



Integrated care models in Swiss primary care: An embedded multiple case study

Tania Carron MA¹ | Franzisca Domeisen Benedetti PhD² |
André Fringer PhD² | Katharina Fierz PhD² |
Isabelle Peytremann-Bridevaux DSc, MPH, MD¹

¹Center for Primary Care and Public Health (Unisanté), University of Lausanne, Lausanne, Switzerland

²School of Health Professions, Institute of Nursing, ZHAW Zurich University of Applied Sciences, Winterthur, Switzerland

Correspondence

Isabelle Peytremann-Bridevaux, Department of Epidemiology and Health Systems, Center for Primary Care and Public Health (Unisanté), Rte de Corniche 10, 1010 Lausanne, Switzerland.
Email: Isabelle.Peytremann-Bridevaux@unisanté.ch

Abstract

Rationale, Aims and Objectives: Healthcare systems are confronted with a rising number of patients with chronic conditions and complex care needs, requiring the development of new models of coordinated, patient-centred care. In this study, we aimed to describe and compare a range of new models of care recently implemented in primary care in Switzerland, as well as to gain insight into the type of coordination or integration implemented, the strengths and weaknesses of each model and the challenges they face.

Method: We used an embedded multiple case study design to describe in-depth a series of current Swiss initiatives that specifically aim to improve care coordination in primary care. For each model, documents were collected, a questionnaire was administered and semistructured interviews with key actors were conducted. A within-case analysis followed by a cross-case analysis were performed. Based on the Rainbow Model of Integrated Care framework, similarities and differences between the models were highlighted.

Results: Eight integrated care initiatives were included in the analysis, representing three types of models: independent multiprofessional GP practices, multiprofessional GP practices/health centres that are part of larger groups and regional integrated delivery systems. Recognized effective activities and tools to improve care coordination, such as multidisciplinary teams, case manager involvement, use of electronic medical records, patient education and use of care plans, were implemented by at least six of the eight initiatives studied. The main obstacles to the implementation of integrated care models were the inadequate Swiss reimbursement policies and payment mechanisms and the desire of some healthcare professionals to protect their territory in a context where new roles are emerging.

Conclusion: The integrated care models implemented in Switzerland are promising; nevertheless, financial and legal reforms must be introduced to promote integrated care in practice.

This is an open access article under the terms of the Creative Commons Attribution License, which permits use, distribution and reproduction in any medium, provided the original work is properly cited.

© 2023 The Authors. *Journal of Evaluation in Clinical Practice* published by John Wiley & Sons Ltd.

KEYWORDS

delivery of healthcare, integrated, intersectoral collaboration, organizational case studies, patient care management, primary healthcare, Switzerland

1 | INTRODUCTION

Because of the aging population and increasing prevalence of chronic diseases,^{1,2} healthcare systems are facing a burgeoning number of patients with multimorbidity or complex care needs who are mainly cared for in the primary care setting. They require comprehensive, continuous and coordinated care by a variety of healthcare professionals across the continuum of care.^{3–7} In addition to this growing need for coordinated primary care, there is a shortage of primary care physicians^{8,9} and the pressure to lower health-related costs. In that context, healthcare services had to be reinvented, and for more than a decade, new models of care, targeting its integration, have been developed and implemented in high-income countries.^{10–12} Integrated care is “an approach for individuals or populations where gaps in care, or poor care coordination, leads to an adverse impact on care experiences and care outcomes.”¹⁰ Hence, “integrated care may be best suited to frail older people, to those living with long-term chronic and mental health illnesses, and those with medically complex needs or requiring urgent care.”¹⁰ It is characterized by a planned and committed interaction of care partners (service providers, patients, insurance providers) to reduce risks of increasing specialization, fragmentation and complexity through improved communication, coordination and cooperation between all parties involved, with the aim of improving treatment quality and patient safety, making care more efficient and thus increasing the cost–benefit ratio.¹³

As a response to care fragmentation, this approach aims to effectively coordinate care around people's needs, as outlined in the following person-centred definition: “I can plan my care with people who work together to understand me and my carer(s), allow me control and bring together services to achieve the outcomes important to me.”¹⁴ In practice, integrated care models can take a variety of forms, depending on the degree of integration sought, from a “linkage” approach that seeks to ensure effective information sharing between professionals, to a “fully integrated” service,^{15,16} that is, the establishment of a new organization with pooled budgets.

In Switzerland, the primary care sector has traditionally been characterized by single-handed private practices run by general practitioners with the support of medical assistants.¹⁷ Recently, however, the number of group practices has exceeded the number of solo practices.⁸ These practices rarely include specialists, though, which limits interprofessional collaboration. Regarding the financing of the health system, fee-for-services (FFS) is the dominant method of provider payment in primary and ambulatory care, although capitation payments are gaining importance with the development of physician networks and group practices owned by insurers.¹⁷ For inpatient care, services are billed through the national diagnosis-related group (DRG) payment system. For long-term care, a system of

care-level adjusted per diems payments is operating, while home care is financed by mandatory health insurance and the other social insurances. This diversity of payment mechanisms makes it difficult to integrate care across different sectors. Furthermore, Switzerland operates a mandatory health insurance system, which offers almost unrestricted access to care, although alternative insurance models—which are increasingly chosen by patients—restrict direct access to specialists for a reduced monthly premium. As the Swiss healthcare system is highly decentralized—each of the 26 cantons being responsible for securing healthcare provision for their populations—governance at the national level is weak, which can be a challenge when introducing new models of care requiring new remuneration models at the federal level.^{18–20} However, in recent years, there has been an increasing interest in integrated care models.^{21–25} A national survey conducted in 2015 identified 172 integrated care initiatives (ICI) throughout the country.^{22,26} These initiatives included disease management programs, initiatives focused on transition or coordination between organizations or healthcare levels, as well as multi-disciplinary health centres, physician networks and drug management programs. Since then, several national research programs and policies have directly or indirectly promoted the development of integrated care in Switzerland.²⁷ In its health policy strategy for 2020–2030, the Federal Council outlined a comprehensive framework comprising of eight goals and 16 lines of action, including improving the overall quality of healthcare services through strengthening care coordination. It is in alignment with this specific goal that the Federal Office of Public Health commissioned the present study with the intention of both acquiring insights into existing initiatives and identifying healthcare models that may have the potential for further expansion. The first objective of this study was to identify and describe a selection of new care models specifically designed to enhance care coordination in primary care. This involved highlighting the type of integration implemented, examining the strengths and weaknesses of each model and identifying the challenges they encounter. The second objective was to develop a set of recommendations for the successful implementation of integrated care models in Switzerland.

