Evidence Use, Capacity, and Perspectives in Policymaking about Public Health and Health Systems: an Investigation with a Focus on Health Administrations and Health Services in Switzerland

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Abbreviations

COVID-19	Disease caused by the novel coronavirus SARS-CoV2
EBP	Evidence-based policymaking
EIPM	Evidence-informed health policymaking
EKNZ	Ethikkommission Nordwest- und Zentralschweiz (ethics committee of northwestern and central Switzerland)
FOPH	Federal Office of Public Health
HSMP	Health Services Management and Planning
IAAS	International Association for Ambulatory Surgery
NICE	National Institute for Health and Care Excellence
OBSAN	Swiss Health Observatory
OECD	Organization for Economic Cooperation and Development
ORACLe	Organizational Research Access, Culture, and Leadership
PRISMA	Preferred Reporting Items for Systematic Reviews and Meta-Analyses
PROSPERO	International Prospective Register of Systematic Reviews
SERI	State Secretariat for Education, Research and Innovation
SLHS	Swiss Learning Health System
SSPH+	Swiss School of Public Health
SwissDRG	Swiss Diagnosis Related Groups
TARMED	Tarif Médical (medical tariff)
WHO	World Health Organization

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Summaries

Executive summary (English)

Background

Limited resources, the pursuit of high-quality and efficient health care, and the vision of a healthy population require the continuous consultation and integration of evidence, that is, verifiable data and analyses, in health policy making. Despite intensive research on evidence-informed policymaking (EIPM), there are many unanswered questions, in part because findings are context-specific, and studies to date have focused predominantly on a few countries or specific forms of evidence, such as evaluations. An overview of qualitative studies on EIPM has been lacking, yet qualitative research approaches in particular can help address the complexity of policymaking. Further lacking are case studies that trace the role of evidence in decision-making processes and deepen understanding of EIPM by policymakers at the cantonal level. Because cantonal administrations have a central role in the governance of health care, it is also important to understand what perspectives and needs administrators have regarding EIPM, how they themselves deal with verifiable data and analyses, and what supports them in their use.

Aim and objectives

The presented dissertation aims to contribute to a better understanding of the use, capacity, and perspectives regarding EIPM, focusing on policymaking in Switzerland and cantonal health administrations.

The specific objectives are to *1)* identify and describe existing qualitative literature on EIPM; *2)* analyze and describe the role of evidence in the shift from inpatient to outpatient care in Switzerland; *3)* assess capacity and understand the perspectives and needs of cantonal health administrations regarding EIPM; *4)* outline the relevance of evidence for addressing inefficiencies in health care and the health system in the context of cost containment measures; *5)* formulate recommendations for interventions to build EIPM capacity in the administration.

Methods

The thesis consists of three empirical research papers, an editorial, and a policy brief framed by an overarching introduction and discussion.

OBJECTIVE 1) was addressed through a systematic review of peer-reviewed academic literature. Qualitative studies that examined the use of research evidence in public health and health system policymaking were included. Nine electronic databases were searched, 11 journals were hand-searched, and references of included studies and previous reviews were systematically reviewed. No restrictions were made based on the language, publication date, or geographic focus of the studies.

OBJECTIVE 2) Employing a case study, the regulatory policy measures introduced in Swiss cantons since 2017 to substitute inpatient for outpatient care were described and examined in terms of their content, policymaking process, and role of evidence. The data basis consisted of publicly available information and studies as well as two expert interviews.

OBJECTIVE 3) Using an existing and translated questionnaire instrument, six general-secretaries of cantonal health administrations were interviewed on capacity at the administration level regarding available tools and systems to support the engagement with evidence. Semi-structured in-depth interviews with 12 policymakers in leadership positions in health services and planning were used to explore perspectives and needs regarding EIPM.

Results

Systematic review

A total of 319 studies were identified, revealing a thematically diverse and rapidly growing research landscape. Although the geographic focus is on a few affluent countries, a growing proportion of EIPM research focuses on low- and middle-income countries. A small but substantial number of in-depth and explanatory case studies were found, as well as analyses that draw on political science theories or frameworks. Few studies with ethnographic research designs were identified, and a minority of studies had elected policymakers as the study's target population. Studies on barriers and facilitators related to EIPM make up a significant portion of the work in this area but by no means the majority. Few studies examined the symbolic use of evidence in policymaking.

Case study

The case study revealed that policy measures taken by health administrations to address inpatient overuse were motivated by pressure to save costs and that long-standing international evidence on inpatient substitution potential was first used to legitimize the measures. The study underscores that simple, evidence-informed messages can draw attention to the need for reform and that proactive engagement with comparative health care data and evidence from health observatories can be critical for health care governance.

Interview Study

Swiss health administrations showed moderate capacity for EIPM in with limited organizational support and guidance for EIPM. Internal capacity deficits are compensated with external capacity, for example, through the Swiss health observatory. Administrations seem to place the focus and responsibility for EIPM on individual staff, which are committed to evidence use and need evidence, especially medical data and statistics, for health services management and planning.

Editorial

It has been demonstrated that reforms should aim to improve the quality of care and reduce inefficiencies rather than focusing on cost containment. To support this, the conditions for generating and using quality and outcome data and evidence from health services research need to be established, and the EIPM capacity of administrations strengthened.

Policy Brief

Interventions to build the capacity for EIPM in administrations should be tailored and adapted to the local context. In principle, simple interventions can be as effective as complex, multi-component measures, such as incentives or infrastructure to access scientific literature. An enabling environment for capacity building should be created, and, where possible, participatory approaches should be used to develop and implement interventions.

Discussion

This dissertation provided insights on the use, capacity, and perspectives regarding evidence, with a focus on the Swiss policymaking context and cantonal health administrations. This thesis was able to reveal a descriptive overview of the geographic, temporal, methodological, and theoretical characteristics of the existing qualitative body of literature, both confirming findings of previous research and unearthing studies that show the field of EIPM research to be broader in scope, more theoretically grounded, and less descriptive than previously thought. The findings of this thesis underscore the importance of new methodological approaches to studying the EIPM field, including qualitative observational methods and meta-syntheses of qualitative studies, as well as quantitative designs to assess the extent to which evidence is used and the capacity to use it. In terms of content, future research efforts could address previously less studied areas of the value of EIPM to elected politicians, the symbolic use of evidence, or the role of health observatories in generating and using evidence.

For the Swiss context, the results suggest a moderate level of capacity to engage with evidence in health administrations, but these findings require a more in-depth review. The results also point to a modest role of academic research, particularly international comparative health systems research. On the other hand, local statistics and health care data are of great importance for the design and planning of health care. Still, their availability is partly limited and in need of improvement. The thesis underlines the relevance of symbolic motivation for the use of evidence for administrations, for the legitimization of measures, and for argumentation in political discourse.

Given the pressure to save money in the health system and the deadlock in policy reforms, health administrations should make more use of their room for maneuver in policymaking. The governance of the health system should be more proactively aligned with evidence and international developments.

To this end, investments to build capacity in the use of evidence are essential, both at the individual level of policymakers and at the organizational level, e.g., through institutionalized exchange with research or embedding the importance of evidence for policymaking in strategic documents and guiding principles of administrations. In addition, conditions must be created for the generation and use of quality and outcome data on health care to be used for governance. This development can be supported by a better exchange between cantons, ensuring access to scientific publications and existing data and statistics, or supporting knowledge generators and brokers like the Swiss health observatory. The examples examined in this thesis in the context of EIPM highlight fundamental issues facing modern health systems: the need for innovation, the quest for data and evidence to monitor and manage health care, and the goal of delivering it in a high-quality, effective, and efficient manner. Investing in EIPM, therefore, is a promising way to strengthen health systems.

Zusammenfassung (German)

Hintergrund

Begrenzte Ressourcen, das Streben nach einer qualitativ hochwertigen und effizienten Gesundheitsversorgung sowie die Vision einer gesunden Bevölkerung erfordern die kontinuierliche Konsultation und Integration von Evidenz, sprich überprüfbare Daten und Analysen, in der Gestaltung der Gesundheitspolitik. Trotz intensiver Forschung zur evidenzgestützten Politikgestaltung (*evidence-informed policymaking*; EIPM) gibt es viele offene Fragen, mitunter, weil Erkenntnisse kontextspezifisch sind und sich Studien bislang vorwiegend auf einige wenige Länder oder spezifische Formen von Evidenz, wie beispielsweise Evaluationen, fokussiert haben. Ein Überblick über qualitative Studien zu EIPM fehlte bisher, dabei können insbesondere qualitative Forschungsansätze helfen, sich der Komplexität der Politikgestaltung anzunehmen. Weiter fehlen Fallstudien im Schweizer Kontext, welche die Rolle von Evidenz in Entscheidungsprozessen nachzeichnen und das Verständnis über EIPM durch Gesundheitsverwaltungen auf der kantonalen Ebene vertiefen. Weil kantonale Verwaltungen eine zentrale Rolle in der Steuerung der Gesundheitsversorgung einnehmen, ist auch wichtig zu verstehen, welche Sichtweisen und Bedürfnisse Verwaltungsangestellte hinsichtlich EIPM haben, wie sie selbst mit überprüfbaren Daten und Analysen umgehen und was sie bei deren Verwendung unterstützt.

Ziele

Die vorgelegte Dissertation soll zu einem besseren Verständnis der Nutzung, Kapazität und Perspektiven hinsichtlich EIPM beitragen, wobei ein besonderer Fokus auf die Politikgestaltung im Schweizer Kontext und kantonale Gesundheitsverwaltungen gelegt wird.

Die konkreten Ziele sind: *1)* Identifizierung und Beschreibung bestehender qualitativer Fachliteratur zu EIPM; *2)* Analyse und Beschreibung der Rolle von Evidenz bei der Verlagerung der stationären zur ambulanten Versorgung in der Schweiz; *3)* Bewerten der Kapazitäten und Verstehen der Perspektiven und Bedürfnisse kantonaler Gesundheitsverwaltungen hinsichtlich EIPM; *4)* Darlegen der Relevanz von Evidenz für die

Behebung von Ineffizienzen in der Gesundheitsversorgung und dem Gesundheitssystem vor dem Hintergrund von Kostendämpfungsmassnahmen; *5)* Formulieren von Empfehlungen für Interventionen zum Aufbau von EIPM Kapazitäten in der Verwaltung.

Methoden

Die Dissertation besteht aus drei empirischen Forschungsarbeiten, einem Editorial und einem Policy Brief, die von einer gemeinsamen Einleitung und Diskussion umrahmt werden.

ZIEL 1) wurde durch eine systematische Übersichtsarbeit der Forschungsliteratur angegangen. Es wurden qualitative Studien eingeschlossen, welche die Nutzung wissenschaftlicher Evidenz in der Politikgestaltung zur öffentlichen Gesundheit und dem Gesundheitssystem untersuchten. Neun elektronische Datenbanken wurden mittels Suchstrategie und 11 Fachzeitschriften von Hand durchsucht. Referenzen der eingeschlossenen Studien sowie früherer Übersichten wurden systematisch durchgesehen. Es wurden keine Einschränkungen aufgrund von Sprache, Veröffentlichungszeitpunkt oder geografischem Fokus der Studien vorgenommen.

ZIEL 2) Mittels Fallstudie wurden die seit 2017 in Schweizer Kantonen eingeführten regulative Politikmassnahmen zur Substitution der stationären durch die ambulante Versorgung beschrieben und hinsichtlich deren Inhalt, Politikgestaltungsprozess und Rolle von Evidenz untersucht. Die Datengrundlage bildeten öffentlich verfügbare Informationen und Studien sowie zwei Experteninterviews.

ZIEL 3) Mittels bestehendem und übersetztem Fragebogen wurden sechs Generalsekretäre kantonaler Gesundheitsverwaltungen zur Kapazität auf der Verwaltungsebene hinsichtlich verfügbaren Werkzeugen und Systemen zur Unterstützung im Umgang mit Evidenz befragt. Anhand von semi-strukturierten Tiefeninterviews mit 12 Verwaltungsangestellten in Führungspositionen aus dem Bereich Gesundheitsversorgung und -planung wurden Perspektiven und Bedürfnisse hinsichtlich EIPM ergründet.

Resultate

Systematische Übersichtsarbeit

Es wurden 319 Studien identifiziert, die eine thematisch vielfältige und schnell wachsende Forschungslandschaft aufzeigen. Obwohl der geografische Fokus auf einigen wenigen wohlhabenden Ländern liegt, konzentriert sich ein wachsender Anteil der EIPM Forschung auf Länder mit niedrigem und mittlerem Einkommen. Es wurde eine kleine, aber beachtliche Anzahl von tiefgehenden und erklärenden Fallstudien sowie Analysen die sich auf politikwissenschaftlichen Theorien abstützen gefunden. Es wurden wenige Studien mit ethnografischem Forschungsdesign identifiziert und eine Minderheit der Studien hatte gewählte politische Entscheidungsträgern als Zielgruppe der Untersuchung. Untersuchungen zu hindernden und fördernden Faktoren im Zusammenhang mit EIPM machen einen grossen Teil, aber keineswegs die Mehrheit der Arbeiten in diesem Bereich aus. Nur wenige Studien untersuchten die symbolische Nutzung von Evidenz in der Politikgestaltung.

Fallstudie

Die Fallstudie zeigte auf, dass die Politikmassnahmen der Gesundheitsverwaltungen gegen die stationäre Überversorgung durch Spardruck motiviert waren und langjährig verfügbare internationale Evidenz zum stationären Substitutionspotenzial erst zur Legitimierung der Massnahmen verwendet wurde. Die Studie unterstreicht, dass bereits einfache, evidenzgestützte Botschaften auf Reformbedarf aufmerksam machen können und dass eine proaktive Auseinandersetzung mit vergleichenden Daten über die Gesundheitsversorgung sowie Evidenz von Gesundheitsobservatorien für die Steuerung des Gesundheitswesens entscheidend sein können.

Interview-Studie

Schweizer Gesundheitsverwaltungen verfügen über ähnlich ausgeprägte und moderate EIPM-Kapazitäten, wobei die strukturelle Unterstützung für EIPM auf Organisationsebene beschränkt ist. Interne Kapazitätsdefizite werden durch externe Kapazitäten kompensiert, zum Beispiel durch die Inanspruchnahme von Dienstleistungen des Schweizerischen Gesundheitsobservatoriums. Die Verwaltungen scheinen den Schwerpunkt und die

Verantwortung für EIPM auf einzelne Mitarbeitende zu legen, die sich für die Nutzung von Evidenz, insbesondere medizinische Daten und Statistiken, einsetzen und diese für die Planung von Steuerung der Gesundheitsversorgung benötigen.

Editorial

Es wurde aufgezeigt, dass Reformen auf die Verbesserung der Versorgungsqualität und den Abbau von Ineffizienzen abzielen sollten, anstelle den Fokus auf die Kostendämpfung zu legen. Damit diese Entwicklung unterstützt werden kann, müssen die Voraussetzungen zur Generierung und Nutzung von Qualitäts- und Outcome-Daten und Erkenntnissen aus der Versorgungsforschung geschaffen werden und die EIPM-Kapazität der Verwaltungen gestärkt werden.

Policy Brief

Massnahmen zum Ausbau der Kapazität für EIPM in Verwaltungen sollten auf den lokalen Kontext abgestimmt und zugeschnitten sein. Grundsätzlich können einfache Interventionen ebenso wirksam sein wie komplexe, vielschichte Massnahmen, z.B. Anreize zur Nutzung von Evidenz, oder Zugang zu Forschungspublikationen. Es sollte ein förderliches Umfeld für den Aufbau von Kapazitäten geschaffen werden und wenn möglich sollten partizipative Ansätze für die Entwicklung und Umsetzung der Interventionen zum Zuge kommen.

