week. Otherwise, no one has an overview’”* (P9).

4 Discussion

This study explored how GPs practice and experience integrated care for complex multimorbid patients. Whereas clinical and professional integration was extensively discussed, integration at the

system level was perceived as limited. Participants described a variety of facilitators and barriers to integrated care, emerging at the individual, interpersonal, and structural level.

4.1 Current implementation

Participants placed particular emphasis on continuity, patient-centricity, and clearly defined coordinator roles. The prominence of clinical and professional integration in our study is supported by previous data from Switzerland. For example, international survey data indicate that 97% of patients with chronic conditions treated by Swiss GPs report good person-centered care, the highest proportion among participating countries [31]. Moreover, collaboration between GPs and home care organizations has been described as close, and collaboration with specialist physicians as well-established and effective [21].

In contrast, system integration was perceived as limited, with participants describing fragmented responsibilities among system-level actors with a lack of coordination and limited population-based care. Previous research has similarly highlighted shortcomings in system integration in Swiss primary care, attributing them to Switzerland's federal structure, in which responsibilities are divided across federal, cantonal, and municipal levels, as well as to its liberal health policy tradition, where healthcare is largely governed by market mechanisms and subject to limited state intervention [13].

While the limited emphasis on macro-level integration in our findings may reflect these characteristics of the Swiss healthcare system, it may also be partly explained by the professional background of our participants as clinicians rather than policymakers. A similar observation was made during the development of the Rainbow Model of Integrated Care, where system integration received limited attention in an international Delphi study that did not explicitly include experts with a macro-policy background [16].

4.2 Facilitators and barriers

Several interpersonal and individual facilitators identified in this study – such as trust, frequent contact, and familiarity with other professionals' competencies – are consistent with previous research

[13,32]. In contrast, attitudinal barriers reported in earlier Swiss studies – such as resistance to shared responsibility, protection of professional territories, and reluctance to self-reflect [5,6,13] – were less pronounced in our data. This may partly reflect our exclusive focus on GPs but could also indicate evolving professional attitudes and increasing acceptance of new roles, such as APNs. Indeed, many participants acknowledged APNs as adding value to care, which is a well-documented facilitator of collaboration [16].

Structural barriers identified in this study largely confirm existing findings. Most notably, participants highlighted the lack of shared patient documentation and easy information exchange [4,13,21,33] as well as challenges related to current financing mechanisms [4–6,13,33], in contrast to the perceived benefits of managed care contracts [5,13].

At the same time, this study contributes nuanced insights regarding workforce-related factors. While workforce shortages are widely recognized as a systemic challenge, to our knowledge, their specific implications for integrated care have received limited attention in the Swiss context. Our findings suggest that workforce-related factors can act both as barriers and facilitators, depending on context. For example, larger practice sizes may enhance GP availability to patients and increase opportunities for interprofessional contact but may also introduce fragmentation and reduce familiarity among professionals. Similarly, GP shortages may constrain collaboration and person-centered care due to time pressures, while simultaneously promoting interprofessional collaboration by necessitating the involvement of other health professionals in complementary or substitutive roles.

4.3 Implications

Considering both current integrated care practices and the barriers and facilitators identified by participants, several implications can be derived from our findings.

Participants highlighted the importance of ‘soft factors’, such as knowing each other, trust-based relationships, and opportunities for informal exchange. Successful collaboration often depended on personal familiarity and established relationships rather than formal arrangements alone. This suggests that opportunities for regular exchange should be strengthened, for example through regional and interprofessional platforms extending beyond physician quality circles.

Alongside these interpersonal aspects, participants also highlighted structural requirements for communication, particularly in relation to digital infrastructure. Our findings suggest that GPs do not merely need access to shared health records, but also communication tools that support timely exchange between providers. Future digital infrastructures should therefore not focus exclusively on documentation but also provide secure messaging or chat functions to facilitate coordination and continuity of care. Whether these functions should be integrated into one system, and which actors will drive the implementation, remains to be seen.