2 | METHODS

2.1 | Study design

We used an embedded multiple case study design to explore the development of integrated primary care models in Switzerland in a purposefully selected sample of eight recently implemented initiatives across the country. This approach uses multiple qualitative and quantitative methods and data to investigate an issue explored and



described through several cases within a bounded system.^{28,29} Data, method and investigator triangulation were applied. Quantitative and qualitative data were collected for each model and analysed using suitable analysis methods. This was done for illustration, convergent validation and the development of an analytical density or “richness.”²⁸ Investigator triangulation was used to reduce researcher bias and to pragmatically engage with tensions emerging through diversity in using qualitative and quantitative methods and data.^{30,31}

Case study methodology allows in-depth, multifaceted explorations of complex phenomena in their real-life context.^{31,32} In this study, the case, that is, the unit of analysis, was a specific ICI or model. We use the terms case, initiative, model and ICI interchangeably.

2.2 | Selection of integrated care models

Selection criteria were determined jointly with the Federal Office of Public Health, which commissioned the study. To be selected, healthcare initiatives had to meet the following inclusion criteria: (1) be located in the primary care and/or community care setting; (2) include different healthcare professionals working collaboratively (i.e., interdisciplinarity), beyond the collaboration of current standard physicians and medical assistants; (3) have cooperation agreements in place (formalized or not) with providers outside the primary care practice; and (4) be located both in the French-speaking and German-speaking parts of Switzerland. Initiatives targeting specific populations, such as in palliative or migrant care, for example, were excluded. To ensure that our sample was as varied as possible, we privileged initiatives that had developed different approaches to integration, also keeping in mind a representative distribution throughout Switzerland. The search was based on (1) the results of the Integrated Care Swiss National Survey led by Prof. Peytremann-Bridevaux, which had identified 172 ICIs in 2015–2016^{22,26}; (2) internet research; and (3) discussion with experts in our professional network.

2.3 | Data collection

For each of the chosen ICIs, we collected data using three sources: (1) internal and public documentation about the ICIs; (2) a questionnaire sent to the ICIs on interventions and obstacles to care coordination; and (3) semistructured interviews with key actors of the ICI (healthcare professionals or researchers involved in the implementation of each model). We proceeded as follows: First, we contacted the identified ICIs and asked them to provide internal documents, such as existing concepts, guidelines, manuscripts and publications. Moreover, we consulted their websites and related links. From both sources we extracted the following data: information on geographic location, targeted population, goals, services provided (and added value compared with usual care), project milestones, organizational and team structure, healthcare providers involved, care coordination within the organization and external partners/institutions, interventions and tools implemented to improve care coordination, financial and legal

issues and barriers to and facilitators of care coordination. Second, we sent a questionnaire asking ICIs (i) which of the 26 interventions (i.e., activities or tools) shown to improve coordination of care within primary healthcare or between primary care and other health sectors^{33,34} they have implemented and (ii) which barriers to care coordination they experienced from a preestablished list of barriers constructed on the basis of a literature review (which constituted the first phase of this project, not described here). Third, the authors developed an interview guide by building upon a pre-established list of data to be collected, while also considering the data already gathered from documents and questionnaires. The aim of the interviews was to gain a better understanding of the functioning of internal and external coordination, to identify the obstacles they encounter or have encountered, and to learn more about the financial and legal issues, as well as the sustainability of the model. We conducted a maximum of two video interviews per ICI (i.e., the number of interviews per case depended on the availability of the key actors).

2.4 | Data analysis

Every ICI was first analysed within case; then, all cases were compared and cross-case analysed. This enabled the in-depth description of the single ICI and the exploration of similarities and differences between ICIs.³⁵

2.4.1 | Within-case analysis

In the within-case analysis, each ICI was analysed individually and independently. Relevant data from the documentation was extracted and transferred to the REDCap database, the software used to manage the data and to build up the questionnaire. Interviews were digitally recorded and transcribed verbatim for data analysis.³⁶ MAXQDA software 2020³⁷ was used to collate all data and simplify data coding and memo writing.³² Schreier's deductive-inductive content analysis method was used to analyse both the documents and the semistructured interviews.^{38,39} The main coding was conducted deductively by assigning the interview data to the major themes deriving from the interview guide, while at the same time developing new data-driven codes inductively. In this way, the coding frame was continuously revised and further developed until a dense description was available for each case. This procedure allows an in-depth description of the individual cases without influence of the other cases, as well as drawing of a comprehensive picture of each ICI, with its typical characteristics and major topics. This allowed the cases to be compared in the next step of the analysis.

2.4.2 | Cross-case analysis

In the cross-case analysis, all within-case results were displayed and analysed in an analysis matrix by comparing the major topics of each

case. Major topics developed in the coding frame were displayed in rows and the single ICI in columns. Similarities and differences could thus be presented in a consistent and comprehensive manner. The similarities between cases allowed us to group the eight cases into different types of ICIs. We then synthesized the data, describing and comparing these three types of ICIs for each of the major topics identified. In addition, to expand our analysis, we used the Rainbow Model of Integrated Care framework^{40,41} which proposes several dimensions of care integration, namely system, organizational, professional and clinical integration (see Table 2). By applying this framework to our data, we were able to extract the barriers and facilitators to integrated care related to each of the four dimensions of integration. This enables us to generate results that are related to the type of integration implemented, rather than being linked to specific ICIs, thus increasing their generalizability. These results also served as a basis for pragmatic recommendations targeting the future development and implementation of integrated care models in primary care. In addition to the cross-case analyses, results of the questionnaires were analysed quantitatively by using descriptive statistics. The analysis involved assessing the frequency of each coordinated care intervention and barrier listed in the questionnaire, considering both global trends and variations among different types of ICIs. These findings were incorporated into the cross-case matrix before proceeding with the analysis by type of ICIs and by dimension of integration.

3 | RESULTS

We identified eight ICIs located in five of the seven major regions of Switzerland, in both urban and rural areas (Table 1).

3.1 | Description of the care initiatives

These primary healthcare initiatives represented three types of primary care models that are being increasingly developed in Switzerland: *independent multiprofessional GP practices* (type A), *multiprofessional GP practices/health centres that are part of larger groups* (type B) and *regional integrated delivery systems* (type C).

These three types of models differed notably in their main purposes. Whereas the main objective of type A models was to strengthen the care management of patients with complex healthcare needs, type B models aimed to promote high-quality and cost-effective primary healthcare mainly in urban areas and type C models, which combined acute and long-term care, aimed to provide comprehensive care to the entire population of rural or peripheral regions where access to care is limited.