Diskussion

Die vorgelegte Dissertation bietet Einblicke in die Nutzung von Evidenz, zur Kapazität und den Perspektiven im Umgang mit dieser, wobei der Schwerpunkt auf den schweizerischen Kontext der Politikgestaltung durch kantonale Gesundheitsverwaltungen gelegt wurde. Diese Arbeit zeigt einen deskriptiven Überblick über die geografischen, zeitlichen, methodischen und theoretischen Merkmale des bestehenden qualitativen Literaturbestands auf, bestätigt Ergebnisse früherer Untersuchungen und fördert Studien zutage, die das Feld der EIPM Forschung breiter angelegt, theoretisch fundierter und weniger deskriptiv zeigen als bisher angenommen. Die Ergebnisse dieser Dissertation unterstreichen die Bedeutung neuer methodischer Ansätze zur Untersuchung des EIPM-Feldes, einschliesslich qualitativer

Beobachtungsmethoden und Meta-Synthesen qualitativer Studien sowie quantitative Designs zur Bewertung des Umfangs der Nutzung von und der Kapazität zum Umgang mit Evidenz. Inhaltlich sollten sich zukünftige Forschungsbestrebungen bisher weniger untersuchten Bereichen dem Stellenwert von EIPM für gewählte politische Entscheidungsträger, die symbolische Verwendung von Evidenz, oder die Rolle von Gesundheitsobservatorien in der Generierung und Nutzung von Evidenz annehmen.

Für den Schweizer Kontext deuten die Ergebnisse auf ein moderates Ausmass an Kapazitäten zum Umgang mit Evidenz in Gesundheitsverwaltungen hin, allerdings bedürfen diese Erkenntnisse einer vertieften Überprüfung. Die Ergebnisse weisen ausserdem auf eine bescheidene Rolle von akademischer Forschung hin, insbesondere der internationalen vergleichenden Gesundheitssystemforschung. Hingegen kommen lokalen Statistiken und Versorgungsdaten im Alltag um die Gestaltung und Planung der Gesundheitsversorgung eine grosse Bedeutung zu, deren Verfügbarkeit aber teilweise eingeschränkt und verbesserungswürdig ist. Die Dissertation unterstreicht die Relevanz der symbolischen Motivation zur Nutzung von Evidenz für die Verwaltungen, zur Legitimierung von Massnahmen sowie der Argumentation im politischen Diskurs.

In Anbetracht des Spardruckes im Gesundheitswesen und des Staus politischer Reformen, sollte der Handlungsspielraum von Gesundheitsverwaltungen in der Politikgestaltung stärker ausgeschöpft und die Steuerung des Gesundheitssystems proaktiver an Evidenz und internationalen Entwicklungen ausgerichtet werden.

Hierfür sind Investitionen zum Ausbau der Kapazität im Umgang mit Evidenz zentral, sowohl auf individueller Ebene von Entscheidungsträgern, wie auch auf organisatorischer Ebene, z.B. durch institutionalisierten Austausch mit der Forschung, oder der Verankerung der Bedeutung von Evidenz für die Politikgestaltung in strategischen Dokumenten und Leitbildern der Verwaltungen. Ausserdem müssen Voraussetzungen zur Generierung und Nutzung von Qualitäts- und Outcome-Daten zur Gesundheitsversorgung geschaffen werden, damit diese für die Steuerung verwendet werden können. Durch besseren Austausch zwischen den

Kantonen, der Gewährleistung des Zugangs zu wissenschaftlichen Publikationen und bestehenden Daten und Statistiken, oder der Unterstützung von Wissensgeneratoren und -broker wie beispielsweise dem Schweizerischen Gesundheitsobservatorium, kann diese Entwicklung unterstützt werden. Die in dieser Dissertation im Zusammenhang mit EIPM untersuchten Beispiele verdeutlichen grundsätzliche Probleme moderner Gesundheitssysteme: die Notwendigkeit von Innovationen, das Streben nach Daten und Fakten zur Überwachung und Steuerung der Gesundheitsversorgung und das Ziel diese Versorgung in qualitativ hochwertiger, effektiver und effizienter Art zu erbringen. Investitionen in EIPM sind eine vielversprechende Möglichkeit zur Stärkung von Gesundheitssystemen.

1. General introduction

This Ph.D. thesis is about the role of evidence in public policies concerned with public health and health system issues. The following sections of the introduction describe the context and background of the research conducted for this dissertation. They also outline why and how the research was carried out. First, a background is provided, outlining relevant literature and respective gaps concerned with evidence use in policymaking. This section also introduces the Swiss context and describes the thematic focus of the thesis, i.e., health administrations and policymaking concerning health services. Then, the rationale for the study is presented, followed by the derived aim and objectives. The last section of the introduction expounds on the methodology used to approach the aim and objectives. It also provides information on the umbrella project within which this thesis was conducted, outlines ethical considerations regarding data collection, and closes with an outline of the thesis's structure.

1.1. Background

The relationship between science and policy has not been short of popularity in recent years. On the contrary, apart from the continuation of existing academic debates, the topic has made substantial inroads into the public discourse, profoundly contributing to shaping our social life. The social dimension of this relationship is evidenced, for example, by the Oxford Dictionary and the German Language Society nominating the terms “post-truth”, respectively “post-factual”, as the word of the year in 2016 (Gesellschaft für deutsche Sprache, 2016; Oxford Dictionary, 2016). The age of fake news, alternative facts, Brexit, and Trump's presidency, and the era of increasing success for right-wing populism in Europe has cast doubt on the state of democracies and, more generally, the foundations of political decisions. Only four years later, the German Language Society has chosen the phrase “corona pandemic” as the phrase best reflecting social developments in discourses in 2020 (Gesellschaft für deutsche Sprache, 2020), and the scientific and public focus on the relevance of evidence in policymaking has once again changed dramatically.

Suddenly, research evidence has become the central ingredient in media reporting and public health authorities' press conferences. Wherever possible, epidemiological indicators and scientific visualizations are used to serve explanations—and criticism—of policy decisions and public health prevention measures. Academic and medical experts have been given a platform of unprecedented public attention and a central role in policymaking (Lavazza & Farina, 2020; Sager & Mavrot, 2020). At the moment, citizens—for example, in Switzerland—place more trust in scientists than politicians or government authority representatives to tackle the pandemic (Schäfer & Metag, 2020). Furthermore, they wish for policy decisions based on scientific knowledge. Undoubtedly, distrust in experts, misinformation, and conspiracy theories on COVID-19 remain a challenging phenomenon, especially in the context of populism (Battiston et al., 2021; Eichengreen et al., 2021; Islam et al., 2020; Lasco, 2020; Pulido et al., 2020; Stecula & Pickup, 2021). However, knowledge closely bound to scientific scrutiny, such as the effectiveness of protective face masks, vaccines, or the impact of health policy measures on infection rates, has permeated the thinking about appropriate and less appropriate policy decisions in many countries. Government responses to the pandemic have brought the relationship between science and policy into the spotlight, and societal discourse over the next few years will reveal the lasting impact of the pandemic on this relationship. These recent events once again emphasize the central sociopolitical relevance of the relationship between science and policy and show that its design has a direct impact on people's well-being and health. Given the existing and anticipated challenges to public health and health systems, understanding the role of evidence in policymaking remains a central task of science. The following sub-section takes a closer look at the relationship between research and policy by briefly touching upon the history of this research field, describing central terms, and outlining significant findings and characteristics of this body of research that are relevant to the empirical investigations delineated in the subsequent chapters.

1.1.1. Evidence-informed (health) policymaking

Research on evidence and policymaking constitutes an area on its own. It is characterized by multiple disciplinary approaches, especially from the social science sub-disciplines of political and health sciences (Gilson, 2012). The policy sectors addressed by such research are diverse and include, among others, social care, welfare, education, environment and housing, transport, and social justice (Boaz & Davies, 2019; Lorenc et al., 2014; Masood et al., 2018). However, global research in this area has particularly addressed policies related to health and healthcare (Davies et al., 2000), which is also the thematic scope of the present thesis.

Several terms are inherently coupled to this research area. Evidence-*based* policymaking (EBP), for example, constitutes a core term denoting this specific body of research. EBP proposes the ideal that policy decisions should be based on the best available evidence, i.e., sound analyses of service programs and policy options (Davies et al., 2000). However, there is no common understanding of what evidence specifically entails (Smith, 2013). EBP aims to enhance the effectiveness and efficiency of policymaking and strives towards policies driven by evidence rather than ideology (Davies et al., 2000; Head, 2008). The term evidence-*informed* policymaking (EIPM), on the other hand, takes a nuanced position acknowledging that neither is a political system that primarily rests upon research results realistic nor is evidence the only legitimate source of knowledge for policymakers (Head, 2010; Oxman et al., 2009; Sanderson, 2006). Thus, EIPM reflects, at least partially, the development away from a technical, deterministic perspective of evidence and its generation and use in policymaking to a more “pragmatic” understanding that pays tribute to the fact that factors such as values and norms crucially contribute to shaping policy, and that other forms of evidence beyond its research-based forms (i.e., tacit knowledge) matter in practice (Boaz & Davies, 2019; Sanderson, 2006, 2009)[1]. Despite these differences, the two terms are often used synonymously in the literature. In the remainder of this thesis, usage is confined to the latter term, except where historical or conceptual reference demands a more precise distinction.

Origin and history of the paradigm

The origins of the close intertwining of politics and evidence date back to the Age of Enlightenment (Head, 2008). However, the EBP paradigm developed much later, inspired by

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[1] For criticism on the rationalist characterization of the policy and science relationship and alternative models see, for example, Collingridge & Reeve (1986), Habermas (1968), or Weingart (2001).

the conduct and findings of randomized controlled trials, taking root in the social and medical fields in the United States in the 1930s and 1940s, respectively, and later establishing itself as a relevant element at the nexus of science and policy (Baron, 2018). The paradigm emerged in the interplay between the demand for policy-relevant knowledge from government agencies and policymakers on the one hand and the advancement of tools and capacity for rigorous analysis of policy options and program effectiveness by social science on the other (Head, 2010; Merton, 1949). Given its focus on efficiency and effectiveness, EBP found resonance in New Public Management reforms in Anglophone and Scandinavian countries in the 1990s, which gave it further impetus (Davies et al., 2000; Head, 2008). The advancement of research capacity within and outside of government (e.g., the establishment of the National Institute for Health and Care Excellence (NICE) in England, or the international Cochrane and Campbell collaborations) with the funding and establishment of research organizations and the formation of large-scale research programs fueled the generation of policy-relevant knowledge to address complex problems (Baron, 2018; Bulmer, 1987; Head, 2010). For example, in the United Kingdom, the government under Prime Minister Blair has established “what counts is what works” as the guiding principle for policy action and has specifically promoted the development of policy analysis capacity within the government (Head, 2010). Meanwhile, several international agencies, such as the World Health Organization (WHO), the European Union, and the Organization for Economic Cooperation and Development (OECD), have declared themselves as supporters of EBP (Greve, 2017) and countries have launched programs that seek to bring science, policy and practice closer together, such as the Swiss Learning Health System (SLHS) initiative, see 1.3.2. At least two further developments in the research sector have influenced how policies are made; the increasing number and relevance of systematic reviews on program effectiveness and the institutionalization of knowledge brokering agencies (Hansen & Rieper, 2009; White, 2019).

The EBP literature has been influenced by the evidence-based medicine agenda that promotes the “conscientious, explicit, and judicious use of current best evidence in making decisions about the care of individual patients” (Sackett et al., 1996, p. 71). Some scholars describe EBP as the complement of evidence-based medicine in policy and take successes in that area as the rationale for similar developments in policy, often with explicit assumptions about preferred evidence grounded in methodological characteristics, i.e., evidence hierarchies (Evans, 2003). However, the transferability of this paradigm from medical practice to policymaking has been fiercely criticized (Cairney & Oliver, 2017; Greenhalgh & Russell, 2009). While evidence in medicine is essential for clinical decision-making and guidelines development, the role of evidence in policymaking about population health and health systems is far less straightforward. As the complexity and context-dependency increase when addressing issues regarding the health system level, the availability, relevance, and transferability of research findings can be limited, and guidance remains poorly developed (Bosch-Capblanch et al., 2012; Hoffman et al., 2012; Remme et al., 2010). For example, transferring policy innovations between different health systems is hampered by the limited understanding of how health system characteristics and contexts affect the adoption and implementation of such policies (Nolte & Groenewegen, 2021).

Policy implementation research and implementation science also have a significant relationship to EIPM (Bullock et al., 2021). *Policy implementation research* has been studying how policies are implemented, particularly since the 1970s, while *implementation science* developed in the 1990s in the context of EBP and is concerned with implementing research evidence in clinical practice (Nilsen et al., 2013). Efforts to better understand how health policies and evidence-informed practices are implemented, as well as the harnessing and application of this knowledge in practice (i.e., knowledge transfer and exchange), continue to be of central importance for the efficient shaping of health care and health systems (De Geest et al., 2020; Lobb & Colditz, 2013).

Ideology and premises

As mentioned above, EIPM is founded on a normative set of beliefs that prefers effective and efficient governance based on credible and verifiable information to decision-making systems characterized by ideology, intuition, and power (Black, 2001; Head, 2010; Sanderson, 2002;

Smith & Haux, 2017). EIPM thus *implies* that decisions considering relevant and robust evidence will result in better policies for societal benefit and, in the health sector specifically, in policy outcomes such as better health outcomes and system performance (Alonso-Coello et al., 2016; Boaz & Davies, 2019; Oxman et al., 2009). The EIPM paradigm assumes that evidence is of principle—“powerful”—use to policymakers and that research is committed to sound analysis for the generation of policy-relevant evidence (Head, 2010). Beyond that, the EIPM paradigm presupposes available (local) evidence use capacity and structures that enable the access to and use of evidence (Howlett, 2008; Newman et al., 2017; Punton, 2016).

Terminology

Evidence in the context of EIPM can be described as robust and reliable information generated through transparently and systematically applied methods, which is thus reproducible and verifiable. However, there is no single and uniform definition of evidence in the literature. On the contrary, studies tend to delimit and describe what they mean by it unsatisfactorily (Oliver, Lorenc, et al., 2014), making the applicability of study results difficult. Policymakers typically use the term for a whole range of sources that can be categorized methodologically in different ways, from information from personal contacts, experts, surveys, statutory reports, and routine data, to systematic reviews (Oliver, Lorenc, et al., 2014; Oliver & de Vocht, 2017). However, scholars of EIPM often use evidence use the term *evidence* in a conceptually narrower manner to indicate information acquired systematically by recognized scientific methods, sometimes called research-based knowledge or scientific evidence, or restrict it to mean only certain hierarchies of these methods such as randomized controlled trials or systematic reviews (Cairney, 2016; Nutley et al., 2013). **Figure 1** shows a conceptualization of appropriate evidence for policymaking, acknowledging that the usefulness might not depend on its methodological characteristics but primarily on its relation to the policy issue. To meet these different perspectives, the term *evidence* is used broadly in this thesis without focusing on methodological boundaries. Unless otherwise specified in particular chapters, it means *by principle reproducible and thus verifiable data and analyses thereof*. Where necessary, the more selective term *research evidence* will be used for explicit referral to academic products.