Regarding financing models, participants highlighted the benefits of managed care contracts in incentivizing coordination and facilitating collaboration across providers through the GP gatekeeping and coordinator role. Our findings thus support further expansion of managed care-style financing approaches as well as newer capitation-based models currently being discussed and tested in Switzerland. This is in line with a recent OECD report suggesting that health systems with higher incentives for quality, as well as a stronger role of GPs as gatekeepers, better care continuity, and stronger financial incentives for GPs to improve quality, may achieve better access to high-quality care (i.e., lower avoidable hospitalizations) [34]. Such models may also strengthen population-oriented approaches to care, which participants perceived as currently lacking. In this context and in light of demographic aging, municipalities could play a more important role in the future, particularly given their responsibilities in long-term care in the canton of Zurich. Initial examples of municipal involvement were already observed but scarce from the perspective of participants.

Our findings also suggest important implications for workforce and role development. Generally, participants described workforce shortages as a major challenge for continuity of care and time-intensive collaboration, underlining the importance of current cantonal and national workforce initiatives. The APN role specifically was generally perceived positively, but implementation was hindered by limited standardization and a lack of reimbursement pathways. Some of these barriers may be reduced through ongoing legal revisions aiming to formally define the profession [35].

However, given that shared practical experience was a strong facilitator for successful collaboration and role acceptance, it will be important to create joint training opportunities for GPs and APNs.

Finally, our findings suggest that there is no single optimal model of integrated care. Participants described differing views regarding the ideal composition of primary care teams and the role of different health professionals. While many emphasized the benefits of interprofessional collaboration, others highlighted advantages of GPs maintaining broad competencies themselves, thereby reducing interfaces, coordination complexity, and fragmentation. This perspective aligns with socio-technical systems theory, which suggests that strongly interdependent activities should, where possible, be grouped together, as this addresses underlying fragmentation and reduces the need for extensive and costly coordination mechanisms [36]. Moreover, participants described how a high degree of service integration within a single organization may decrease integration on other dimensions by creating incentives that hinder collaboration with external providers when this conflicts with organizational interests. Thus, our findings align with previous research suggesting that integrated care models need to be adapted to local contexts, stakeholder needs, and available resources rather than following a “one-size-fits-all” approach [7,13]. For instance, it has been suggested that Swiss rural regions may benefit more from strongly integrated regional care networks, whereas urban areas may be better suited to ecosystem-like approaches characterized by a lower degree of organizational integration and flexible partnerships as well as competition between providers [5,6].

4.4 Strengths and limitations

This study provides a structured and in-depth exploration of integrated care from the perspective of GPs, who play a central role in Swiss primary care. Our findings shed light on a highly complex and context-dependent topic characterized by multiple interacting dimensions and dependencies. By systematically exploring current practices, barriers, and facilitators, our study may also contribute to strengthening a shared understanding of integrated care among stakeholders, the lack of which has previously been identified as a barrier to implementation [6].

We analyzed the data deductively using an established framework, which proved useful for understanding integrated care practices. Complementarily, inductive approaches were used to identify actionable barriers and facilitators grounded in participants’ experiences. To allow for meaningful reflection and nuanced responses, interviews lasted more than 50 minutes on average. In addition,

many participants positively evaluated the case vignette and reported that they could strongly relate to it, suggesting that it facilitated concrete reflection on their day-to-day practice.

Several methodological considerations should be acknowledged. All interviews and coding were conducted by one researcher (YR), which may have influenced data collection and interpretation. Measures addressing researcher reflexivity and study credibility are described in the methods section.

Several limitations also relate to participant selection. First, the study focused exclusively on GPs' perspectives, providing only a partial view of the broader integrated care landscape. Consequently, barriers attributable to GPs themselves may have been less prominently reflected. Second, the sample is subject to participation bias, as participation likely attracted GPs with a particular interest in integrated care. In addition, no GPs from solo practices were included, largely due to recruitment challenges. However, as solo practices represent a declining organizational form in Switzerland [21], the impact of this limitation may be modest. Finally, all participants were recruited from a single canton in German-speaking Switzerland. While this strengthened contextual consistency, it limits transferability to other language regions, which differ in certain respects, including the prevalence of solo practices, use of electronic documentation, and cantonal funding initiatives [6,21]. Nevertheless, Zurich is Switzerland's largest canton by population (18% in 2024 [20]) and includes both urban and rural regions, which were purposively represented in the sample.