These types of primary care initiatives also varied in terms of the dimensions of integration they implemented. Figure 1 and Table 2 provide an overview of the dimensions of integration pursued by each of the eight integrated care models. The type A models (independent multiprofessional GP practices, cases 1–3) were

primarily characterized by clinical and professional integration. Type B models (multiprofessional GP practices/health centres that are part of larger groups, cases 4–6) involved clinical, professional and organizational integration. Finally, type C models (regional integrated delivery systems, cases 7 and 8) included clinical, organizational and system integration.

Regarding the interventions (i.e., activities or tools) implemented to improve care coordination, the results of the questionnaire indicated that those with the strongest evidence of effectiveness in the literature—working in multidisciplinary teams, involving a case manager, using electronic medical records, providing patient education and using care plans³³—were implemented by at least six of the eight studied cases. Other interventions implemented by all types of care models were case conferences involving primary care providers, telephone contacts between providers, multidisciplinary joint consultations, joint care provider appointment arrangements, formal agreements involving the primary care organization, priority access to specialists, care provider training, supervision for primary care clinicians, using guidelines and family caregiver education. The following sections provide a brief description of each of the three types of models and their main strengths and weaknesses, with particular emphasis on what distinguishes them.

3.1.1 | Independent multiprofessional GP practices (type A)

The three initiatives that composed type A were small private practices led by one or more general practitioners. They represent a novelty for the Swiss primary care landscape in terms of the extent of professional integration between nurses and GPs. Nurses with additional training (e.g., advanced practice nurses [APNs]) work as independent contractors and partners rather than in traditionally organized primary care in Switzerland, where GPs work almost exclusively with medical assistants. These nurses provide case and/or care management to patients with chronic disease(s) or in complex bio-psycho-social situations, offering therapeutic education and coordinating care with the whole team (the majority of which is located outside the practice).

The strength of this type of model lies in the person-centred care provided to patients in complex situations that results in empowerment of patients and their families, as well as in the intensive collaboration between the GP and the nurse (through regular formal and informal in-person meetings) and with the rest of the therapeutic team (thanks in particular to the multidisciplinary case conferences organized by the nurse). By being independent, these primary care practices have more leeway in the application of processes, and collaboration can take the form best suited to the personality of the professionals involved. The main weakness of this model is that it is not profitable under the current Swiss reimbursement system, as APNs and coordination services can be billed only to a small extent, not enough to provide a respectable salary for the nurse. For this reason, only nurses who are committed and highly motivated to



TABLE 1 Characteristics of the eight integrated care initiatives.

	Case 1	Case 2	Case 3	Case 4	Case 5	Case 6	Case 7	Case 8
Primary care model	IMP (type A)	IMP (type A)	IMP (type A)	MP (type B)	MP (type B)	MP (type B)	RIDS (type C)	RIDS (type C)
Geographic setting	Semi-urban	Rural and urban (8 sites)	Rural	Urban	Semi-rural	Urban	Rural	Rural
Location	West (French-speaking)	West (French-speaking)	North (German-speaking)	North (German-speaking)	Centre (German-speaking)	North (German-speaking)	West (French-speaking)	East (Romanian-speaking)
Head/lead	Group practice led by 3 GPs	Solo or group practices led by ≥1 GP(s)	Group practice led by 2 GPs	Group practice led by 1 GP within a physician network	Group practice led by 1 GP within a joint-stock company	Group practice within a cooperative led by physicians	Health centre headed by an executive board (including users, municipalities, regional health network and home care services) and a governing board (including heads of the 5 internal institutions)	Health centre headed by a board of directors (including representatives of the municipalities and the internal institutions (hospital, nursing homes, home care services and rehabilitation clinics with mineral baths)
Legal form	Private proprietorship	Private proprietorship	Private proprietorship	Private proprietorship	Collective corporation	Private proprietorship	Association	Foundation
Involved professions	GP, APNs, paediatrician, diabetologist, endocrinologist, dietician, medical assistants, medical secretary	GP, APNs, medical assistants (and psychologists in 2 of the 8 medical practices)	GP, APN, psychologist/psychotherapist, medical assistants, nutritionist, occupational therapist, medical specialists	GP, variety of medical specialists, APNs, psychologist, medical assistant/coordinator, nutritionist	GP, APN, medical assistants	GP, psychiatrist, variety of medical specialists, psychologist, APN, clinical nurse, medical assistant, nutritionist, physiotherapist, pharmaceutical assistant	(several institutions in different sectors)	(several institutions in different sectors)
Main goal	Strengthening the management of complex patients	Strengthening the management of complex and	Providing holistic outpatient care, combining	Promoting high-quality, cost-effective primary	Sustaining the development of primary	Promoting optimal quality, resource-	Providing ambulatory, acute and long-term care to the	Providing qualitative and cost-effective acute

(Continues)

TABLE 1 (Continued)

	Case 1	Case 2	Case 3	Case 4	Case 5	Case 6	Case 7	Case 8
Target patient population	through personalized nursing support and improved coordination of care	multimorbid patients and improving continuity of care	somatic general medicine, as well as psychosomatic and psychosocial issues	healthcare by addressing over- and undersupply	care through collaboration between GP, APN and medical assistants	oriented interdisciplinary and interprofessional outpatient healthcare with the inclusion of new professional roles	population of a mountainous region; improving access and coordination of care while reducing overall costs	and long-term care to the population of a rural region
Since	2014	2020	2008	2016	2019 with APNs	2018 with APNs	2015	2007
Implementation status ^a	Consolidation phase + evaluation phase	Pilot phase + evaluation phase	Consolidation phase	Consolidation phase	Consolidation phase	Consolidation phase	Implementation phase (home care not fully integrated)	Consolidation phase
Interviews performed	One interview with an APN (12/08/20; 112); one interview with a GP (12/11/20; 74); telephone and e-mail exchanges with the research manager	One interview with the research manager and the project coordinator (01/15/21; 70); another interview with the project coordinator (01/22/21; 72)	One interview with an APN (01/14/21; 53)	No interview	One interview with an APN (04/01/21; 35), one interview with a GP (04/21/21; 25)	One interview with a GP (01/14/21; 44); one interview with an APN (01/22/21; 45)	One interview with the medical director and the director of care (02/23/21; 59)	One interview with the director of the management (09/24/20; 15)

Abbreviations: APN, advanced practical nurse; GP, general practitioner; IMP, independent multiprofessional GP practices; MP, multiprofessional GP practices/health centres as part of larger groups; RIDS, regional integrated delivery systems.

^aAt the time of the case study (in 2021).