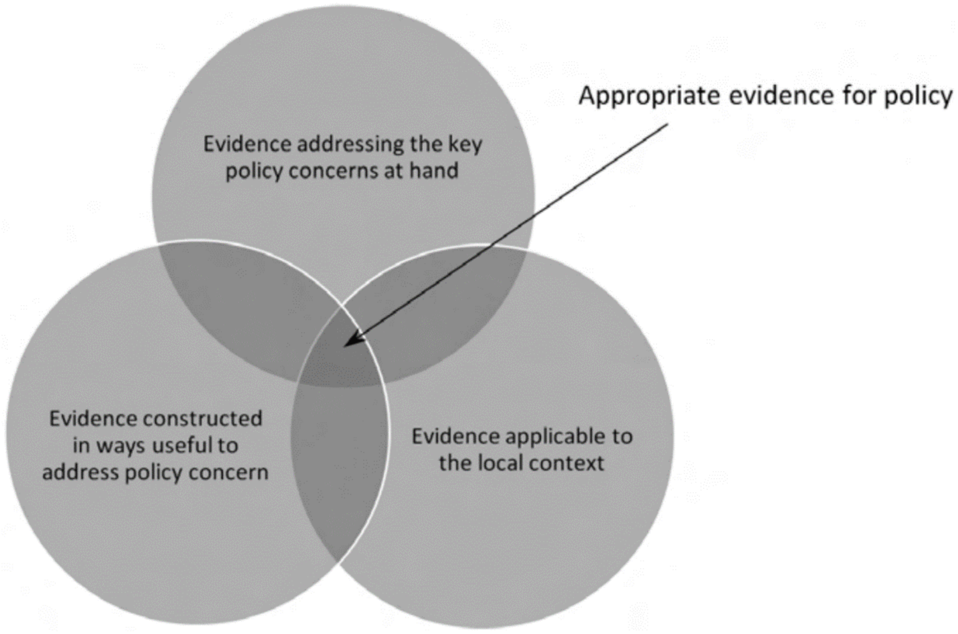

Figure 1. Appropriate evidence for policy context

Source: Parkhurst (2017). No changes were made to the figure.
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Similarly, the term *policy* is used in various ways and can differ regarding its underlying concept. *Public policies* (hereafter referred to simply as policy) generally refer to aims, decisions, (in)actions, and outcomes of the government to address public problems (Howlett & Cashore, 2014; Sager, Ingold, et al., 2017). Policies can constitute, for example, legal, regulatory, or planning instruments and tools (e.g., in the form of laws, regulations, programs, plans, or guidelines) but also manifest in less concrete forms such as “an overriding logic of action, a structure of practice” and can be of written or implicit form (Colebatch et al., 2010, p. 12). *Health policies*, in particular, “affect the set of institutions, organizations, services and funding arrangements of the health system. It includes policies made in the public sector (by [the] government) as well as policies in the private sector. But because health is influenced by many determinants outside the health system, health policy analysts are also interested in the actions and intended actions of organizations external to the health system which have an impact on health.” (Buse et al., 2012, p. 6). Thus, *policymakers* are actors who make policies. However, the exact definition of a policymaker depends on the policymaking context, the particular situation, and the purpose for which the term is used (Haynes et al., 2015). In many cases, the term policymaker is defined by distinguishing it from other actors instead of elaborating on its meaning (Haynes et al., 2015). In the context of public policy, a policymaker can be, for example, an elected politician in executive or legislative function or unelected civil servants in the public administration. Besides individuals, policymakers can also be organizations (Cairney, 2016). In a simplified and somewhat restricted example, a *health policymaker* could be “someone who drafts or writes health policy documents or makes or contributes significantly to policy decisions about health services, programs or resourcing” (Haynes et al., 2015, p. 149).

Selected theories and concepts

Research on EIPM has dramatically evolved over the last few decades, offering today considerable knowledge enlightening various aspects of the field, focusing on theoretical and practical tiers. Nevertheless, specific key theories, models, and frameworks related to EIPM find continuous appeal in the literature and continue to shape the way we think about EIPM. In the following sections, selected theories and concepts that are referenced in the later empirical parts of this thesis and thus require elaboration are briefly presented.

Policy processes

“In the process of public policymaking, problems are conceptualized and brought to government for solution; governmental institutions formulate alternatives and select policy solutions; and those solutions get implemented, evaluated, and revised.” (Sabatier & Weible, 2014, p. 3). Key elements to characterize policy processes include the actors involved in policy decisions, prevailing rules and norms, actors’ networks, existing ideas and beliefs, the policy context, and events (Heikkila & Cairney, 2018). As these elements interact, involving a multitude of stakeholders and a variety of often opposing norms, values, and interests which are enforced by arguments as well as persuasion, policy processes can be described as highly complex, characterized by non-linear, interdependent and multi-level influences (Geyer & Cairney, 2015; Head, 2010; Heikkila & Cairney, 2018; Sabatier & Weible, 2014; Sanderson, 2009). Several theoretical approaches of varying elaborateness have been developed and applied to deal with this complexity. The stages model (i.e., policy cycle) that describes policymaking as a continuous circular process with distinct phases such as agenda-setting, policy formulation, decision-making, implementation and evaluation is well known (Jann & Wegrich, 2017). Despite its heuristic value, this model has been criticized as making unrealistic assumptions and thus “offer[ing] neither a good description of the process nor a reasonable prescription for how to intervene” (Boaz & Davies, 2019, p. 374; Heikkila & Cairney, 2018; Sabatier & Weible, 2014). Other theories might be more suitable to cope with the conditions of real-life policy processes, such as the Multiple Streams Framework (Zahariadis, 2003), the Punctuated-Equilibrium Theory (Baumgartner & Jones, 2010), or the Advocacy Coalition Framework (Sabatier, 1988), which go beyond an unrealistically assumed rationality and linearity of policymaking, and offer the EIPM field additional insights such as, for example, understanding evidence as a means to legitimize policy goals or generate attention towards a policy issue (Heikkila & Cairney, 2018).

Evidence utilization

Research on EIPM seeks to understand how the use of evidence works within these policy processes, when and how evidence enters the process, whether and how actors use this evidence, and how this ultimately translates into policies and impact. Thus, several models of evidence utilization by government and administration have been characterized. These include, but are not limited to, the early conceptualizations of Carol Weiss and others in the 70s (Pelz, 1978; Rich, 1977; Weiss, 1977a, 1979) that have been further refined and expanded or tested (Boswell, 2008; Henry & Mark, 2003; Mark & Henry, 2004; Schrefler, 2010; Zarkin, 2021) and are still widely applied in the EIPM literature (Davies et al., 2000). Evidence utilization can broadly be classified with the following typology that encompasses *instrumental* (the specific and direct application of evidence to solve problems, make decisions, or fill knowledge gaps), *conceptual* (more indirectly generating awareness and “sensitizing” decision-makers about specific issues) and *symbolic* (for the legitimization of pre-existing positions) uses of evidence (Albæk, 1995; Beyer, 1997; Weiss, 1979). The literature distinguishes between two different approaches to investigate evidence use in policy (Davies et al., 2005; Newson et al., 2018). *Forward tracing* takes evidence as the starting point from which its effects on policy are studied. On the other hand*, backward tracing* starts with the policy outcome and examines the influences (or evidence) that impacted the outcome.

A variety of theories, models, and frameworks has attempted to explain the process of how evidence gets into policymaking. **Figure 2** provides an example that does not focus on the characteristics of the policymaking process discussed above but attempts to illustrate the path from the production of evidence to its use. Although the illustration details are not the focus here, the figure highlights how multifaceted these pathways can be and that the engagement with and the ultimate use of evidence depends on various actors, behaviors, and contextual factors. Moreover, the figure demonstrates that normatively preferred evidence-to-policy pathways can differ substantially from processes observed in reality, as shown by the frequent symbolic use termed “ammunition”. The EIPM literature has devoted itself, among other things, to the factors (i.e., barriers and facilitators) that influence the process from the generation of evidence, its entry into policymaking, through policy deliberation, to its use by policymakers (Innvaer et al., 2002; Liverani et al., 2013; Oliver, Innvar, et al., 2014; Orton et al., 2011). Still, the understanding of contextual influences and the relationship between these factors remains limited (Oliver, Innvar, et al., 2014).

Capacity to use evidence

The ultimate purpose of studying influences on the use of evidence is to address these factors to foster EIPM. The question is, how can this best be achieved? Several strategies have emerged trying to strengthen EIPM, amongst other increased efforts in bringing policy-relevant evidence to policymakers, e.g., through policy briefs; simplifying research access, e.g., through platforms or enhanced commissioning services; or greater collaboration and exchange between research and policy, e.g., through co-creation of evidence or aligning research agendas to policy needs (Lavis et al., 2006; Moat & Lavis, 2012). A central focus to increase the relevance of evidence in policy is addressing the abilities, resources, practices, and procedures needed to engage with and use evidence on the level of policy actors, in other

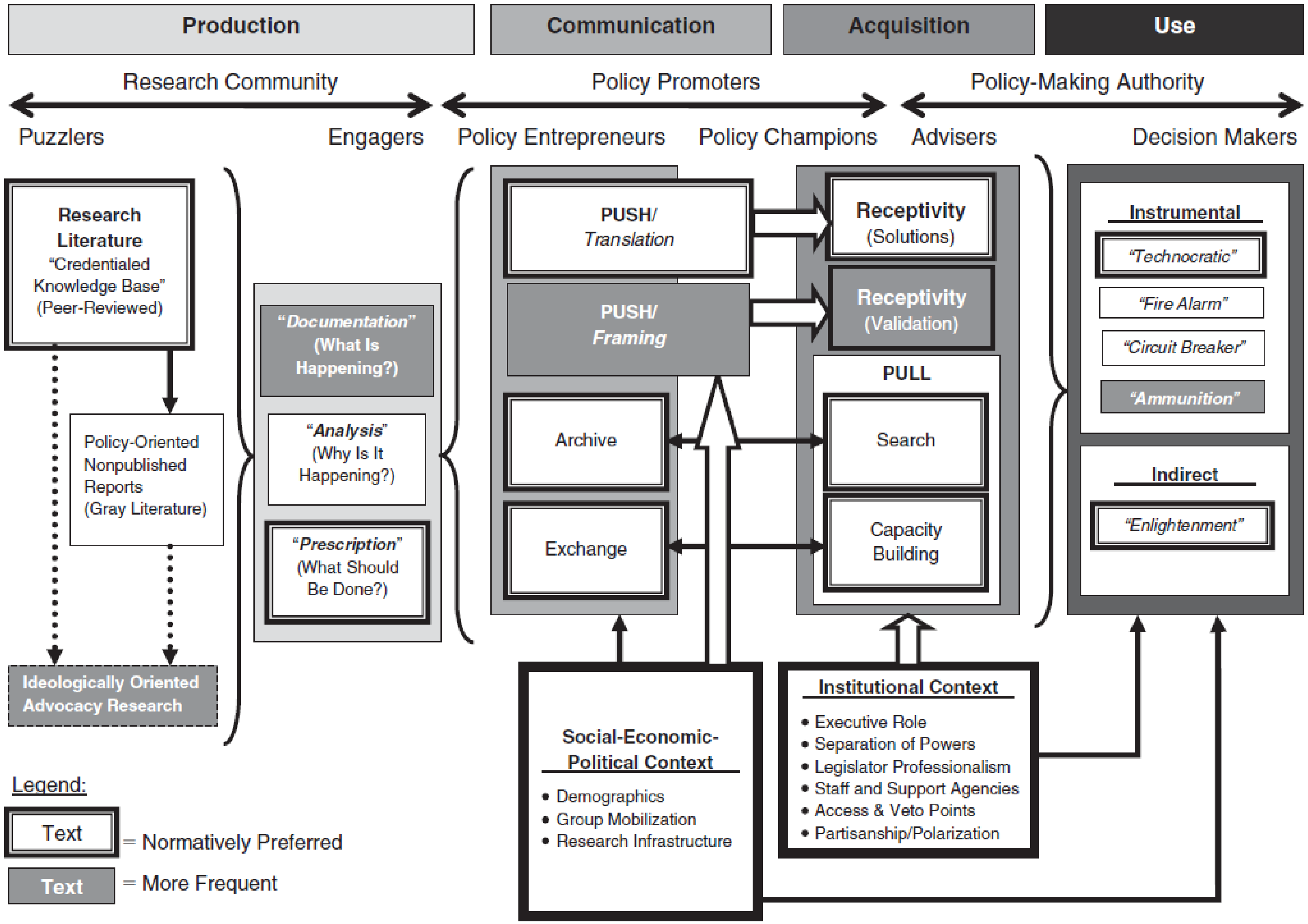

Figure 2. A process model of the role of research evidence in policymaking

Source: Peterson (2018), originally published in (Peterson, 2014). Reproduced with permission of the author.

words the capacity of policymakers and their organizations (Caplan, 1980; Howlett, 2008, 2009; Leviton & Hughes, 1981). Thus, capacity in the context of EIPM is concerned with “the government’s ability to access, process and transmit information for the purposes of making policy” (Newman et al., 2017, p. 160). Simplified, the concept of capacity encompasses capacity on the individual level (i.e., skills and experience of government personnel) and organizational level (i.e., infrastructure that supports information flow). Aspects of capacity include the availability of tools and systems to support evidence use, the prevailing culture regarding how evidence is valued, and skills to find, assess and apply evidence (Redman et al., 2015). To strengthen evidence-use capacity, tools to assess capacity have been developed (Catallo & Sidani, 2014; Gagnon et al., 2014; Makkar, Brennan, et al., 2016; Makkar, Turner, et al., 2016) and capacity-building interventions have been implemented (LaRocca et al., 2012; Murthy et al., 2012; Sarkies et al., 2017; Wallace et al., 2014). While there is valuable research that explicitly addresses ways to build and further develop capacity in organizations, the empirical basis of the effectiveness of these interventions is thin, as there are few experimental and large-scale studies (but see e.g., Dobbins et al., 2009; Williamson et al., 2019). In order to strengthen EIPM, research has to address local conditions and existing capacity for evidence use. Investing in capacity-building requires understanding prevailing culture and needs. **Figure 3** depicts an example of how a capacity-building program that is based on a theory of change targets several capacity levels to foster EIPM.

1.1.2. Health system, governance and policy context in Switzerland

The geographical focus of interest in this thesis is mainly Switzerland. Thus, this subsection describes the Swiss health and policy system to place the aspects of EIPM mentioned above in the local context and inform the later development of the empirical studies.