As next steps, we propose that future research should first examine these findings quantitatively in a larger sample of GPs to assess their broader relevance and generalizability. Second, perspectives from additional stakeholders, including other health professionals, patients, and policymakers, should be incorporated. Building on this, solution-oriented discussions with local stakeholders may help identify context-appropriate approaches that build on existing strengths. Identified structural barriers, particularly regarding financing, digital infrastructure, and workforce shortages, should be addressed. Finally, specific interventions and implementation approaches should be pilot tested and evaluated in practice.

5 Conclusions

Our findings suggest that integrated care is already deeply embedded in many aspects of Swiss primary care practice, particularly through GPs' coordinating role and close interprofessional collaboration around complex patients with multimorbidity. However, system-level integration appears limited, with fragmented and poorly coordinated responsibilities among system-level actors and a limited focus on population-based care. At the same time, there appears to be no single optimal model of integrated care, as implementation depends strongly on local contexts, available resources, and existing collaboration structures. Strengthening integrated care in Switzerland will likely require greater opportunities for exchange and coordination across professionals, organizations, and sectors, alongside supportive structural conditions such as appropriate financing models, effective digital communication infrastructures, and sufficient workforce capacity.

List of abbreviations

GP, general practitioner
RQ, research question
MPC, medical practice coordinator
MPA, medical practice assistant
APN, advanced practice nurse

Additional files

Additional file 1

- Format: .docx
- Title: Questionnaire
- Description: Short survey on demographic and organizational data, collected from participants prior to their interviews

790 Additional file 2

- 791 - Format: .docx
- 792 - Title: Interview guide
- 793 - Description: Final version of the interview guide

794

795 Additional file 3

- 796 - Format: .docx
- 797 - Title: Case vignette
- 798 - Description: Case vignette provided to participants during the interview to standardize the
- 799 discussion and enable participants to tangibly and concretely illustrate how they provided care
- 800 for these patients and whom they collaborated with

801

802 Additional file 4

- 803 - Format: .pdf
- 804 - Title: COREQ Checklist
- 805 - Description: Completed Consolidated Criteria for Reporting Qualitative Research (COREQ)
- 806 checklist for this study

807

808 **Declarations**

809 **Ethics approval and consent to participate**

810 This study was not subject to the Swiss Human Research Act (HFG), as it did not involve the
811 collection of health-related personal data of patients. The study was nevertheless assessed and
812 approved by the ETH Zurich Ethics Commission (25 ETHICS-124). All participants were informed
813 about the study objectives, procedures, and their right to withdraw from the study at any time without
814 giving reasons. Written informed consent was obtained from all participants prior to data collection.

815

816 **Consent for publication**

Not applicable

Availability of data and materials

The datasets used and/or analyzed during the current study are not publicly available in order to protect participant confidentiality, but are available from the corresponding author on reasonable request and after clearance by the ETH Zurich Ethics Commission.

Competing interests

YR is employed at the Health Department of the Canton of Zurich, which was not involved in this research. TK is affiliated with the Centre for Digital Health Interventions (CDHI), a joint initiative of the Institute for Implementation Science in Health Care, University of Zürich; the Department of Management, Technology, and Economics at the Swiss Federal Institute of Technology in Zürich; and the Institute of Technology Management and School of Medicine at the University of St Gallen. CDHI is funded in part by CSS, a Swiss health insurer, and MavieNext, an Austrian healthcare provider. Moreover, neither CSS nor MavieNext was involved in this research. All other authors declare that they have no competing interests.

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Authors' contributions

YR: Conceptualization, Methodology, Investigation, Formal analysis, Writing - Original Draft. TG: Writing - Review & Editing. SNJ: Writing - Review & Editing. TK: Conceptualization, Supervision, Writing - Review & Editing. All authors read and approved the final manuscript.