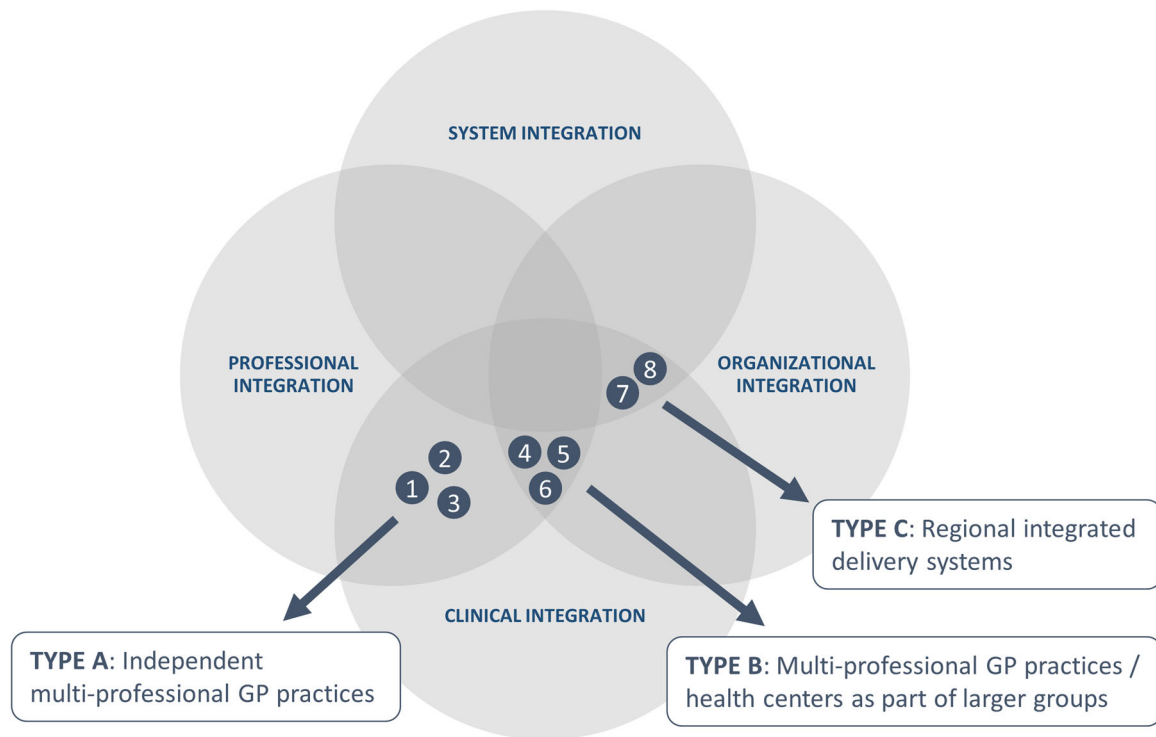


FIGURE 1 Dimensions of integration targeted by each model of care (represented by numbers) and by each type of care model. GP, general practitioner.

TABLE 2 Definitions of the four dimensions of integration.

Level	Dimension of integration and definition
Macro	System integration A horizontal and vertical integrated system based on a coherent set of (informal and formal) rules and policies between care providers and external stakeholders (e.g., municipalities) for the benefit of people and populations.
Meso	Organizational integration Interorganizational relationships (e.g., contracting, strategic alliances, knowledge networks, mergers), including common governance mechanisms, to deliver comprehensive services to a defined population.
Meso	Professional integration Interprofessional partnerships (both within and between organizations) based on shared competences, roles, responsibilities and accountability to deliver a comprehensive continuum of care to a defined population.
Micro	Clinical integration The coordination of person-focused care in a single process across time, place and discipline.

Adapted from Valentijn et al.⁴⁰

promote this model of care accept to work under these conditions. Moreover, because they lack organizational integration (see Figure 1), independent GP practices have neither partnered with other healthcare institutions nor are they subject to top-down regulations or shared governance mechanisms. Although healthcare professionals working in this kind of model benefit from more practice independence, they do not have access to various shared resources (e.g., digital infrastructure, human resources, information resources) or higher job security (e.g., by being employees) provided by an overarching organization. The quality of collaboration is mainly ensured by a (long) process of mutual adjustment, instead of the

application of clear and predefined procedures and shared guidelines. As a result, the success of the model depends heavily on the skills of the professionals involved and the quality of their relationships, which can be considered a limitation of this type of model.

3.1.2 | Multiprofessional GP practices/health centres as part of larger groups (type B)

Type B included three private ambulatory health centres that are all part of larger entities (i.e., large Swiss healthcare providers or physician

networks). They included GPs, medical specialists and allied healthcare professionals (including APNs). Like type A models, besides the usual GP services, type B models offer patient education and self-management support to patients with chronic disease(s), as well as care coordination services. What distinguishes these primary care practices from type A models is the fact that they receive financial support from the larger organization/network of which they are a part and that all healthcare professionals work there as employees.

The strength of this type is its financial model. Budget accountability, contracts with insurance companies and functional integration across the network lead to a reduction in overall costs and unnecessary treatments and enable the funding of coordination services that would not be covered otherwise. Furthermore, numerous regulations, arrangements and agreements in the collaboration between physicians and APNs make supervision visible so that services can be legally billed. The working conditions offered to employees are another asset. Health professionals enjoy security and protection, thanks to their employee status, as well as reduced administrative loads and flexibility in working hours by being part of large teams. This is also a plus for the patient, who benefits from greater flexibility in scheduling appointments. Turning to the limits of this type of model, they are based on physician culture rather than interprofessional culture, in particular because of the strong link with physician networks. The success of the models, that is, professional integration, depends heavily on the attitude of practice leaders and their willingness to foster new roles. Moreover, the fact that APNs have to work under the supervision of physicians to obtain reimbursement limits their autonomy and the establishment of a nonhierarchical relationship.

3.1.3 | Regional integrated delivery systems (type C)

The two type C models differ from the other types in that they integrate several healthcare sectors at the regional level. They are public–private associations or foundations that bring together hospitals (inpatient and outpatient care services), nursing homes, home care services and GP practices or rehabilitation clinics, depending on the model. Both models are located in rural areas, as the creation of these networks responds to economic necessity: without them, the supply of care in the region might not have been maintained. Both models include the municipality in the executive board. Their coordination strategies include predefined patient pathways, multidisciplinary case conferences for complex patient situations involving healthcare professionals from each healthcare sector and partnerships or cooperation agreements with other regional health networks and neighbouring hospitals.