Health system characteristics

Switzerland has a generally well-performing health system with services supported by comparatively high numbers of physicians, nurses, and high-tech equipment (OECD/WHO, 2011). The Swiss population is covered with mandatory health insurance, and the services of

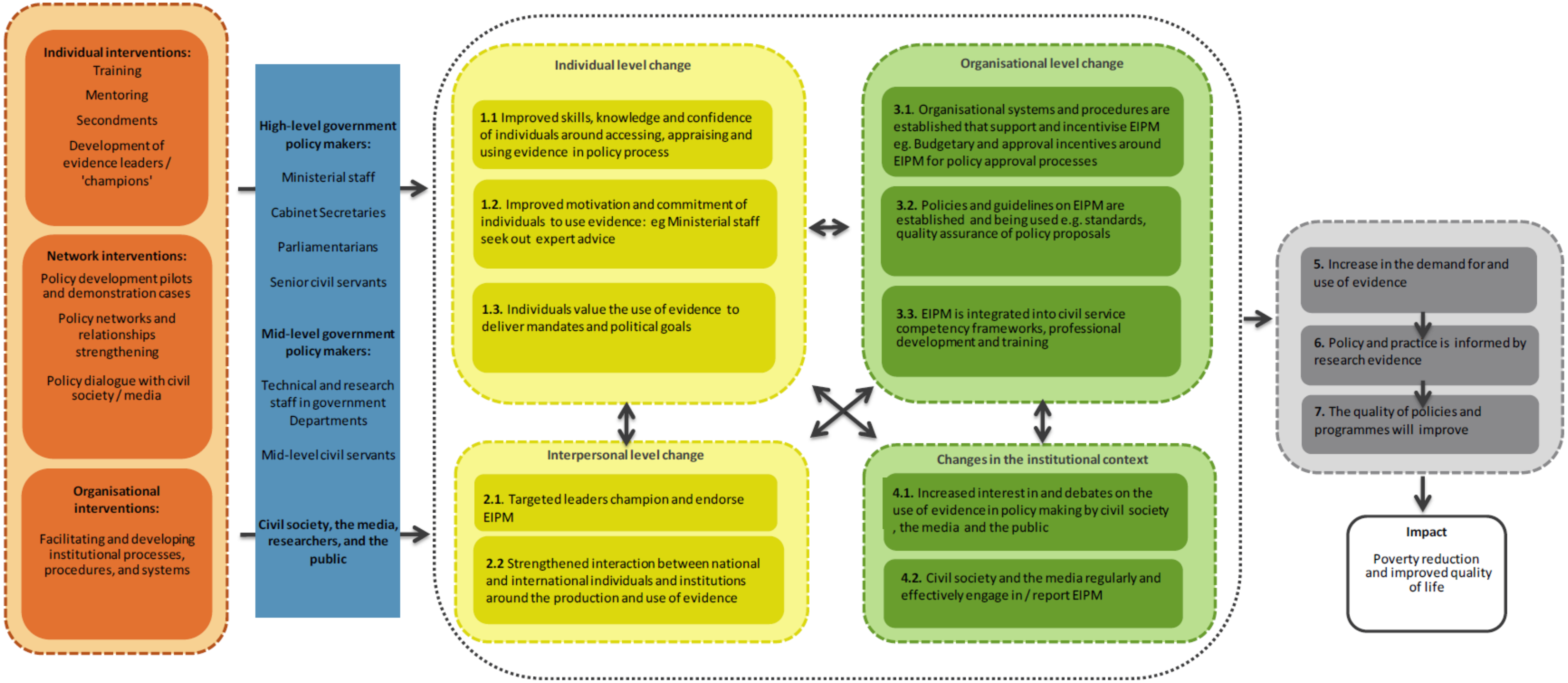

Figure 3. The "building capacity to use research evidence" program theory of change

Source: Punton (2016). Reproduced with permission of the author.

its comprehensive package can be accessed at all levels of care with almost no waiting time (De Pietro et al., 2015). The population is highly satisfied with the health services provided and has an exceptionally high life span and healthy life expectancy, as well as excellent perceived health status (Bieri et al., 2019; OECD/EU, 2018). On the downside, the Swiss health system is among the most expensive worldwide and is not very efficient (OECD/WHO, 2011; Schneider et al., 2021). With the low share of public spending on health expenditures, high health insurance premium burden on households with modest incomes, very high out-of-pocket costs, and a high rate of skipped consultations due to costs, issues of equity are rising (Ecoplan, 2018; OECD, 2017a, 2019).

Costs and financing

The cost development and financing of the health system have indeed been one of the central issues in Swiss health politics and public debate for several years (Rüefli et al., 2015; Trein, 2018). More recently, the Federal Council (2016, 2020) has set aims and measures to support the financial sustainability of the health system as a priority of its 2015–2019 and 2019–2023 legislation objectives. The issue was also addressed in the Federal Council's (2013, 2019b) first comprehensive strategic long-term health policy framework "Health2020" and its successor "Health2030", resulting in cost-containment packages that are currently under debate in the national parliament (Bundesamt für Gesundheit, 2019; The Federal Council, 2019a, 2021). The proposed measures for cost containment are based on the work of an expert group commissioned by the Federal Office of Public Health (FOPH) to identify effective ways to reduce the mandatory health insurance costs and have sparked heated debate (Expertengruppe Kostendämpfung, 2017; SAMW, 2019).

Health governance and policy characteristics

The Swiss health system is challenging to govern (OECD/WHO, 2011). Due to the system's complex organization characterized by federalism, liberalism, corporatism, and direct democracy, health reforms necessitate broad stakeholder involvement and consensus (De Pietro et al., 2015). One reason for this complexity is that policy decisions are taken at all levels of the health system (federal, cantonal, and municipal) with their respective legislative and executive branches (i.e., the government and the public administration). Additionally, due to the democratic system of Switzerland, the Sovereign can make the final decisions in factual issues and thus participate in decision-making about public policies.

The *federal level* acts on health issues assigned to its level or that need national enactment, according to the principles of federalism and subsidiarity (Linder & Mueller, 2017). The FOPH is responsible for guidelines in health protection, social insurance (health insurance), regulation on the training and development of medical professions, regulations on reproductive health, transplantation medicine, gene technologies, and research (Crivelli & De Pietro, 2020; Vatter & Rüefli, 2014). The federal council can also define national health priorities and measures (e.g., through health strategies). Together with the cantons, the federal level is involved in health promotion, prevention and information, and regulation of the professional training of health workers.

The *cantonal level* is responsible for executing health protection, securing health service provision, and sponsoring educational institutions (Vatter & Rüefli, 2014). Therefore, the cantons participate in national health policymaking and enact the federal statutory provisions in the local context. On the other hand, cantons have many and far-reaching health-governing competencies in supervisory and regulatory capacities with their political structures, health legislations, and enacting health authorities (OECD/WHO, 2011; Rüefli et al., 2015; Vatter & Rüefli, 2014). The hospital sector, for example, is mainly under cantonal authority, whereby cantons are responsible for securing the provision of health services, planning hospital capacity, building, and operating hospitals, and financing the bulk of inpatient costs (Rüefli et al., 2015).

Coordination and exchange platforms within the levels (e.g., the Conference of Cantonal Health Directorates) but also between them (e.g., the Dialogue National Health Policy platform) have been established to cope with the fragmented organization of the Swiss health system (Rüefli et al., 2015). Civil and private organizations and related stakeholders such as non-governmental organizations, associations, and foundations participate corporatistically in health policymaking and the execution of duties. These actors have high autonomy due to the market-based organization of the health system and high power due to their relevance, organization, and occupation of key positions (Crivelli & De Pietro, 2020).

Consequences of current health governance and policy

Because of the multitude of actors involved in Swiss health policy and authority segmentation between policy levels, reforms are lengthy and challenging to achieve, especially concerning significant changes at the federal level (Crivelli & De Pietro, 2020; Vatter & Rüefli, 2014). As fundamental transformations of the governance structures and mechanisms are currently not feasible due to political reasons, incremental and selective policy changes are introduced, including enhanced networking and cooperation on the federal and cantonal levels (Rüefli et al., 2015). One consequence of Switzerland's fragmented and decentralized health system is that health information is collected in non-harmonized ways and to different extents amongst policy actors and levels and thus often remains inaccessible (De Pietro & Francetic, 2018; Geneviève et al., 2019). For example, data on ambulatory, emergency, and long-term care and health workforce are still scarce, and information on quality and costs of care, especially in the ambulatory sector, is hardly available (Crivelli & De Pietro, 2020; De Pietro et al., 2015). The OECD noted that Switzerland needs a better health information system and should establish critical indicators and a minimal health data set collected across all cantons (OECD/WHO, 2011). Moreover, financed services are not well audited regarding their effectiveness and cost efficiency, and the pricing negotiation between different actors is judged to take a long time.

1.1.3. Evidence and health policymaking in Switzerland

Like developments in other countries, in Switzerland, attention to and generation of evidence in policy decision-making had been impelled through New Public Management reforms that specifically attempted to enhance the *impact* of government action (Ritz et al., 2016; Weil, 2017). These developments required public administrations to establish sound planning grounds, operationalize explicit policy objectives, define appropriate measures and processes, and, particularly relevant here, measure their performance and policy impacts (Head, 2008; Schedler, 2000). The assessment methods of choice are evaluations, i.e., “scientific and empirically based retrospective assessments […] of state activities” (Balthasar, 2007, p. 1). Evaluations use systematic analyses and assessments based on transparent criteria, grounded in scientific knowledge and methods (Balthasar, 2007). The extent to which evaluations (generally, commissioned research of a service character) themselves can be considered research is controversial (Bortz & Döring, 2006; Hornbostel, 2010; Sager & Hinterleitner, 2014). In this thesis, though, evaluations are subsumed under the broad definition of evidence as a specific form of applied research. Non-state actors and their associations (e.g., health care providers, health insurers, and the pharmaceutical industry) play a major role in shaping Swiss health policy (see 1.1.2), which is why evidence generated by them is of considerable importance. In addition, administrations often outsource technical tasks and commission analyses and studies, making research and evaluation offices and auditing firms relevant suppliers of evidence. Indeed, knowledge on the role of evidence in the Swiss health policy context is primarily informed by research on *evaluations* of policies and programs. However, there are limited empirical investigations about EIPM in Switzerland beyond this specific form of research (but see Balthasar & Müller, 2014; Blatter et al., 2015; Frey & Widmer, 2011; Ledermann, 2014; Schlaufer & Stucki, 2017; Stucki, 2016a; Stucki & Sager, 2018). Frey and Ledermann (2017) have identified around 20 empirical studies that have examined, in some way, the use of evaluations in policy formulation and implementation by government and administrations in Switzerland. These studies have (e.g., Balthasar, 2006; Balthasar, 2007, 2010; Balthasar & Müller, 2014; Frey, 2012; Ledermann, 2014; Rohrbach, 2020; Schlaufer & Stucki, 2017; Stucki, 2016a, 2016b), for example, investigated the extent of evaluation *activity* (the intensity of evaluations produced in or commissioned by administrations), the *institutionalization* of evaluations (e.g., the availability of evaluation units within the administration, the definition of processes and documents to deal with evaluations, and other aspects related to the conduct of evaluations) and evaluation *use* (how often and in what way evaluations have been used in policy documents or processes). However, most of these studies focused on the federal level of policymaking and were not specifically concerned with policies focusing on health. This is important to note, as research has highlighted differences in the role of evidence across policy sectors (Amara et al., 2004; Balthasar, 2007; Dolder et al., 2017; Frey, 2012).

Health administrations

Government administrations have always been instrumental in driving the development of EIPM and are central stakeholders in the use of evidence (Head, 2010; Sager, Widmer, et al., 2017). The FOPH, for example, exhibits constant high evaluation activity and strong institutionalization of evaluations (Balthasar & Strotz, 2017). As cantonal health administrations are central actors in Swiss health policymaking, their behavior in using evidence and their capacity to do so critically influences the outcomes of the health system. However, knowledge in this regard is limited as a) few studies investigate policymaking on the cantonal level, particularly regarding health-related policies; b) knowledge on this topic is confined mainly to evaluations, leaving out insights on the relevance of health data and health services and systems research; and c) existing studies explicitly focused on particular aspects of the relationship between evidence and policy (see above) and can therefore reflect the views of policymakers regarding the use of evidence in everyday practice only to a limited extent.

1.2. Rationale, aim, and objectives

The aim and objectives of this Ph.D. thesis are presented in the subsections below.

1.2.1. Rationale

For decades, researchers have tried to understand the relationship between evidence and policymaking, ultimately to foster EIPM. Considering current and future public health challenges, be it the increasing life expectancy, the burden of non-communicable diseases, health issues related to climate change, or others, and its social dimensions including inequalities, migration, or urbanization, health will presumably take an even more critical place on the political agenda in the future. Moreover, since health care constitutes an important economic sector with social implications, systemic issues such as increased demand and costs or workforce shortage will also affect policy sectors outside of health. Consequently, the consultation and integration of existing evidence in policies will remain crucial to strengthen health systems and enhancing population health. EIPM and its premises and conditions in the local context must be better understood for this to be achieved. The findings of this thesis should support the identification of the potential to strengthen the use of evidence in the local context of Switzerland. The research addresses fields of EIPM where little is still known, and where considerable research has already been done but an overview is needed. The following paragraphs outline the relevance of this thesis in more detail.

First, although research has illuminated many aspects of EIPM, knowledge remains highly context-specific and is subject, at least in part, to influences from our rapidly changing society. For example, technological advances offer entirely new ways of collecting, processing, and disseminating data, reflected in our ideas and desires about EIPM in real life. The continued interest in this area of research and the ever-growing number of publications on the subject thus call for undertakings to compile and describe existing knowledge. A systematic approach to reviewing this body of knowledge allows for the generation of sound evidence—a desire of the EIPM movement itself—and enables critical discussion of current research foci and applied designs and methods, identifying gaps in the literature, framing new findings, and guiding future research.

Second, existing knowledge on EIPM comes mainly from a few countries in the Anglosphere (particularly from the UK, the United States, Canada, and Australia) and is shaped by their prevailing political systems and culture. On the one hand, it is vital to take advantage of the global literature to analyze and interpret local conditions and processes, as research on EIPM also produces meaningful findings across domains and countries. However, it can be challenging to transfer findings to specific contexts and populations. The characteristics of the Swiss political system, for example, define the attributes and possibilities of EIPM in the local context. Although there is a body of research on EIPM in Switzerland, existing studies concerned with health-related policies are mainly limited to a specific form of evidence, primarily evaluations of policy measures. They also tend to focus on the federal level of policymaking. Because cantonal health administrations play a vital role in shaping health policy, and since they serve as a central interface between science and policy, illuminating evidence at the cantonal level of health administrations is essential. Making sense of administrations' behavior regarding evidence presupposes an in-depth understanding of both health administrations' resources to deal with evidence and the prevailing perspectives of civil servants in this regard. If EIPM is to be strengthened in Switzerland, health administration perspectives and needs must be identified and capacity assessed to establish potential starting points for respective enhancement measures.

Third, the inertia of health reforms highlights that policy decisions on health services can have far-reaching and long-term implications for the health care landscape, and thus for the quality, cost, and access to services. Ongoing and emerging reforms at the outpatient and inpatient care interface in Switzerland would thus benefit from drawing on the best available evidence to set the right course for the future health system. The review and analysis of policymaking processes in this area can illustrate the role and relevance of evidence in Swiss policymaking and stimulate reflection on conditions in favor of EIPM, areas to be improved, and potential solutions. This is all the more important because of the continuing discussions of increasing health costs and consequently the call to economize in Switzerland that bears the risk of saving money by reducing necessary or beneficial health services. Research caught between austerity measures and improvements in the health care system can serve to challenge the intentions of political measures taken in this area.

Fourth and finally, understanding the complexity of EIPM within specific contexts "requires a strong emphasis on the social relations and stakeholder perceptions inherent in policy direction and program systems" (Head, 2008, p. 4). For this reason, qualitative research is critical when uncovering aspects of EIPM such as the social reality, values, and practices of policymakers

(Davies, 2000). Therefore, this paper is mainly devoted to findings from the EIPM field that deal with qualitative questions and applies qualitative methods to answer such questions.

1.2.2. Aim

This dissertation aims to contribute to a better understanding of the role and relevance of evidence in health policymaking. Specifically, the thesis intends to investigate the use, capacity, and perspectives regarding evidence with a particular topical focus on the Swiss policymaking context and cantonal health administrations.