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References

1. Barber RM, Fullman N, Sorensen RJD, Bollyky T, McKee M, Nolte E, et al. Healthcare Access and Quality Index based on mortality from causes amenable to personal health care in 195 countries and territories, 1990–2015: a novel analysis from the Global Burden of Disease Study 2015. *The Lancet*. 2017 Jul 15;390(10091):231–66. doi:10.1016/S0140-6736(17)30818-8
2. Schneider EC, Shaw A, Doty MM, Tikkanen R, Fields K, Williams II RD. Mirror, Mirror 2021: Reflecting poorly: Health care in the U.S. compared to other high-income countries [Digital Collections - National Library of Medicine] [Internet]. Commonwealth Fund; 2021 Aug [cited 2025 Aug 1]. Available from: <https://www.commonwealthfund.org/publications/fund-reports/2021/aug/mirror-mirror-2021-reflecting-poorly>
3. Health at a Glance 2023: Switzerland [Internet]. OECD; 2023 Nov [cited 2025 Aug 1]. (OECD Health at a Glance 2023 Country Note). Available from: https://www.oecd.org/en/publications/health-at-a-glance-2023_4b49102f-en/switzerland_858c8be8-en.html
4. Fillietaz SS, Berchtold P, Koch U, Peytremann-Bridevaux I. Integrated Care in Switzerland: Strengths and Weaknesses of a Federal System. *Int J Integr Care*. 2021 Oct 29;21(4). doi:10.5334/ijic.5668
5. KPMG. Integrierte Versorgung - Status Quo und Ausblick [Internet]. 2022. Available from: <https://assets.kpmg.com/content/dam/kpmgsites/ch/pdf/clarity-on-healthcare-integrierte-versorgung.pdf>
6. GDK. Impulse für die Integrierte Versorgung in den Kantonen: ein Leitfaden. 2019.
7. Shaw S, Rosen R, Rumbold B. What is integrated care? Research report. Nuffield Trust; 2011.
8. Goodwin N. Understanding Integrated Care. *Int J Integr Care*. 2016 Oct 28;16(4). doi:10.5334/ijic.2530
9. GDK. Integrierte Versorgung in den Kantonen [Internet]. [cited 2025 Jul 25]. Available from: <https://www.gdk-cds.ch/de/gesundheitsversorgung/integrierte-versorgung>
10. Goodwin N, Stein V, Amelung V. What Is Integrated Care? In: Amelung V, Stein V, Goodwin N, Balicer R, Nolte E, Suter E, editors. *Handbook Integrated Care* [Internet]. Cham: Springer International Publishing; 2017 [cited 2025 Jul 25]. p. 3–23. Available from: https://doi.org/10.1007/978-3-319-56103-5_1 doi:10.1007/978-3-319-56103-5_1
11. Maruthappu M, Hasan A, Zeltner T. Enablers and Barriers in Implementing Integrated Care. *Health Syst Reform*. 2015 May 19;1(4):250–6. doi:10.1080/23288604.2015.1077301 PubMed PMID: 31519094.
12. Schepman S, Bakker D de, Batenburg R. The role of health care professionals in collaboration in primary health care. *Int J Integr Care*. 2019 Aug 8;19(4). doi:10.5334/ijic.s3496
13. Carron T, Domeisen Benedetti F, Fringer A, Fierz K, Peytremann-Bridevaux I. Integrated care models in Swiss primary care: An embedded multiple case study. *J Eval Clin Pract*. 2023 Sep;29(6):1025–38. doi:10.1111/jep.13891
14. Valentijn PP, Schepman SM, Opheij W, Bruijnzeels MA. Understanding integrated care: a comprehensive conceptual framework based on the integrative functions of primary care. *Int J Integr Care*. 2013 Mar 22;13(1). doi:10.5334/ijic.886