The major strength of these models lies in the macro level of integration. Whereas type A and B models promote integration at the level of the patient (micro) and of the practice (meso), type C models emphasize integration at the level of the region, allowing intersectoral coordination of care. Type C models allow not only *horizontal integration*, but also *vertical integration* (i.e., system integration) and

ensure a continuum of care across acute care hospitals, ambulatory care and long-term care facilities. The merger or association of healthcare providers also makes type C models more robust in the face of cost pressures. Furthermore, these models adopt a population-based approach, with health and care services geared to the needs of the regional population. In contrast to types A and B, type C models benefit from the active support and involvement of local authorities, who are included in their governance. The downside of such cross-sectoral models is that they include diverse organizational cultures, potentially delicate relationships between stakeholders, and top-down and bottom-up management styles, all of which require balance. Therefore, the success of these projects depends very much on how leaders leverage their position of power. Another limitation of this type of model is that it is currently impossible to fully financially integrate the different institutions that compose the network (because of a different payment mechanism or billing system for each sector), which may have an impact on practice by complicating shared responsibility and coordination. Finally, by focusing on system and organizational integration, these models neglect professional integration, which is already made more difficult by the geographical distance between providers, compared with type A and B models, where all healthcare professionals work under the same roof.

A summary of the strengths of each type of care model is presented in Figure 2.

3.2 | Main barriers to and facilitators of integrated care

The most common barriers to and facilitators of integrated care, as reported in the interviews, questionnaires and documentation collected from the eight initiatives, are summarized by dimension of integration in Table 3. Two types of barriers emerged predominantly from the data, one at the system level, that is, inadequate payment and reimbursement systems, and the other at the individual level, that is, a desire by healthcare professionals to protect their territory combined with a resistance to change.

3.2.1 | Inadequate payment and reimbursement systems

The most significant barrier to integrated care, mentioned by all models, is the inability to bill for services such as care coordination, health promotion and disease prevention and management. The lack of a clear legal basis for the billing of these services makes it possible for some insurance companies to deny reimbursement, which puts organizations (mainly independent GP practices) or self-employed professionals (such as independent APNs) in situations of financial insecurity, and which furthermore creates inequalities of access for patients depending on their health insurance. Moreover, these billing issues impede leaders from promoting new roles in primary care



FIGURE 2 The main strengths of each type of care model. APN, advanced practical nurse; GP, general practitioner.

practices or centres, and nurses who are employed feel that their contribution is not fully recognized.

3.2.2 | Desire to protect their territory and resistance to change

At the individual level, fear and resistance have been observed among some healthcare professionals, both inside and outside ICIs.

Some hospital and home care nurses were not willing to collaborate with primary care nurses working in independent GP practices, presumably because they lacked knowledge about their new role and feared losing responsibilities in the management of complex patients. Moreover, conflicts were reported in some interprofessional teams, for example, between medical assistants and APNs, mainly because of unclear role definitions and poor communication. In addition, GP practices that recently integrated nurses in their team reported that some GPs were not willing to collaborate with or delegate tasks to

TABLE 3 Barriers to and facilitators of integrated care by dimension of integration.

	Barriers	Facilitators
System integration	<ul style="list-style-type: none"> ▪ Differences in financing sources and mechanisms for ambulatory, stationary and long-term care. ▪ Lack of partnership or cooperation agreements with external care providers. 	<ul style="list-style-type: none"> ▪ Strong political support. ▪ Partnership with external stakeholders (e.g., municipalities, health insurance companies). ▪ Existence of an economic imperative to change the care model.
Organizational integration	<ul style="list-style-type: none"> ▪ Differences in organizational culture. ▪ Top-down implementation of the model. ▪ Poor communication. ▪ Mutual distrust between stakeholders. 	<ul style="list-style-type: none"> ▪ Participative and transparent project management. ▪ Support from the leaders of the wider network/company. ▪ Time to adjust practices and learn from mistakes.
Professional integration	<ul style="list-style-type: none"> ▪ Lack of clarity on roles and responsibilities. ▪ Fear of losing responsibilities with the emergence of new nursing roles and the desire of certain professionals to defend their territory. ▪ Lack of interprofessional training/education and time to develop tools or processes enabling interprofessional collaboration. ▪ Current reimbursement system does not cover most APN services, making it difficult to promote new roles. 	<ul style="list-style-type: none"> ▪ Shared vision of care and willingness to work collaboratively. ▪ Personal commitment and motivation (necessary to overcome the numerous barriers). ▪ Shared power, mutual respect and trust. ▪ Opportunities to communicate formally or informally (e.g., colocation of healthcare professionals, regular multidisciplinary case conferences, thematic seminars). ▪ Specific meetings focusing on processes and teamwork methods.
Clinical integration	<ul style="list-style-type: none"> ▪ Lack of interoperability between healthcare data systems. ▪ Inability to bill for the majority of coordination activities due to inadequate reimbursement policies. 	<ul style="list-style-type: none"> ▪ The use of shared care plans (ideally linked to patient electronic health records). ▪ Multidisciplinary case conferences. ▪ Presence of case managers.

Abbreviation: APN, advanced practical nurse.

nurses, preventing them from practicing as planned. Finally, mutual distrust between stakeholders, leading to delicate situations during the different stages of the project and beyond, was observed in regional integrated delivery systems.

4 | DISCUSSION

This multiple case study described eight integrated care models located in three linguistic regions of Switzerland. Forms and taxonomies of integrated care were examined, as well as barriers to and facilitators of the implementation of integrated care by dimension of integration. Although each model has been developed to meet specific needs—from ensuring comprehensive and accessible care in a peripheral region to improving the management of patients with chronic disease(s)—they all shared the same underlying goal: to provide better integration of care. The eight models could be grouped into three broader types of care models, each targeting different levels, or dimensions, of integration.

As mentioned by Valentijn et al., the “integration has to be pursued at different levels within a system to facilitate the continuous, comprehensive and coordinated delivery of services to individuals and populations.”⁴¹ This includes, where possible, developing collaborations and partnerships simultaneously at the clinical, professional, organizational and system level to allow both horizontal integration (alignment within a single-care sector, such as primary care) and vertical integration (coordination between different

partners and care sectors throughout the care process). Hence, as the strength of multiprofessional GP practices (type A and type B) lies at the micro and meso level through intense interprofessional collaboration and clinical coordination between team members, it should be complemented by system integration to ensure continuity of care throughout the care pathway, even when external health actors are involved. The strength of regional integrated delivery systems (type C)—their ability to coordinate care at an intersectoral level, for example, between hospitals and home care—would profit from professional integration to foster interprofessional partnerships both within and between organizations, as well as a mutual understanding of shared competences. Moreover, patients would profit from clinical integration and the coordination of person-focused care in a single process across time, place and discipline.

Further strengthening of integrated care strategies involves a population health management perspective, focusing on health promotion and bringing together health and social care with other players, such as housing, schools, community groups and industry.⁴² These relationships are currently more poorly developed in Switzerland than in other countries, and the fact that none of the cases studied included this kind of partnership is an interesting result in itself.