1.2.3. Objectives

The aim is operationalized with four primary and one secondary objective that are intended to illuminate different facets of the overall aim:

1. To identify, map, and describe existing global qualitative research on evidence use in health policymaking
2. To analyze and describe the role of evidence in the shift from hospital inpatient to outpatient care in Switzerland since 2017
3. To assess the capacity and to understand the perspectives and needs of Swiss cantonal health administrations regarding evidence
4. To highlight the relevance of evidence for addressing health services and system inefficiencies in the backdrop of cost containment reforms to the research community

*5. To provide recommendations on effective interventions to build capacity for evidence use by Swiss health authorities in the form of a policy brief

**Objective five is a secondary objective formulated in the context of the SLHS initiative and serves knowledge translation purposes, in contrast to the other objectives.*

1.3. Methodology

Appropriate research methodology, designs, and methods were selected to address the overall and specific objectives of this Ph.D. project. **Figure 4** summarizes the thesis's main thematic focus and chosen research designs for thesis outputs resulting in scientific journal publications

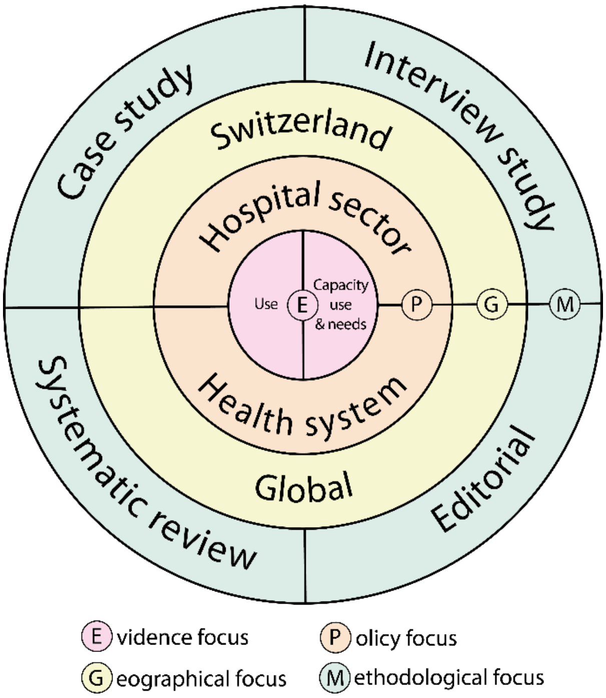

Figure 4. Main study designs and thematic focus of this Ph.D. thesis

(main objectives 1−4). Each of the six specific objectives is addressed in a separate study (or document) addressing one particular aspect of the overall research aim. An outline of the specific purpose, method, and output for each objective is displayed in **Table 1**.

Objectives one to three were addressed using empirical inquiries, in particular, primary and secondary research. Objective four drew on a publication format intended for communication within the scientific community. Finally, for objective five, a technique of knowledge translation (policy brief) was applied to make academic knowledge on the topic available for policy and practice.

1.3.1. Specific methodology

The following subsections overview the methodology, research designs, and methods used in this Ph.D. project. Details regarding the individual study setting, design, and method are described within the individual thesis chapters. For this reason, the present explanations are limited to the justification of the chosen methodology or method and additional relevant considerations to understand and contextualize the procedures and approach of the respective chapters. In addition, a summary of the methods is provided for each study.

Table 1. Objectives, methods, methodological approaches, and outputs of this Ph.D. thesis

Objective	Purpose	Methodology/Methods	Output
1. To identify, map, and describe existing qualitative research on evidence use in health policymaking	Consulting existing literature and building a set of studies to draw upon for planning, conducting, and evaluating further research	*Systematic review:* Systematic search and descriptive analysis of published qualitative academic literature	Peer-reviewed article, published (Chapter 2)
2. To analyze and describe the role of evidence in the shift from hospital inpatient to outpatient care in Switzerland since 2017	Illustrating and exploring the use of evidence in a policymaking process in the Swiss context	*Case study:* Qualitative investigation based on document analysis and semi-structured interviews with key informants	Peer-reviewed article, published (Chapter 3)
3. To explore capacity and understand the perspectives and needs regarding evidence in Swiss cantonal health administrations	Deepening the understanding of the role evidence plays in administrations and identifying the potential for capacity-building interventions	*Mixed-method interview study:* Exploratory design with quantitative capacity assessment and semi-structured, qualitative, in-depth interviews	Peer-reviewed article, draft (Chapter 4)
4. To highlight the relevance of evidence for addressing health-service and -system inefficiencies in light of cost-containment reforms to the research community	Drawing attention to the relevance of strengthening health services and systems by building policy actors' capacity to use evidence	*Editorial*: Expression of researchers' opinion to the scientific community	Editorial, published (Chapter 5)
5. To provide recommendations on effective interventions to build capacity for evidence use in the form of a policy brief	Preparing a document that summarizes available evidence on capacity-building strategies	*Policy brief:* Narrative review with recommendations based on international literature, primarily from systematic and scoping reviews	Finalized SLHS document (Chapter 6)

SLHS: Swiss Learning Health System

Systematic review

The starting point of this Ph.D. project was a systematic literature review that aimed to identify, map, and describe published and peer-reviewed qualitative literature on the use of research evidence in health policymaking. A systematic review is a method to explicitly and systematically search and analyze available research (Higgins et al., 2019). This method is appropriate to summarize the state of knowledge on a particular research question, determine whether new research is needed, and ensure that current research is based on previous findings (Gough et al., 2013). A systematic review was judged to be the most suitable method to provide an overview of existing qualitative research investigating that topic (see **Box 1**).

Although potentially time-consuming to conduct (Petticrew & Roberts, 2008), a systematic approach to this secondary analysis was considered superior to other synthesizing techniques (e.g., narrative review) because it allows for the thorough compilation of the existing literature with little bias. Systematic reviews belong to the standard methodology in the discipline of social sciences (Hansen & Rieper, 2009) and have been used in political sciences and the field of EIPM before (Dacombe, 2018; Liverani et al., 2013; Oliver, Innvar, et al., 2014; Orton et al., 2011).

Box 1. Summary of *Systematic Review* methodology

Inclusion criteria

- Qualitative studies (including mixed-method studies with qualitative parts) published in peer-reviewed journals
- Examining public health and health system policymaking (i.e., health policy)
- Elected and unelected policymakers
- Investigating the use of research evidence

Data collection

- Highly sensitive electronic search strategy run on nine bibliographic databases (January 20, 2019)
- Hand-searching of 11 journals (last ten years), reference scanning, and consultation with experts

Data processing

- Screening of 13,846 studies in duplicate
- Full-text assessment of 1,070 studies in duplicate
- Data extraction from 319 studies in duplicate, based on pre-defined items, primarily related to the temporal and geographic distribution, methodological features, and subject matter

Data analysis

- Descriptive analysis (narrative description, calculation of descriptive values, and tabulation of data)

This study applies the policy cycle model to allocate studies according to the “policy phase” they investigate primarily. As outlined in Subsection 1.1.1, this model has been criticized for its unrealistic assumptions of a rational and linear policy process. But beyond its theoretical shortcomings, the model has a heuristic utility that depends upon the purpose of its use (Bridgman & Davis, 2003; Sager, Ingold, et al., 2017). In the present case, the policy cycle is judged useful for describing one aspect of the process without comprehensively assessing it.

To allow performing the individual stages of the systematic review in duplicate as suggested (Higgins et al., 2019) and thus increase the consistency and rigor of the work, the review was carried out in a team of two researchers (see 2.1). In particular, it should be noted that no quality assessment was performed in this study. Such tools are controversial in qualitative research in general and for evidence syntheses in particular (Brookfield et al., 2019; Dixon-Woods et al., 2007). This decision was made since the data analysis was descriptive and aimed to reflect the landscape of the existing literature, regardless of its methodological quality.

Case study

A case study design was selected to analyze and describe the role of evidence in the shift from hospital inpatient to outpatient care in the Swiss context. Case studies can be used to investigate qualitative research questions, in particular, “how” and “why” questions (Yin, 2009, p. 9). They are valuable for studying context-dependent, complex phenomena and are thus suitable to address the complexity of policy processes (Baxter & Jack, 2008). Since case studies allow integrating large amounts of various kinds of data sources to *describe* and *explore* a policymaking process, its actors, and context, a case study approach was considered the appropriate methodology. Moreover, case studies are commonly used in the field of EIPM, including the Swiss context (e.g., Frey & Ledermann, 2017; Lorenc et al., 2014; Oliver, Innvar, et al., 2014). A single-case study design applying a “backward tracing” approach to study the role of evidence was chosen (Davies et al., 2005; Yin, 2009).

In line with case study recommendations, data sources were triangulated to strengthen the credibility of the findings (see **Box 2**). Most of the work consisted of desk research, searching and reviewing scientific and grey literature, and other documents and data. In addition, two expert interviews with policymakers from different cantonal health administrations—that were strongly involved in the case—were conducted to validate the findings.

Part of the tradition of (empirical) case studies in the social sciences is that often, no detailed information about the sources and the methodological approach is reported in journals. For this reason, no further information on the methods is provided in Chapter 3. Following the publication format in the corresponding journal, the chapter includes a short narrative review of past health reforms in Switzerland in addition to the case study.

Box 2. Summary of *Case Study* methodology

The case

- Recently, Swiss cantonal health administrations introduced policies to shift from inpatient to outpatient care

Data collection

- An extensive review of publicly available documents (e.g., websites, reports, laws, newspaper articles, presentations, data), audio and video material (e.g., interviews, press conferences), and studies (e.g., from scientific journals, research organizations)
- Two expert interviews based on semi-structured interview guides and subsequent transcription

Data analysis

- Review of recent health reforms
- Description of the policy process
- Analysis of the role of evidence

Mixed-method interview study

The original plan was to assess health administration resources and processes regarding evidence through a quantitative online survey. The survey was to be launched in the spring of 2020 but was postponed due to the COVID-19 situation. When the second attempt to start the study was made in August 2020, the second COVID-19 wave began to develop in Switzerland. Based on the feedback from health administrations, we decided not to conduct the survey. The data collection was considered unfeasible according to the expected low response rate. Furthermore, the burden placed on health administration staff regarding their involvement in the organization of the study and repeated requests to answer the survey were judged to be unethical in this situation. Instead, we chose a mixed-method design (see **Box 3**) that allowed for the data collection on health administration capacity (i.e., tools and systems) and policymaker perspectives and needs regarding the role of evidence through interviews. This procedure was helpful for two reasons. A) It provided flexibility regarding the data collection modality under the needed protective measures depending on the development of the COVID-19 situation, i.e., face-to-face interviews where space permitted and electronic interviews or telephone calls where protection measures demanded it. B) The selected capacity assessment tool (Makkar, Turner, et al., 2016) is intended to be applied to a single representative per organization, and the qualitative research approach allows for working with a smaller sample of policymakers. Thus, less burden on the administrations was expected with fewer persons involved. Consequentially, this enabled a more targeted participant recruitment process that directly approached potential interview candidates, e.g., via phone.

Box 3. Summary of *Interview Study* methodology

Study population

- Policymakers (civil servants) from Swiss cantonal health administrations (Secretaries-General and civil servants concerned with health services planning in leadership positions
- Including small and large, rural and urban cantons

Data collection

- Structured interviews (N = 6) using an existing capacity assessment tool (quantitative data)
- Semi-structured, in-depth interviews (N = 12) using an interview guide (qualitative data)

Data processing

- Transcription of all interviews
- Scoring of capacity interviews (in duplicate)

Data analysis

- Descriptive quantitative analysis of capacity assessment scores
- Qualitative thematic analysis (framework method) of in-depth interview data
- Triangulation of qualitative data with quantitative data

Mixed-method research designs “combine the strengths of, and compensate for, the limitations of quantitative and qualitative methods” and can be used “concomitantly […] to better understand a new phenomenon (qualitative methods) and to measure its magnitude, trends, causes, and effects (quantitative methods)” (Pluye & Hong, 2014, p. 30). Thus, a mixed-method design was considered suitable to address the research objectives. The specific design is best described as “convergent” (see Pluye & Hong, 2014) as both methods were used in a complementary manner in parallel during data collection and analysis, with neither results/findings directly (i.e., sequentially) informing the other method and data integration happening during the analysis phase. Quantitative data (transformed from structured interview data to capacity assessment scores) were used to inform the qualitative analysis of the in-depth interviews, which helped interpret and explain the quantitative results.

1.3.2. Swiss Learning Health System

The Ph.D. project was embedded in the SLHS, a national initiative that strives to foster dialogue and knowledge exchange between health systems and services research, policy, and practice by developing and implementing a collaborative platform (Boes et al., 2018). The project was initiated by ten higher education institutions at seven applied sciences universities across Switzerland (Mantwill et al., 2020). The SLHS and its partner organizations—in this case, the Swiss Tropical and Public Health institute—provided matched funding for 20 doctoral students in the first funding phase (2017−2020) and, jointly with the SSPH+, offered a structured training program for Ph.D. student skill-building in that area. To foster the continuous integration of evidence into policy and practice, Ph.D. scholars of the SLHS initiative prepared policy briefs and implemented stakeholder dialogues (see Chapter 6). The SLHS initiative is financially supported by the State Secretariat for Education, Research, and Innovation (SERI).

1.3.3. Ethical considerations

Ethics approval for the studies was sought with the ethics committee of northwestern and central Switzerland (EKNZ). As determined by the EKNZ, this study is not subject to the permit of ethics clearance. The study, however, complies with the general ethical principles for research on humans, as stated by the Swiss Human Research Act. Updates to the research design, specific methods, and documents were filed with the EKNZ and were approved before execution.

1.3.4. Thesis content and structure

The thesis consists of seven chapters. Chapters 2 to 4 present research manuscripts, while Chapter 5 constitutes an editorial and Chapter 6 a policy brief produced within the context of the umbrella project under which this dissertation was carried out (see 1.3.2). Chapter 8 serves as a general closing discussion. References cited within the chapters are listed at the end of the thesis.

Part of the research presented in the subsequent chapters (Chapters 2, 5, and 6) takes a global perspective on the research topic, drawing on existing primary literature on questions related to evidence use in policymaking for review purposes. Other research reported in this thesis (Chapters 3 and 4) focuses on the context of Swiss policy, cantonal health administrations, and the hospital sector. These chapters are based on original data collected as part of the doctoral research process.

Chapter 2 marks the starting point of this Ph.D. project and describes the systematic search, selection, and descriptive analysis of global academic literature on qualitative inquiries on evidence use in policymaking. The chapter provides an overview of the research landscape and highlights the central characteristics of approaches to study in this field of research. Chapter 3 then changes the geographical focus to Switzerland, looking at recent policymaking processes. It analyzes and describes the role of evidence in newly introduced hospital sector policies with an emphasis on cantonal health administrations. Chapter 4 further investigates Swiss health administrations and focuses on their capacity, needs, and perspectives regarding evidence use. The thematic focus is in the area of health services and hospital planning in particular. Chapter 5 touches on issues relevant to the entire thesis and argues for the relevance of evidence-informed reforms targeting health services and system inefficiencies rather than cost containment measures for the scientific community's attention. Chapter 6 provides recommendations to strengthen evidence-use capacity in health authorities in a policy brief developed for the SLHS initiative. The final Chapter 7 discusses the thesis as a whole. It reflects on methodological issues, places the findings in light of existing research, and outlines implications for policy, practice, and future study.

2. Mapping the Qualitative Evidence Base on the Use of Research Evidence in Health Policymaking: A Systematic Review

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2.1. Clarifications on authorship contribution to this “equal first” manuscript

In systematic reviewing, it is considered best practice to perform most procedures independently by at least two researchers (Gough et al., 2017; Petticrew & Roberts, 2008). Thus, the presented study was conducted in collaboration with the Ph.D. student Ben Verboom from the University of Oxford, who is the first author of the protocol that served as the basis of this systematic review (Verboom et al., 2016). While the author of the present thesis was not involved in the conception of the protocol and the design of the original electronic search strategies, he contributed to all other parts of the systematic review to at least the same level as his collaboration partner. In particular, the author of this thesis tested and refined the search strategies, co-developed the tools and procedures needed for the conduct of this review, screened and selected half of all studies for inclusion, assessed non-English studies with native researchers, extracted and managed half of all data and double-checked a certain amount of the collaborators' data extractions, performed data analyses and tabulated results, co-drafted the manuscript, read and approved its final version. Similarly, the author was equally involved in the revisions of the manuscript, in particular, adapting the manuscript to the reviewers' comments and providing respective responses to the reviewers, and proofreading the manuscript. To acknowledge the equal involvement of both researchers in this study, authorship for this manuscript was defined as “equal first”. This manuscript is not a core part of Ben Verboom’s Ph.D. thesis.