- 886 15. Valentijn PP, Boesveld IC, Van Der Klauw DM, Ruwaard D, Struijs JN, Molema JJW, et al.
887 Towards a taxonomy for integrated care: a mixed-methods study. *Int J Integr Care*. 2015 Mar
888 4;15(1). doi:10.5334/ijic.1513
- 889 16. Valentijn PP, Vrijhoef HJM, Ruwaard D, Boesveld I, Arends RY, Bruijnzeels MA. Towards an
890 international taxonomy of integrated primary care: a Delphi consensus approach. *BMC Fam Pract*.
891 2015 Dec;16(1). doi:10.1186/s12875-015-0278-x
- 892 17. Sturmy I. Switzerland | International Health Care System Profiles | [Internet]. 2020 [cited 2025 Jul
893 25]. Available from: [https://www.commonwealthfund.org/international-health-policy-](https://www.commonwealthfund.org/international-health-policy-center/countries/switzerland)
894 [center/countries/switzerland](https://www.commonwealthfund.org/international-health-policy-center/countries/switzerland)
- 895 18. Boes S, Weisstanner D, Durvy B. Health systems in action: Switzerland [Internet]. European
896 Observatory on Health Systems and Policies, WHO Europe; 2024 Dec [cited 2025 Jul 25].
897 (Health Systems in Action Insight Series (2024)). Available from:
898 <https://eurohealthobservatory.who.int/publications/i/health-systems-in-action-switzerland-2024>
- 899 19. FMH Abfragetool [Internet]. [cited 2025 Jul 25]. FMH Abfragetool (Jahr 2024, Praxissektor, Kt
900 Zürich, Hauptfachgebiet: Allgemeine Innere Medizin, Praktischer Arzt / Praktische Ärztin).
901 Available from: <https://aerztestatistik.fmh.ch/>
- 902 20. BFS. Provisorische Bilanz der ständigen Wohnbevölkerung 2024 nach Jahr, Kanton,
903 Staatsangehörigkeit (Kategorie), Geschlecht, Alter und Demographische Komponente [Internet].
904 Available from: [https://www.pxweb.bfs.admin.ch/pxweb/de/px-x-0102020000_202/-/px-x-](https://www.pxweb.bfs.admin.ch/pxweb/de/px-x-0102020000_202/-/px-x-0102020000_202.px/table/tableViewLayout2/)
905 [0102020000_202.px/table/tableViewLayout2/](https://www.pxweb.bfs.admin.ch/pxweb/de/px-x-0102020000_202.px/table/tableViewLayout2/)
- 906 21. Pahud O, Dorn M. Ärztinnen und Ärzte in der Grundversorgung – Situation in der Schweiz und
907 im internationalen Vergleich. Analyse des International Health Policy (IHP) Survey 2022 der
908 amerikanischen Stiftung Commonwealth Fund (CWF) im Auftrag des Bundesamtes für
909 Gesundheit (BAG) [Primary care physicians – situation in Switzerland and international
910 comparison] [Obsan Bericht] [Internet]. Neuchâtel: Schweizerisches Gesundheitsobservatorium;
911 2023 Feb [cited 2025 Jul 25]. Obsan Bericht no.: 01/2023. Available from:
912 [https://www.obsan.admin.ch/de/publikationen/2023-aerztinnen-und-aerzte-der-grundversorgung-](https://www.obsan.admin.ch/de/publikationen/2023-aerztinnen-und-aerzte-der-grundversorgung-situation-der-schweiz-und-im)
913 [situation-der-schweiz-und-im](https://www.obsan.admin.ch/de/publikationen/2023-aerztinnen-und-aerzte-der-grundversorgung-situation-der-schweiz-und-im)
- 914 22. Oda Berufsbildung Medizinische Praxisassistentin [Internet]. [cited 2025 Jul 25]. Available from:
915 <https://www.odamed.ch/home.html>
- 916 23. Ansorg AK, Jungo KT, Hilfiker E, Felber R, Trageser J, Arnet BP, et al. Quality of chronic care
917 for patients with type 2 diabetes in practices with and without a Clinical Specialized Medical
918 Assistant (CSMA) – a cross-sectional study from Switzerland. *Swiss Med Wkly*. 2022 Jun
919 22;152(2526):2526. doi:10.4414/SMW.2022.w30180
- 920 24. Brügger U. Bildungsabschlüsse, Kompetenzen und Tätigkeitsfelder der Gesundheitsberufe in der
921 Schweiz: Ein Fokus auf Advanced Practice Nurses (APN) [Educational qualifications,
922 competencies, and fields of activity of healthcare professions in Switzerland: A focus on advanced
923 practice nurses (APNs)]. Winterthur: methodix; 2025.
- 924 25. Bundesgesetz über die Krankenversicherung (KVG) [Federal Law on Health Insurance] [Internet].
925 Available from: https://www.fedlex.admin.ch/eli/cc/1995/1328_1328_1328/de
- 926 26. Strehle O, Müller A. fmc Versichertenumfrage 2025 [Insured Persons Survey] [Internet].
927 Neuägeri, Switzerland: Schweizer Forum für integrierte Versorgung (fmc); 2026 Jan. (fmc
928 Impuls). Available from: <https://fmc.ch/fmc-versichertenumfrage-2025>