Alongside identifying the strengths and weaknesses of each model, our study shed light on the significant challenges encountered by professionals in implementing integrated care. The most important obstacle to the implementation of integrated care was the inadequacy of Swiss reimbursement policies and payment mechanisms. This result



is not surprising in the Swiss context; cantonal representatives recently rated these policies and payment mechanisms as the most important barrier to better care coordination.^{18,19} Our study also showed that these billing and reimbursement issues had greater impact on type A than on type B models. Type B models, which consist of multiprofessional GP practices/health centres that are part of larger healthcare entities, largely cushion the risk of lack of billing possibilities. Indeed, surplus earnings coming from economies of scale and contracts concluded with health insurances, which financially reward good performance, can be used to finance coordination activities. Independent practices, on the other hand, struggle to cope with this legislative gap, leading some ICIs to no longer offer certain coordination services, although they are of great benefit to patients with chronic and/or complex health situations. In some GP practices, it was also the case that some nursing services were offered but not billed, which was financially unsustainable for the practice or for the nurse, especially if the nurse was self-employed. The lack of federal regulation and acknowledgement of MSc nursing competencies, as well as the unclear legal status of APNs in Switzerland, contributes to this situation, in which well-qualified nursing professionals are often not able to unfold their competencies fully and take responsibility for their scope of practice.

For intersectoral centres/networks (type C models), financial barriers were at a different level. Indeed, for models that promote the merging of organizations, for example, hospitals, home care, care homes and GP practices, the difference in financing sources and billing systems represents a major challenge. Uniform financing of ambulatory and stationary care, as is currently being discussed at the federal level, could facilitate the development of regional integrated care systems. Although the impact of financial integration on health outcomes and costs remains unclear, it has been shown that its implementation may improve accessibility and patient experience of care.⁴³ Currently in Switzerland, as in most European countries, primary or ambulatory care providers are paid through a combination of capitation and FFS payments, whereas acute care hospitals are paid on the basis of the national DRG (SwissDRG). The Swiss legal bases at the federal level should be adapted to allow use of new remuneration models that promote care coordination and integration across providers, such as population-based payment (capitation), bundled payment (episode-based payment and disease-based bundled payment) or add-on payment (P4P).^{44,45} In addition to promoting integration of care, these “value-based payment schemes” encourage preventive services and increase efficiency and corresponding cost savings.⁴⁶

In addition to barriers at the system level, resistance at the individual level was observed. Some professionals did not adopt an interprofessional approach, expressing fears of losing responsibilities in the presence of new roles (APNs), or showing little trust in other professions. This may be due to a lack of interprofessional training, which is known to increase mutual understanding of professionals by providing opportunities to learn with, from and about each other and to improve interprofessional collaboration.^{47–50} A Swiss ethnographic study conducted in primary care practices showed that role

clarification was crucial for effective interprofessional collaboration, especially between APNs, registered nurses and medical assistants.⁵¹ Lack of knowledge about new models of care may also explain the resistance of healthcare providers. The experience reported by several ICIs shows that advertising and providing information about the model implemented improves acceptability by reassuring the different actors and pointing out the benefits of such models of care. Finally, the absence of willingness to free up time for mutual coordination and collaboration could be overcome by the system reforms mentioned above, that is, the introduction of a reimbursement system that allows providers to bill for the work dedicated to care coordination and case management.

One of the values of our study is that we showed that each type of care model has its own strengths and weaknesses and may face specific barriers or challenges, depending on the type of integration undertaken. We believe that the question at hand is not about identifying the best model of integrated care, however. It is acknowledged that “there is no one model of integrated care that is suited to all contexts, settings and circumstances.”⁵² Decisions about which model is more relevant in a particular context are guided by the needs of healthcare stakeholders and existing care provision and resources. In the cases we studied, we observed that regional integrated delivery systems were implemented in rural and mountainous regions, while multiprofessional GP practices/health centres emerged in urban areas. Assuming adequate funding, we believe that these context-specific approaches may prove effective not only in their respective regions but also have the potential for wider implementation across Switzerland and beyond. Type A models, which integrate case managers into family doctors' practices, can be seen as a transitional solution suited for countries where primary care remains organized as solo practices or mono-disciplinary group practices. However, this approach conflicts with the integrated care trend, which emphasizes collaborative efforts and shared responsibility among healthcare providers. This poses a challenge for health professionals valuing legal and clinical independence. Finding a balance between autonomy and collaboration is difficult. A solution to this dilemma is to promote a pluralistic health system with different care models, allowing patients and health professionals to find a model that meets their needs and preferences. This solution is particularly suited to countries that value a liberal approach to healthcare, such as Switzerland.

This multiple case study presents both strengths and limitations that need to be considered when interpreting the results. First, the main strength is that, to our knowledge, this is the first time that integrated care models throughout Switzerland were thoroughly analysed and compared. The design of the study allowed both within-case and cross-case analysis. Based on Valentijn's conceptual framework of integrated care,⁴⁰ the cross-tabulation of the case data made it possible to highlight not only the features of each of the three types of models, but also the characteristics of each dimension of integration. The presentation of barriers and facilitators by dimension of integration makes it easier to transfer them to other models of care to be developed, even beyond the Swiss context.

Results may be used by healthcare professionals striving to provide integrated services, as well as by policymakers and managers. The case study methodology enables drawing conclusions from real-life examples, which can inform further developments and decision-making. In terms of limitations, financial and time constraints allowed only a small number of cases to be included and analysed in depth. Thus, our results cannot be representative of all Swiss initiatives. Notably, however, the three broad categories of ICIs that we identified (inductively) and described correspond to those presented in a previous report examining the main scenarios of the possible 2028 evolution of primary healthcare in Switzerland.²⁴ Second, this study was only conducted in one country. Although the Swiss healthcare system has its own peculiarities, it faces similar challenges as other Western countries, which are calling for more integrated care models.²⁷ Additionally, our analysis of barriers and facilitators specific to each type of integration has provided data that can be more broadly applied, assisting in anticipating challenges that may arise in various integrated care models. Third, the barriers presented in this report were based on the subjective opinion of respondents, and some respondents may have been more indulgent (or, on the contrary, more critical) in their assessment than others. Nevertheless, our case study offers an interesting insight into both the features of new models of care in primary care and the challenges they may face. Despite the limitations mentioned above, we found similarities across regions and models. This makes it possible to make recommendations that can be cautiously transferred to other primary care structures that aim to provide integrated care. We can, and need to, learn from existing and functioning cases.