2.2. Abstract

Background: The use of research evidence in health policymaking is a popular line of inquiry for scholars of public health and policy studies, with qualitative methods constituting the dominant strategy in this area. Research on this subject has been criticized for, among other things, disproportionately focusing on high-income countries; overemphasizing ‘barriers and facilitators’ related to evidence use to the neglect of other, less descriptive concerns; relying on descriptive, rather than in-depth explanatory designs; and failing to draw on insights from political/policy studies theories and concepts. We aimed to comprehensively map the global, peer-reviewed qualitative literature on the use of research evidence in health policymaking and to provide a descriptive overview of the geographic, temporal, methodological, and theoretical characteristics of this body of literature.

Methods: We conducted a systematic review following PRISMA guidelines. We searched nine electronic databases, hand-searched 11 health- and policy-related journals, and systematically scanned the reference lists of included studies and previous reviews. No language, date or geographic limitations were imposed.

Results: The review identified 319 qualitative studies on a diverse array of topics related to the use of evidence in health policymaking, spanning 72 countries and published over a nearly 40 year period. A majority of these studies were conducted in high-income countries, but a growing proportion of the research output in this area is now coming from low- and middle-income countries, especially from sub-Saharan Africa. While over half of all studies did not use an identifiable theory or framework, and only one fifth of studies used a theory or conceptual framework drawn from policy studies or political science, we found some evidence that theory-driven and explanatory (e.g. comparative case study) designs are becoming more common in this literature. Investigations of the barriers and facilitators related to evidence use constitute a large proportion but by no means a majority of the work in this area.

Conclusion: This review provides a bird’s eye mapping of the peer reviewed qualitative research on evidence-to-policy processes, and has identified key features of – and gaps within – this body of literature that will hopefully inform, and improve, research in this area moving forward.

2.3. Background

The relationship between the worlds of scientific research and public policy has long been a preoccupation of social scientists (Lindblom & Cohen, 1979; Merton, 1949; Weiss, 1977b). During the past few decades the widespread popularity of evidence-based medicine, which calls for the explicit, judicious and conscientious use of up-to-date research evidence in clinical decision-making (Sackett et al., 1996), has accelerated discussion, debate and research on the role of research evidence in informing health policy decision-making.

Proponents of EIPM in health assert that studies of various kinds can be used to address a range of questions of relevance to health policymaking (Lavis, 2009; Lavis et al., 2004). Perhaps most obviously, impact evaluations – including randomized controlled trials, quasi-experiments and other evaluation designs – can provide information on whether and to what extent a given policy or program is likely to be effective, and can therefore aid in the identification of, and adjudication between, competing policy alternatives. Moreover, evidence from both qualitative and quantitative research can help policymakers to set policy agendas, by identifying, defining and prioritizing policy problems, and understanding and taking into consideration the perceptions of citizens, patients and other stakeholders. Finally, evidence can be drawn upon to identify and systematically account for potential factors affecting the implementation and scaling of policy interventions. Therefore, so it is often argued, research evidence can serve useful functions in various decision-making “stages” within policy processes – most commonly summarized as agenda setting, policy formulation, policy implementation, and policy evaluation (Lavis et al., 2002; Sutcliffe & Court, 2005) – the key assumption being that health policy decisions which are informed by evidence are better than they otherwise would be in the absence of evidence (Hanney et al., 2003).

However, as was argued in Carol Weiss’s pioneering work four decades ago (Weiss et al., 1980), many – if not most – actual instances of “research utilization” in public sector bodies do not take the form of the direct, *instrumental* translation of research findings into discrete policy decisions, as models of evidence-based decision-making prescribe. Rather, the influence of research on policy is more often *conceptual*, following a gradual process through which the ideas that emerge from (social) science indirectly shape ways of thinking in policy circles, a process that Weiss termed enlightenment (Weiss, 1977a). Nor is research use necessarily a positive or desirable outcome: evidence can be drawn upon selectively to serve *symbolic* functions, for instance the legitimation of pre-existing political agendas (Boswell, 2008) or the justification of political inaction on the grounds that the existing evidence is insufficient (Weiss, 1979). In such cases the "consideration" of the evidence by decision-makers might well follow the decision in question, not the other way around. Uses of research evidence can therefore be understood to serve not just instrumental (e.g. problem-solving) functions, but also conceptual (e.g. enlightenment) and symbolic (e.g. political) functions in policymaking processes (Pelz, 1978).

The point here is that the relationship between research evidence and public policymaking – far from the idealized straightforward, linear connection implied in some models – is highly contingent and complex, and can take various forms. It is perhaps no surprise, then, that interpretive qualitative methods are commonly suggested as particularly important to building our understanding of evidence-to-policy processes. Indeed, as argued by Contandriopoulos et al., the phenomenon of knowledge exchange is "ontologically more suited to case studies than to any other method" (p. 453), owing to the complexity of knowledge exchange interventions and to what they call the 'systemic' nature of the relevant outcomes, which frustrate attempts at valid quantitative measurement in this field (Contandriopoulos et al., 2010).

Several systematic reviews focusing on various questions related to the use of research evidence by health policymakers were published prior to the conduct of the present review (Innvaer et al., 2002; Lavis et al., 2005; Liverani et al., 2013; Masood et al., 2018; Oliver, Innvar, et al., 2014; Orton et al., 2011). Three of these reviews summarized the literature on the barriers to and facilitators of evidence use, two in health policy specifically (Innvaer et al., 2002; Lavis et al., 2005) and one, most recently, in public policy more generally (Oliver, Innvar, et al., 2014). A fourth review, originally published in 2011 (Orton et al., 2011) and subsequently updated in 2018 (Masood et al., 2018) extended beyond barriers and facilitators to examine a range of facets of decision-making in public health, but limited their included studies to those conducted in countries with universal healthcare systems (effectively excluding studies conducted in low-income countries, intergovernmental policy bodies, and the United States).

Finally, Liverani et al.'s systematic review examined political and institutional influences on evidence use in public health policy (Liverani et al., 2013). However, we know of no existing reviews that set out to provide a detailed mapping of these studies in order to paint a broad picture of their characteristics, nor any that were conducted with a specific focus on understanding the qualitative evidence base on the subject of evidence use by health policymakers.

The findings from these reviews suggest persistent academic interest in the subject of policymaker evidence use, and indicate that the speed with which new primary studies on this topic are generated is rapidly growing. For example, roughly half of the 145 studies included in Oliver et al.'s review (spanning 2000-2012) were published in 2011 and 2012 alone (Oliver, Innvar, et al., 2014).

While large and growing, the collection of research on the use of evidence by policymakers – including the subset of this work that uses qualitative approaches – has long been subject to some common concerns and criticisms. From a methodological standpoint, it has been observed that this literature is dominated by the use of interviews and surveys to understand policymaker perceptions about their use of evidence, with more direct methods of analyzing policy decisions, such as participant observation, sparsely deployed (Oliver, Innvar, et al., 2014). Researchers have called for more in-depth, qualitative case studies of evidence use processes with attention to the important features of particular policy contexts, and for investigators to make greater use of more direct methods of observing policymaking activities using, for example, techniques commonly associated with ethnography (Nutley et al., 2007; Oliver, Lorenc, et al., 2014). Another common refrain is that this literature is overwhelmingly preoccupied with addressing descriptive questions related to evidence uptake, most notably a disproportionate interest in the identification of barriers to and facilitators of the (instrumental) use of evidence, to the exclusion of more critical and explanatory concerns (Nutley et al., 2007; Oliver, Lorenc, et al., 2014). Both within and beyond health-related research domains, barriers and facilitators conceptualizations have been criticized for oversimplifying complex social problems and for generating potentially misleading findings about how they might be overcome (Bach-Mortensen & Verboom, 2020; Biesbroek et al., 2015; Checkland et al., 2007). Furthermore, the evidence-to-policy literature has been criticized for its theoretical naïveté (Cairney, 2016), and in particular for its failure to harness theoretical and conceptual insights from political science and policy studies (Cairney, 2016; Liverani et al., 2013; Parkhurst, 2017). In their 2013 review, Liverani and colleagues determined that only six of their 56 included studies “explicitly engaged with political theories or concepts” (Liverani et al., 2013). Such neglect of political science has been identified as a weakness of academic public health more generally (Fafard & Cassola, 2020; Greer et al., 2017). In addition to these methodological and conceptual observations, concern has been raised that the research on evidence use is dominated by investigations from industrialized Western countries, and that as a consequence processes of evidence use in Global South are comparatively poorly understood (Hawkes et al., 2016; Hyder et al., 2011; Mirzoev et al., 2017; Nabyonga-Orem et al., 2012; Young, 2005). This paper, which reports the findings of an up-to-date systematic review of the qualitative academic literature on the use of research evidence in health policymaking, provides an empirical basis for some of these claims and concerns.

2.4. Review objectives

The objectives of this review were: 1) to systematically map the global, peer-reviewed qualitative literature on the use of research evidence in health policymaking; and 2) to provide a descriptive overview of the studies that make up this literature, with an emphasis on their temporal and geographic distribution, methodological features, and subject matter focus.

2.5. Methods

We conducted a systematic review of published qualitative research on the role of evidence in health policymaking. In this paper, we provide a descriptive overview of this body of literature. The original protocol for the broader project of which this review is a part was registered with the International Prospective Register of Systematic Reviews (PROSPERO; Record

CRD42018087940) and published elsewhere (Verboom et al., 2016). The present review has been reported according to the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines (Moher et al., 2009).

2.5.1. Criteria for considering studies for this review

In this section we outline the criteria against which studies were assessed for inclusion in the review. Briefly, to be included a study had to:

- be a qualitative study published in a peer-reviewed journal;
- examine the work of *policymakers* in *policymaking* settings; and
- report data concerning the use of *research evidence* to inform *health policymaking*

In the sub-sections that follow, we provide a more detailed explanation of and rationale for these inclusion criteria.

Types of studies

This review includes primary qualitative studies published in peer-reviewed academic journals. We used the following definition of 'qualitative study': a study that uses qualitative methods both for data collection and data analysis. This definition is consistent with that used in several recent qualitative syntheses (Glenton et al., 2013; Munro et al., 2007; Noyes & Popay, 2007) and was cited as one useful definition in the Cochrane Qualitative and Implementation Methods Group supplementary guidance on qualitative evidence synthesis (Noyes, Booth, Flemming, et al., 2018). Methods of qualitative data collection include (but are not limited to) interviews, focus groups, and (participant) observation methods. Methods of qualitative data analysis include, for example, thematic analysis, phenomenological approaches, and grounded theory. This definition excludes studies in which data are collected through interviews or focus groups, but are analyzed exclusively through quantitative methods. To meet these methodological criteria, study authors had to explicitly describe the sources of data on which they drew. We considered studies to have used a qualitative method of data analysis if they used an identifiable term (e.g. framework analysis) or citation to refer to the approach, or if it was clear that their procedures corresponded to a recognized method of qualitative analysis.

We included mixed methods studies, that is, studies using both qualitative and quantitative methods, provided it was possible to examine the data derived only from the qualitative methods separately from the quantitative data, and where the qualitative component of the study corresponded to our subject matter inclusion criteria. We did not exclude studies according to the epistemological assumptions and/or theoretical traditions on which they were based. That is, we included all work within the broad qualitative paradigm.

We did not exclude studies on the basis of a hierarchy of qualitative evidence or any other criteria related to study quality. It is not uncommon in reviews of quantitative research to impose a methodological quality “cut-off” based on features related to internal validity. However, the place of quality appraisal in qualitative reviews remains contentious (Noyes, Booth, Flemming, et al., 2018), and no such cut-off criteria have found consensus among qualitative reviewers (Carroll & Booth, 2015; Garside, 2014). Moreover, since the intention of the present review was to *exhaustively* catalogue and describe the published qualitative literature in this area (irrespective of any notion of quality), excluding relevant papers on the basis of quality would have been counter to our review objectives.

Types of participants and settings

This review includes studies involving policymakers engaged in policymaking activities with an explicit (though not necessarily exclusive) focus on health issues. For the purposes of this review, the population ‘policymakers’ includes elected officials, appointed civil servants, policy advisors and/or bureaucrats of any rank, working at the local, provincial/state, national, or supranational (i.e. global/international) levels. Like other researchers in this topic area (Stewart & Smith, 2015) we found that reporting limitations in many interview studies on evidence use often made it difficult to identify the specific professional roles and activities of informants. We therefore excluded studies where it was impossible to determine with confidence that the actors or activities under study were policy-related.

Subject matter of studies

In order to be eligible for inclusion, studies had to explore the use of *research evidence* by policymakers working at least in part on *health policy*.

For the purposes of this review, health policy decisions are those taken with the explicit goal of promoting population health and/or having to do with the financing and organization of health systems. We took policymaking to refer mainly to governmental planning and strategic decision-making about the organization of health services and public/population health, in contrast to public health management and practice. This excludes decisions related to patient-level, clinical healthcare or clinical governance. This implied distinction between policy actors, on the one hand, and those involved in management (e.g. program managers, healthcare executives and management consultants, with supervisory and management responsibilities in healthcare and public health organizations) and service delivery (e.g. front-line practitioners, including nurses and physicians), on the other, is in line with previous reviews (Humphries et al., 2014). Recognizing that policy decisions made outside of governmental health authorities, across a variety of policy sectors, can have meaningful impacts on health (Marmot et al., 2008), we included studies in non-health sectors, as long as population health – or the relationship between policy decisions and health outcomes – was a major and explicit focus of the research or of the policy(ies) it examined.

We defined *research evidence* as research produced by academic researchers and/or published in academic journals. This definition is similar to that used in a previous systematic review (Lorenc et al., 2014), whose authors found that their original attempt to use a broader definition of research evidence produced results so conceptually heterogeneous that a meaningful synthesis was unfeasible. This definition excludes studies that look exclusively at the use of raw data (e.g. routine monitoring and surveillance data) by decision-makers. Eligible studies could have examined the use of research evidence in general, a specific methodological category of research (e.g. randomized controlled trials, systematic reviews or other study types) or a particular form of research evidence (e.g. evidence ‘embedded’ within written or verbal policy advice, including briefs, advisory reports, presentations and guidelines). The focus on evidence use had to be significant (i.e. a core focus of the study) and explicit (e.g. stated in the study's research questions or objectives).

2.5.2. Search methods for identification of studies

We electronically searched a broad array of bibliographic databases (listed in **Box 4**) on January 20th, 2019 using search strategies that were developed in consultation with information retrieval specialists and were subjected to multiple stages of piloting. We improved the sensitivity of each subsequent iteration of our search strategies by assessing detection of a list of key papers that were included in previous reviews on evidence use in policymaking. Strategies were iteratively amended (mainly through the addition of search terms and novel combinations of search terms) until all of these key papers were captured. Where appropriate, we adapted and applied methodological search filters to aid in the identification of qualitative studies (DeJean et al., 2016). Our Medline search strategy is provided in **Supplementary File 1**.