27. 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 Jun 1;7(6):e013664. doi:10.1136/bmjopen-2016-013664 PubMed PMID: 28674127.
28. Braun V, Clarke V. *Successful Qualitative Research* [Internet]. SAGE Publications Ltd; 2013 [cited 2025 Jul 25]. 400 p. Available from: <https://uk.sagepub.com/en-gb/eur/successful-qualitative-research/book233059>
29. MAXQDA 2024 [Internet]. Berlin, Germany: VERBI Software. Available from: maxqda.com
30. Schweizerische Akademie der Medizinischen Wissenschaften. *Die Praxis gelingender interprofessioneller Zusammenarbeit* [The practice of successful interprofessional collaboration]. *Swiss Acad Rep*. 2017;(Vol. 12, No 2).
31. OECD. *Does Healthcare Deliver? Results from the Patient-Reported Indicator Surveys (PaRIS): Switzerland* [Internet]. 2025 Feb. Available from: https://www.oecd.org/en/publications/2025/02/does-healthcare-deliver-results-from-the-patient-reported-indicator-surveys-paris-country-notes_40213115/switzerland_2b39bd63.html
32. Gysin S, Sottas B, Odermatt M, Essig S. Advanced practice nurses’ and general practitioners’ first experiences with introducing the advanced practice nurse role to Swiss primary care: a qualitative study. *BMC Fam Pract*. 2019 Nov 27;20(1):163. doi:10.1186/s12875-019-1055-z PubMed PMID: 31775651; PubMed Central PMCID: PMC6880366.
33. Rawlinson C, Lesage S, Gilles I, Peytremann-Bridevaux I. Healthcare stakeholders’ perspective on barriers to integrated care in Switzerland: Results from the open-ended question of a nationwide survey. *J Eval Clin Pract*. 2022;28(1):129–34. doi:10.1111/jep.13605
34. OECD [Internet]. 2025 [cited 2025 Jul 21]. *How Do Health System Features Influence Health System Performance?* Available from: https://www.oecd.org/en/publications/how-do-health-system-features-influence-health-system-performance_7b877762-en.html
35. Federal Office of Public Health. *Medienmitteilung - Zweite Etappe Pflegeinitiative: Bundesrat legt Parlament Botschaft zur Verbesserung der Arbeitsbedingungen vor* [Media release - Second stage of care initiative: Federal Council submits dispatch to Parliament on improving working conditions] [Internet]. 2025 [cited 2025 Aug 1]. Available from: https://www.news.admin.ch/de/newnsb/knX0VBe_K12kx4QrYjEf9
36. Mohr BJ, Dessers E, editors. *Designing Integrated Care Ecosystems: A Socio-Technical Perspective* [Internet]. Cham: Springer International Publishing; 2019 [cited 2025 Jul 25]. Available from: <http://link.springer.com/10.1007/978-3-030-31121-6> doi:10.1007/978-3-030-31121-6

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