5 | CONCLUSION

The cross-case analysis of Swiss models of integrated care has enabled us to highlight the specificities of each type of model, as well as to derive a set of recommendations for successful implementation of integrated care models. At the system level, changes in payment and reimbursement systems are imperative. New funding models that incentivize interprofessional collaboration and care continuity between healthcare providers and promote the role of advanced nursing practice should be developed. At the organizational or institutional level, promotion of colocation of health professionals is recommended, along with establishment of case managers and provision of multidisciplinary case conferences, use of interoperable electronic health information systems and individualized care plans, and training of health professionals to facilitate the adoption of new tools and interventions. At the interindividual level, clear and shared definition of the roles and responsibilities of each health professional at the beginning of the project is recommended, along with promotion and appreciation of the role of APNs and sharing of authority and responsibility by physicians and nurses. Finally, at the individual level, one can assume that all of these measures at the macro and meso level will foster a more positive attitude toward other professions and care integration. Indeed, the results of this

multiple case study underline the fact that the success of a model depends strongly on the healthcare professionals directly involved in the field and their willingness to collaborate. Having a negative attitude toward other healthcare professions or interprofessional collaboration in general may prevent a model from being successful, despite the existence of supportive structures. It is therefore crucial to promote interprofessional education to change mentalities and break down walls between health professions and between health services in favour of a more coordinated and patient-centred approach to care.

AUTHOR CONTRIBUTIONS

Tania Carron: Conceptualization (supporting); formal analysis (equal); investigation (equal); project administration (supporting); visualization (lead); writing—original draft (lead); writing—review and editing (lead). **Franziska Domeisen Benedetti:** Formal analysis (equal), investigation (equal), methodology (supporting), writing—original draft (supporting); writing—review and editing (supporting). **André Fringer:** Conceptualization (supporting); methodology (lead); supervision (supporting); writing—original draft (supporting); writing—review and editing (supporting). **Katharina Fierz:** Supervision (supporting); writing—original draft (supporting); writing—review and editing (supporting). **Isabelle Peytremann-Bridevaux:** Conceptualization (lead); methodology (supporting); project administration (lead); supervision (lead), writing—original draft (supporting); writing—review and editing (supporting).

ACKNOWLEDGEMENTS

The authors wish to acknowledge and express their gratefulness to the organizations and individuals who participated in the research. We would like to thank Olivia Blumenfeld for her efforts in collecting the data, and the team of Dr. Christine Cohidon who participated in the literature review we used to develop our questionnaire. This study was funded by the Federal Office of Public Health (FOPH). Although the funding body monitored the different steps of the project, it played no role in the design of the study, the collection, analysis and interpretation of the data, and in the writing of the manuscript. Open access funding provided by Universite de Lausanne.

CONFLICT OF INTEREST STATEMENT


The authors declare no conflict of interest.

DATA AVAILABILITY STATEMENT


The data that support the findings of this study are available from the corresponding author upon reasonable request.