Box 4. Study sources for systematic review

Bibliographic databases
(no date/language limitation):

- Applied Social Sciences Index and Abstracts (ASSIA)
- Conference Proceedings Citation Index – Social Science and Humanities
- Global Health
- International Bibliography of the Social Sciences (IBSS)
- International Political Science Abstracts (IPSA)
- MEDLINE
- SCOPUS
- Social Sciences Citation Index (SSCI)
- Worldwide Political Science Abstracts (WPSA)

Journals
(January 2010 to January 2019):

- BMC Health Services Research
- BMC Public Health
- Evidence & Policy
- Health Policy
- Health Policy & Planning
- Health Research Policy and Systems
- Implementation Science
- International Journal of Health Policy & Management
- Journal of Health Politics, Policy & Law
- Milbank Quarterly
- Social Science and Medicine

To offset the inevitable imperfections of electronic database searches, we also sought published studies through other search methods, including journal hand-searching, scanning reference lists, and speaking to experts. We hand-searched all issues of 11 relevant academic journals published from January 2010 to January 2019 (inclusive). Journals were selected for hand-searching on the basis of (1) their central relevance to the topic of the review (e.g. *Evidence and Policy*), (2) our knowledge of their record of having previously published several relevant studies in this topic area (e.g. *BMC Public Health*), and (3) advice from expert reviewers of early versions of this review's protocol (e.g. *Social Science and Medicine*). We also searched the reference lists of all included studies and of previous reviews whose subject matter focus had similarities with the present review (Innvaer et al., 2002; Lavis et al., 2005; Liverani et al., 2013; Lorenc et al., 2014; Masood et al., 2018; Newson et al., 2018; Oliver, Innvar, et al., 2014; Orton et al., 2011). Experts and colleagues were contacted to obtain information about any as yet unidentified studies. Furthermore, we screened an inventory of studies of evidence-to-policy processes of which we were already aware.

2.5.3. Data collection and analysis

In this section we describe the methods for selecting studies, extracting and managing data, and analyzing and presenting the review findings. Both authors (BV and AB) conducted many of these tasks in parallel. Such double-screening, and double-extraction is standard practice in systematic reviewing (Gough et al., 2017; Petticrew & Roberts, 2008), and is designed to limit the potential influence of bias and human error. In this review we treated the individual research report as the unit of analysis. We therefore use the terms 'study', 'article' and 'paper' interchangeably. We used EndNote X9 software to manage references.

2.5.4. Selection of studies

Study screening and selection were conducted according to standard systematic review methods (Petticrew & Roberts, 2008) using Covidence systematic review software. BV and AB independently screened all titles and abstracts. Records deemed potentially relevant by both authors were retained for further review. Conflicting judgements were resolved through discussion. Since our aim was to comprehensively locate all studies meeting our inclusion criteria, and because it was often impossible to assess all inclusion criteria with confidence on the basis of titles and abstracts alone, we were deliberately very inclusive at this stage of screening. This was necessary, in large part, because of poor reporting of methodological information in qualitative study abstracts, as well as the ubiquity of relevant terminology (e.g. “evidence-based policy”) in the titles and abstracts of papers with little relevance to the study of evidence use. As a result we retained a large number of papers for full-text review (see below).

Both authors then independently screened the full text versions of all potentially relevant articles for inclusion in the review. All studies deemed to have met the inclusion criteria were included. Again, disagreements were resolved through discussion. Deferral to a third party to resolve disagreements on inclusion decisions was not necessary at either stage. Reasons for the exclusion of studies at the full-text review stage were recorded.

2.5.5. Data extraction and management

A bespoke data extraction sheet was designed in Microsoft Excel to meet the specific objectives of the review. The following descriptive information was recorded for all included studies:

- Basic study information (authors, title, journal, year of publication)
- A brief summary of the study’s aim and research questions, and whether the concepts of ‘barriers to’ and/or ‘facilitators of’ the use of evidence were used in the study
- Study design, description of data sources and qualitative analysis methods, theories or frameworks used for data collection and/or analysis
- Description of the study setting, policymaking context, level of policymaking (i.e. sub-national, national and/or international/global), and country or countries of focus
- Description and number of participants
- Description of the policy decision(s) or process(es) and policy sector(s) investigated
- Type or form of research evidence investigated, and whether the study investigated instrumental, symbolic, and/or conceptual uses of evidence

We first independently piloted the data extraction sheet on 30 included studies, which were selected at random. AB and BV compared the extracted data and resolved differences by discussion. During a second phase of piloting we extracted an additional 20 studies in duplicate to further enhance consistency. The remaining studies were divided between BV and AB for independent data extraction. Extractions conducted by AB were double-checked by BV to ensure consistency.

2.5.6. Data analysis

Data were tabulated and described narratively. Where appropriate, counts, sums, percentages and means were calculated. Previous reviews, including from health policy and systems research (Erasmus et al., 2014), inspired some of the analyses and the presentation of findings. We used the World Bank's classification system to divide countries into four income groups according to Gross National Income per capita (World Bank, 2019). We used colour-coded maps generated using web-based freeware MapChart.net (Mapchart.net) to visually represent both the absolute number of studies per country and the density of studies as a proportion of country population. For the latter calculation we drew on data from the United Nations Population Division (United Nations Population Division, 2019).

In order to characterize the subject matter of the body of included papers, each study was coded with a single 'core' primary focus, thrust or purpose, through an iterative, inductive process, following methods described in Erasmus et al.'s review of policy implementation research.52 Additionally, we coded all studies according to whether or not they sought to identify 'barriers to' and/or 'facilitators of' evidence uptake, regardless of whether this was the study's core purpose.

We drew on a number of common frameworks in order to classify studies. To categorize studies according to the policy activities on which they focus, we used the stages heuristic (Buse et al., 2012; Gilson, 2014; Sabatier & Weible, 2014), a well-known (if simplistic) conceptual device (also known as the 'policy cycle' (Jones, 1970)) which divides the policy process into four discrete stages: agenda-setting, policy formulation, policy implementation, and policy evaluation. A popular typology of research use (described above) was used to code studies according to whether they investigated instrumental, symbolic and/or conceptual uses of evidence (Pelz, 1978).

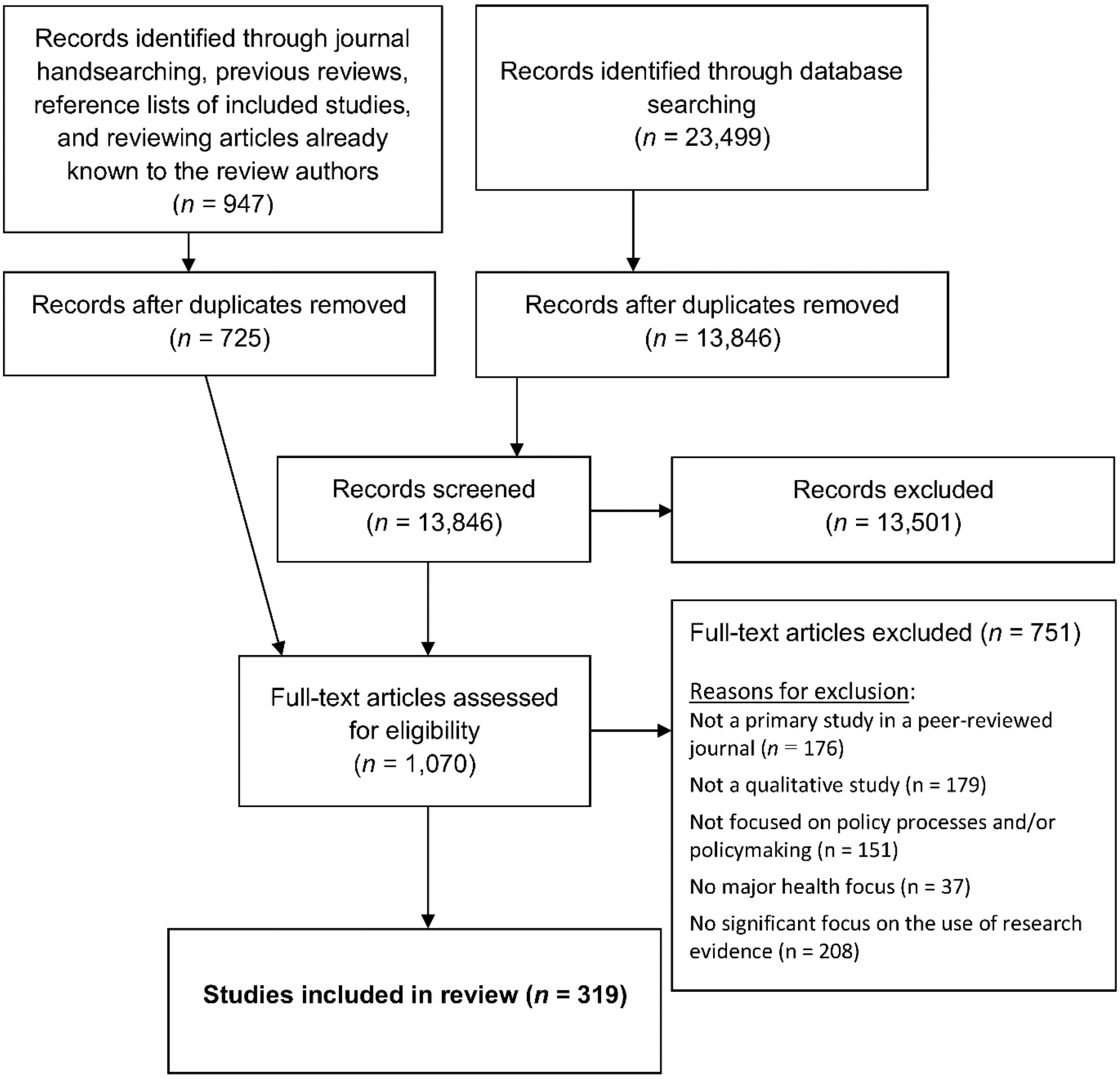

Figure 5. Diagram showing the flow of studies through the review

2.6. Results

The process of identification, screening, selection of studies in this review is summarized in the flow diagram in **Figure 5**. Nine-hundred and forty-seven papers were identified by means of: consulting the included studies of previously-conducted reviews, journal hand-searching, scanning of reference lists of included studies, and by reviewing a list of potentially relevant studies of which we were already aware. Of these 947 articles, 725 were unique, and their full-text versions were retrieved and retained.

Database searches yielded 23,499 records, 13,846 of which remained after manual and software-supported removal of duplicate records. Title and abstract screening of these records identified 345 additional potentially relevant and unique articles, bringing the total number of unique papers for full-text review to 1,070. Following full-text review, a total of 319 papers were found to meet our inclusion criteria (see **Supplementary File 2** for the full list of included studies).

The basic characteristics of the included studies are outlined in **Table 2**. All but two articles – one in Portuguese (Becker et al., 2017) and one in Spanish (Mosquera et al., 2005) – were published in the English language.

2.6.1. Time trends in study publication

Our results indicate that publication of qualitative studies examining research evidence use in health policy has increased exponentially during the past several years. Included papers were published between the years 1982 and 2019. The five calendar years that produced the greatest number of included studies were 2014 through 2018, that is, the five most recent full

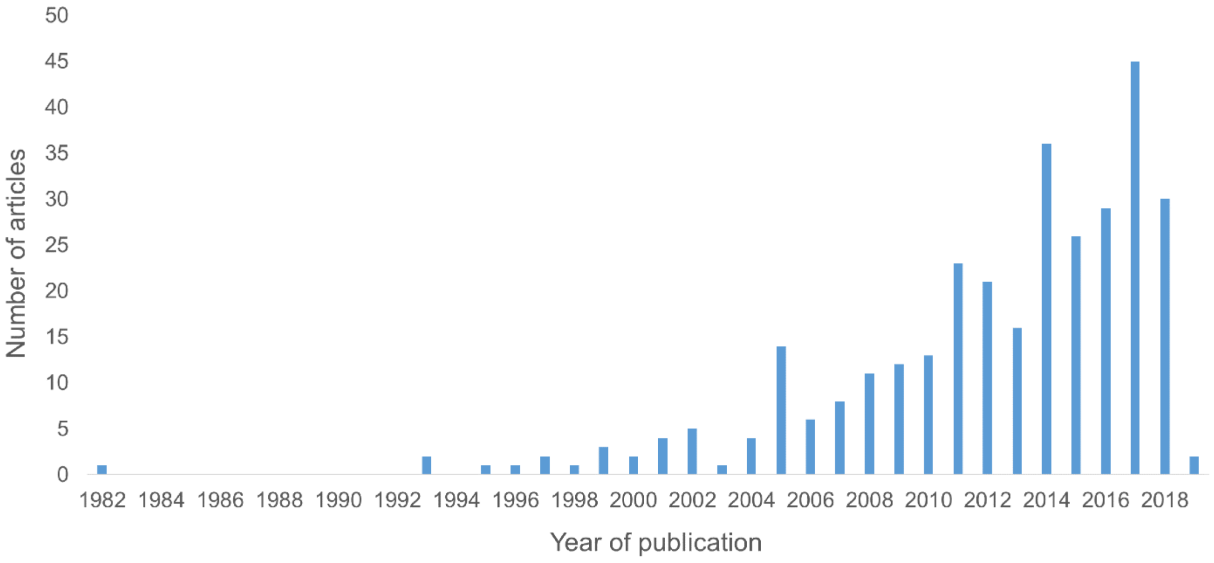

Figure 6. Number of studies by year of publication

Table 2. Characteristics of included studies

Domain	Category	*N*[1]	%[2]
Year of publication	Before 2000	11	3
	2000-2009	67	21
	After 2009	241	76
Journal	Evidence and Policy	39	12
	Health Research Policy and Systems	36	11
	Social Science and Medicine	18	6
	Health Policy and Planning	13	4
	BMC Public Health	11	3
	Health Policy	10	3
	Implementation Science	8	3
	BMC Health Services Research	6	2
	International Journal of Drug Policy	5	2
	Journal of Public Health	5	2
	PLoS ONE	5	2
	Other	163	51
Thematic focus of journal	Health	142	45
	Health and policy	100	31
	Policy	55	17
	Neither health nor policy	22	7
Study location by continent	Europe	118	37
	Africa	101	32
	Asia	70	22
	North America	69	22
	Oceania	46	14
	South America	12	4
Study location by country income classification	High-income	235	74
	Upper-middle-income	49	15
	Lower-middle-income	79	25
	Low-income	53	17
Countries most frequently investigated	United Kingdom	62	19
	United States	40	13
	Australia	38	12
	Canada	25	8
	Uganda	20	6
	Netherlands	14	4
	India	13	4
	Malawi	13	4

[1] This table represents data from a total of *N*=319 studies. Some characteristics can have more than one value per study (e.g. studies that investigate more than one country). Therefore, the sum of absolute values (i.e. *N*) per domain can exceed the number of included studies and may vary between the domains.

[2] Because percentages are rounded for each category of a domain, the sum of percentages per domain can slightly deviate from 100% (for characteristics that have one value per study)

calendar years captured by our review. This trend is illustrated in **Figure 6**, in which we present the number of included papers by year of publication. As the graph shows, more than three quarters of the articles we identified (76%) were published during the approximately ten-year period prior to our searches.

2.6.2. Publishing venue

Most studies were published in journals that either focus on health (*n*=142, 45%) or both health and policy (*n*=100, 31%). A smaller number of studies was published in journals related to policy only (*n*=55, 17%) or in journals that are not focused specifically on health or policy (*n*=22, 7%). Forty-five percent (*n*=141) of all studies were published in only eight different journals, with *Evidence & Policy* and *Health Research Policy and Systems* together accounting for nearly a quarter (*n*=75, 24%) of all included studies (see **Table 2**).

2.6.3. Regional and country settings

Included studies investigated policy processes and decisions in countries from every populated continent, with Europe (*n*=118, 37%) and Africa (*n*=101, 32%) being the most well-represented and South America (*n*=12, 4%) relatively poorly represented. Europe and Africa are not only the most researched continents in absolute terms, but have also seen the greatest increase in research attention in this topic area during recent years (see **Figure 7**).