ORCID

Tania Carron  <http://orcid.org/0000-0003-1263-7079>

Franziska Domeisen Benedetti  <http://orcid.org/0000-0002-5149-0666>

André Fringer  <http://orcid.org/0000-0003-4950-7788>

Isabelle Peytremann-Bridevaux  <http://orcid.org/0000-0002-6514-8781>



REFERENCES

- Boersma P, Black LI, Ward BW. Prevalence of multiple chronic conditions among US adults, 2018. *Prev Chronic Dis*. 2020;17:200130. doi:10.5888/pcd17.200130
- Rechel B, Grundy E, Robine JM, et al. Ageing in the European Union. *Lancet*. 2013;381(9874):1312-1322. doi:10.1016/s0140-6736(12)62087-x
- Starfield B. Religion in America. *Primary Care Balancing Health Needs, Services, and Technology*. Oxford University Press; 1998.
- Institute of Medicine CoQoHCIA. Crossing the quality chasm: a new health system for the 21st century. 2001.
- World Health Organization WHO. The world health report 2008: primary health care now more than ever. 2008.
- World Health Organization WHO. Framework for action on interprofessional education & collaborative practice. 2010.
- Saltman RB, Rico A, Boerma W. Primary care in the driver's seat? *Organisational Reform in European Primary Care*. Open University Press; 2006.
- Pahud O. Ärztinnen und Ärzte in der Grundversorgung—Situation in der Schweiz und im internationalen Vergleich. Analyse des International Health Policy (IHP) Survey 2019 der amerikanischen Stiftung Commonwealth Funds. 2019.
- Dall T, Reynolds R, Chakrabarti R, Chylak D, Jones K, Iacobucci W. The complexities of physician supply and demand: projections from 2019 to 2034. 2021. <https://www.aamc.org/media/54681/download>
- Amelung V, Stein V, Goodwin N, Balicer R, Nolte E, Suter E. *Handbook Integrated Care*. Springer; 2017.
- van der Heide I, Snoeijs S, Melchiorre MG, et al. Innovating care for people with multiple chronic conditions in Europe. 2015. <http://www.icare4eu.org/pdf/Innovating-care-for-people-with-multiple-chronic-conditions-in-Europe.pdf>
- Boult C, Green AF, Boult LB, Pacala JT, Snyder C, Leff B. Successful models of comprehensive care for older adults with chronic conditions: evidence for the institute of medicine's "retooling for an aging America" report. *J Am Geriatr Soc*. 2009;57(12):2328-2337. doi:10.1111/j.1532-5415.2009.02571.x
- World Health Organization. Integrated care models: an overview. 2016.
- National Voices. A narrative for person-centred coordinated ("integrated") care. 2013. <https://www.nationalvoices.org.uk/publications/our-publications/narrative-person-centred-coordinated-care>
- Leutz WN. Five laws for integrating medical and social services: lessons from the United States and the United Kingdom. *Milbank Q*. 1999;77(1):77-110. doi:10.1111/1468-0009.00125
- Boon H, Verhoef M, O'Hara D, Findlay B. From parallel practice to integrative health care: a conceptual framework. *BMC Health Serv Res*. 2004;4(1):15. doi:10.1186/1472-6963-4-15
- De Pietro C, Camenzind P, Sturny I, et al. *Switzerland: health System Review*. *Health Systems in Transition*. Vol 17. World Health Organization, Regional Office for Europe European Observatory on Health, Systems Policies; 2015.
- Berchtold P, Schusselé Fillietz S, Zanoni U. Schweizerische Konferenz der kantonalen Gesundheitsdirektorinnen und-direktoren G. Impulse für die Integrierte Versorgung in den Kantonen: ein Leitfaden. 2019. Accessed August 20, 2021. www.gdk-cds.ch
- Berchtold P, Zanoni U. Denkstoff n°4 "Bund, Kantone und Gemeinden in der Integrierten Versorgung: Rollenszenarien 2026". fmc. Neuägeri: fmc Schweizer Forum für Integrierte Versorgung; 2018.
- Quentin W, Busse R. The strongly decentralized Swiss health system achieves good results: past research has addressed persisting challenges—but more is encouraged. *Health Policy*. 2018;122(6):565-567. doi:10.1016/j.healthpol.2018.06.002
- Berchtold P, Peytremann-Bridevaux I. Integrated care organizations in Switzerland. *Int J Integr Care*. 2011;11:e010.
- Schusselé Fillietz S, Berchtold P, Kohler D, Peytremann-Bridevaux I. Integrated care in Switzerland: results from the first nationwide survey. *Health Policy*. 2018;122(6):568-576. doi:10.1016/j.healthpol.2018.03.006
- Forum Managed Care fmc. Denkstoff n°1. Trendszenarien Integrierte Versorgung Schweiz. 2014.
- Berchtold P, Reich O, Schusselé Fillietz S, Strehle O, Zanoni U. Denkstoff n°5 "Vernetzte Grundversorgung: Trendszenarien 2028". fmc. Neuägeri: fmc Schweizer Forum für Integrierte Versorgung; 2020.
- Schweizerische Gesundheitsdirektorenkonferenz (GDK), Bundesamt für Gesundheit (BAG). Neue Versorgungsmodelle für die medizinische Grundversorgung. Bericht der Arbeitsgruppe «Neue Versorgungsmodelle für die medizinische Grundversorgung» von GDK und BAG. 2012.
- Schusselé Fillietz S, Kohler D, Berchtold P, Peytremann-Bridevaux I. Soins intégrés en Suisse. Résultats de la 1re enquête (2015–2016). *Obsan Dossier*. Schweizerisches Gesundheitsobservatorium (OBSAN); 2017;57:83. <https://dam-api.bfs.admin.ch/hub/api/dam/assets/2360315/master>
- Fillietz SS, Berchtold P, Koch U, Peytremann-Bridevaux I. Integrated care in Switzerland: strengths and weaknesses of a federal system. *Int J Integr Care*. 2021;21(4):10. doi:10.5334/ijic.5668
- Creswell JW, Plano Clark VL. *Designing and Conducting Mixed Methods Research*. 3rd ed. Sage Publication; 2017.
- Stake RE. *Multiple Case Study Analysis*. The Guilford Press; 2005.
- Archibald MM. Investigator triangulation: a collaborative strategy with potential for mixed methods research. *J Mixed Methods Res*. 2016;10(3):228-250.
- Yin RK. *Case Study Research: Design and Methods*. 4th ed. Sage; 2009.
- Yin RK. *Applications of Case Study Research*. 2nd ed. SAGE Publications; 2003.
- Cardinaux R, Ochs N, Michalski C, Cornuz J, Senn N, Cohidon C. Interventions to improve care coordination in primary care: a narrative review. *J Prim Care Gen Pract*. 2020;4(1):61-79.
- Powell DG, Williams A, Larsen K, Perkins D, Roland M, Harris M. Coordinating primary health care: an analysis of the outcomes of a systematic review. *Med J Aust*. 2008;188(8):65-68.
- Creswell JW, Poth C. *Qualitative Inquiry and Research Design: Choosing among Five Approaches*. SAGE Publications Ltd; 2016.
- Flick U. *An Introduction to Qualitative Research*. SAGE Publications Ltd; 2014.
- MAXQDA 2020. VERBI software; 2021.
- Schreier M. *Qualitative Content Analysis in Practice*. SAGE; 2012.
- Schreier M. Ways of doing qualitative content analysis: disentangling terms and terminologies. Forum qualitative Sozialforschung/forum: qualitative. *Soc Res*. 2014;15(1). doi:10.17169/fqs-15.1.2043
- Valentijn PP, Boesveld IC, van der Klauw DM, et al. Towards a taxonomy for integrated care: a mixed-methods study. *Int J Integr Care*. 2015;15:e003. doi:10.5334/ijic.1513
- 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;13:e010. doi:10.5334/ijic.886
- Goodwin N. Understanding integrated care. *Int J Integr Care*. 2016;16(6):4. doi:10.5334/ijic.2530
- Mason A, Goddard M, Weatherly H, Chalkley M. Integrating funds for health and social care: an evidence review. *J Health Serv Res Policy*. 2015;20(3):177-188. doi:10.1177/1355819614566832
- Berchtold P, Reich O, Zanoni U. Denkstoff n°3 "Qualität statt Mengen belohnen—(wie) geht das? Performance-orientierte Vergütungsmodelle 2025". fmc Neuägeri: fmc—Schweizer Forum für Integrierte Versorgung. 2017.

45. Nolte E, Woldmann L. Financing of and reimbursement for integrated care. In: Amelung V, Stein V, Suter E, Goodwin, N, Nolte E, Balicer R, eds. *Handbook Integ Care*. Springer; 2021: 341-364. doi:10.1007/978-3-030-69262-9_21
46. Feldhaus I, Mathauer I. Effects of mixed provider payment systems and aligned cost sharing practices on expenditure growth management, efficiency, and equity: a structured review of the literature. *BMC Health Serv Res*. 2018;18(1):996. doi:10.1186/s12913-018-3779-1
47. Guraya SY, Barr H. The effectiveness of interprofessional education in healthcare: a systematic review and meta-analysis. *Kaohsiung J Med Sci*. 2018;34(3):160-165. doi:10.1016/j.kjms.2017.12.009
48. Homeyer S, Hoffmann W, Hingst P, Oppermann RF, Dreier-Wolfgramm A. Effects of interprofessional education for medical and nursing students: enablers, barriers and expectations for optimizing future interprofessional collaboration—a qualitative study. *BMC Nurs*. 2018;17:13. doi:10.1186/s12912-018-0279-x
49. Reeves S, Fletcher S, Barr H, et al. A BEME systematic review of the effects of interprofessional education: BEME guide no. 39. *Med Teach*. 2016;38(7):656-668. doi:10.3109/0142159x.2016.1173663
50. Spaulding EM, Marvel FA, Jacob E, et al. Interprofessional education and collaboration among healthcare students and professionals: a systematic review and call for action. *J Interprof Care*. 2021;35(4): 612-621. doi:10.1080/13561820.2019.1697214
51. Josi R, Bianchi M, Brandt SK. Advanced practice nurses in primary care in Switzerland: an analysis of interprofessional collaboration. *BMC Nurs*. 2020;19(1):1. doi:10.1186/s12912-019-0393-4
52. Shaw S, Rosen R, Rumbold B. What is integrated care? *Research report*. 2011.

How to cite this article: 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;1-14. doi:10.1111/jep.13891