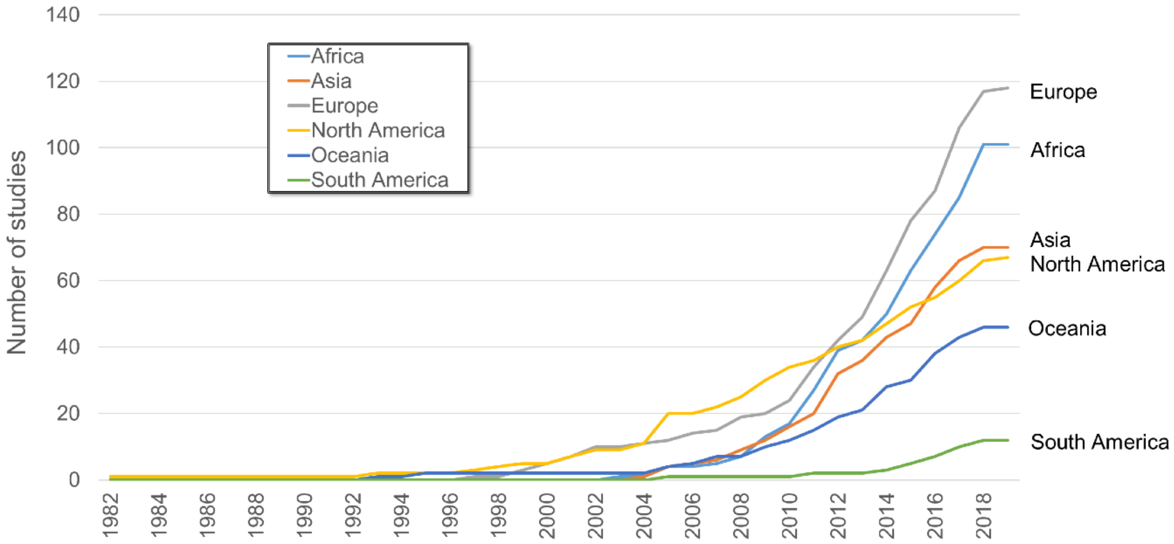

Figure 7. Number of studies per continent over time (cumulative)

A small number of included studies focused on country groupings or regions, or settings defined by other characteristics, as opposed to individual countries. These studies investigated decision-making within: the European Union (*n*=3), the Eastern Mediterranean Region (*n*=2), Caribbean Island States (*n*=1), high-income countries (*n*=1), low- and middle-income countries (*n*=1), industrialized countries (*n*=1), and within global multilateral organizations (*n*=2).

The 319 included studies investigated 72 distinct countries. Whereas 265 (83%) studies focused on a single country, 50 (16%) investigated more than one country, and four (1%) did not focus on a specific country or countries. Eight countries alone were studied in more than half (52%) of all included studies: United Kingdom (*n*=62, 19%), United States (*n*=40, 13%), Australia (*n*=38, 12%), Canada (*n*=25, 8%), Uganda (*n*=20, 6%), Netherlands (*n*=14, 4%), India (*n*=13, 4%) and Malawi (*n*=13, 4%) (**Table 2**). The majority of studies were conducted, at least in part, in countries with high-income status (*n*=235, 74%), while 15% (*n*=49) were conducted in upper-middle-income countries, 25% (*n*=79) in lower-middle-income countries, and 17% (*n*=53) in low-income countries.

A visual depiction of the global distribution of included studies by country of focus is shown in **Figure 8**. The figure displays the absolute number of studies per country (a) and the study density per country adjusted by population (b). When adjusted for population size, the countries with the highest study density are (in decreasing order): Fiji, Australia, New Zealand, Denmark, United Kingdom, Eswatini, Botswana and Netherlands.

2.6.4. Subject matter of studies

All studies were assigned to a single category that best summarized their core purpose, focus or general thrust (Erasmus et al., 2014). These are summarized thematically in **Table 3**, alongside the number of studies falling into each category, as well as the number of studies in each category that drew on the barriers and facilitators concepts to address their research questions.

The single largest category of studies were those whose core focus was to understand the role of research evidence in a specific case of policy change or decision-making (*n*=68, 21%).

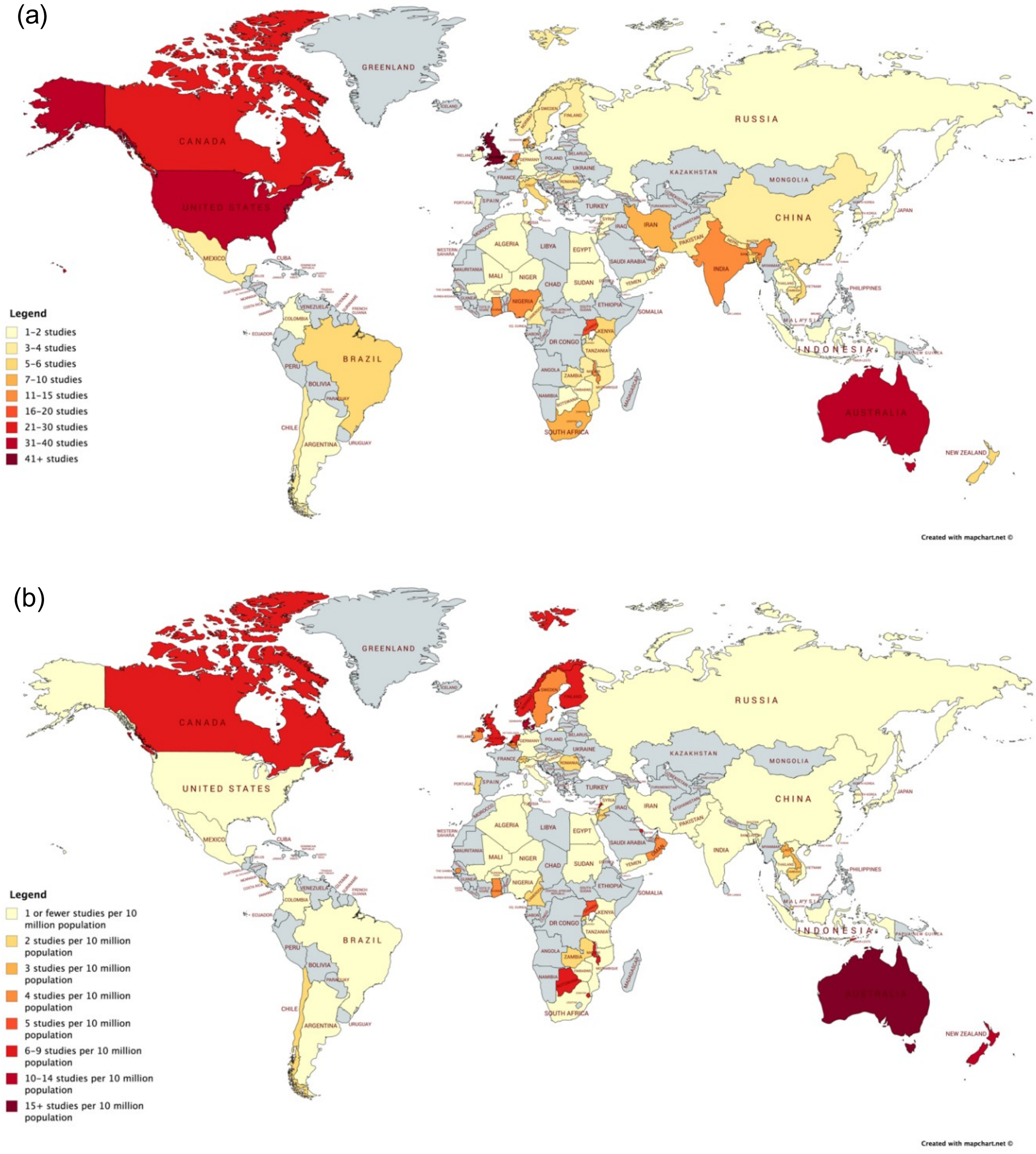

Figure 8. Maps of countries investigated in absolute numbers (a) and per unit population (b).

A large number of studies (*n*=53, 17%) were centred around a specific category of evidence – most commonly a methodological grouping (*n*=20, 6%), or a specific study or studies (*n*=13, 4%) – and sought to understand their impact on or use in policy decisions. Also common were studies focused on policymaker perceptions – related to evidence use generally (*n*=20, 6%), or more specifically to their evidence-related needs (*n*=7, 3%) and preferred types (*n*=6, 2%) and sources (*n*=3, 1%) of evidence.

Twenty-three studies (7%) were classified as having the identification of factors related to evidence use (i.e. barriers and facilitators) as their core objective. However, overall, nearly one-third of studies (*n*=99, 31%) investigated barriers and facilitators in some way, usually as one part of a broader set of study objectives.

Table 3. Primary purposes, thrusts or objectives, and number of studies using barriers and facilitators (Bs/Fs) concepts

Category	Purpose, thrust or objective	***N*** (total)	***N*** (Bs/Fs)
Cases of policy change or decision-making (88 studies)			
Evidence-in-policy cases	To examine the role of evidence in a specific case or cases of policy change or decision-making	68	17
Broad policymaking cases	Studies broadly investigating a case of policy change or decision-making, with a partial but significant focus on the influence of research	20	3
Studies focused on the use or impact of specific pieces or categories of evidence (53 studies)			
Methodological category of evidence	To examine the usefulness or use of a particular methodological category of evidence (e.g. economic evaluations)	20	13
Specific piece(s) of evidence	To assess the impact or use of specific piece(s) of evidence (e.g. specific studies) in policy decisions	13	5
Topical categories of evidence	Studies on the use or usefulness of evidence in a specific topical or thematic area (e.g. social determinants of health)	7	2
Specific body of evidence	To assess the impact or use of a specific body of evidence (e.g. outputs from a research program) in policy decisions	6	1
Embedded evidence	Studies assessing the use of evidence embedded in a specific format or “vehicle” (e.g. policy guidance)	5	1
Foreign evidence	Studies on the use of evidence from other countries	2	0
Perceptions and preferences studies (36 studies)			
General perceptions	General perceptions of policymakers (as well as researchers and other stakeholders) on the use of evidence in policy	20	11
Evidence-related needs	To identify the research evidence needed by a particular group of policymakers, and/or their needs in relation to how evidence should be communicated or delivered	7	2
Preferred types of evidence	Policymaker perception of types of research (e.g. methodological or thematic categories) that are useful	6	0
Sources of evidence	To understand the main sources (e.g. databases, contacts) through which policymakers access evidence	3	0

Institutional, political and organizational contexts (36 studies)			
Political and governance contexts	To investigate how political contexts and circumstances, and/or governance arrangements influence evidence use in policy	11	1
Institutional arrangements for evidence use	Studies that investigate the role of institutional structures specifically designed to support evidence use in policy (e.g. knowledge transfer units within government)	9	0
Climate for evidence use	Studies seeking to understand the “climate for evidence use” in a policy context (e.g. a country or other jurisdiction)	7	4
Everyday decision-making	To understand how decisions are made in day-to-day practice in a policy organization, including the role of research evidence	6	0
Organizational capacities for evidence use	To understand the organizational-level capacities, capabilities and tools that facilitate the use of research evidence	3	2
Methodological and theoretical contributions (27 studies)			
Critical social science perspectives	Studies that problematize notions of evidence, or seek to critically reconceptualize the evidence-policy relationship	12	0
Evidence use models	To assess evidence use models against real-world policymaking	8	1
Complexity and systems approaches	Studies that apply and/or explore the explanatory value of methods derived from complexity theory or systems thinking to understand the dynamics of evidence-to-policy processes	4	0
Novel methods	To demonstrate a novel qualitative method for studying evidence use in policy	3	1
Researchers, research organizations and other external stakeholders (24 studies)			
Relationships, interaction and collaboration	Studies examining the influence of researcher-policymaker interaction and collaboration on the use of evidence	9	4
Research organizations	Studies on the role of research organizations or bodies (e.g. think tanks) in supporting evidence use	7	0
Researchers and their roles	To investigate the roles of researchers in, and their influence on, the policy process	3	0
External actors	To understand the role of external stakeholders (e.g. NGOs) in facilitating evidence use in policy processes	3	0
Community-based participatory research	Studies exploring the influence of community-based participatory research partnerships on policymaking	2	0
Factors (barriers and facilitators) studies (23 studies)			
Factors affecting evidence use	To identify and catalogue factors related to evidence use (usually conceptualized as barriers and/or facilitators) in particular policy context(s)	23	23

Intervention studies (9 studies)			
Interventions to improve evidence use	Studies assessing the implementation, effects or participant experiences of an intervention for improving evidence use	9	5
Other categories of studies (23 studies)			
Communication and dissemination	To examine dissemination of research to policymakers and to improve research communication strategies and initiatives	6	2
Evidence-policy concordance	Studies aiming to assess and/or explain the (mis)alignment between documented policy positions, decisions or preferences, and the available evidence	6	1
Argumentation, debate and rhetoric	Studies examining political argumentation and/or the rhetorical uses of evidence in policy debates	5	0
Miscellaneous topics related to evidence in policy	Studies on a range of specific topics, including the role of research commissioning and commissioners, interplay between research evidence and traditional Aboriginal knowledge, influence of the media, the scaling up of evidence-based best practices, and the use of evidence in judicial decision-making	6	0

2.6.5. Types of study designs and methods used

The qualitative study designs and methodological features of included studies are provided in **Table 4**. Over half of all included studies can be described as case studies (*n*=181, 57%), in that they set out to investigate a specific case – or set of cases – of policy decision-making, of research dissemination processes, of intervention roll-out or implementation, or other events. Other identifiable qualitative study designs (i.e. ethnographies, evaluations and participatory action research) were used in only 6% (*n*=18) of all studies. A large number of studies (*n*=120, 38%) could not be identified according to particular qualitative study design and were therefore classified as “other” (these tended to include studies drawing solely on either interviews or documents, or cross-sectional surveys with qualitative components).

Forty-eight articles (15%) reported mixed methods studies that used both qualitative and quantitative approaches, whereas the vast majority of studies (*n*=271, 85%) relied exclusively on qualitative methods. The overwhelming majority of studies drew on interviews (*n*=282, 88%) and/or documents (*n*=160, 50%), while focus groups (*n*=34, 11%) and methods of observation (*n*=33, 10%), were less commonly used. Well over half of all studies (*n*=180, 56%) combined multiple sources of qualitative data, with interviews and documents being by far the most common combination.

Table 4. Study-level characteristics related to study design and methods used

Domain	Category	N^1	$\%^2$
Study design	Case study	181	57
	Ethnography	8	3
	Evaluation	8	3
	Participatory action research	2	1
	Other	120	38
Mixed methods	No	271	85
	Yes	48	15
Data sources	Interviews	282	88
	Documents	160	50
	Focus groups	34	11
	Observation	33	10
	Other	47	15
Data sources – single or multiple	Multiple	180	56
	Single	139	44
Qualitative analysis method	Thematic analysis	118	37
	Content analysis	49	15
	Grounded theory approaches	31	10
	Framework analysis	24	8
	Phenomenological approaches	8	3
	Discourse analysis	6	2
	Narrative analysis	1	<1
	Other	23	7
	Unclear/Not described in detail	59	18

[1] This table represents data from a total of *N*=319 studies. Some characteristics can have more than one value per study (e.g. studies that used more than one data source). Therefore, the sum of absolute values per characteristic (i.e. *N*) can exceed the number of included studies and may vary between the characteristics.

[2] Because percentages are rounded for each category of a domain, the sum of percentages per domain can slightly deviate from 100%.

Nearly two fifths of included papers described using thematic analysis (*n*=118, 37%), followed by content analysis (*n*=49, 15%), grounded theory approaches (*n*=31, 10%), framework analysis (*n*=24, 8%), phenomenological approaches (*n*=8, 3%), (critical) discourse analysis (*n*=6, 2%), and narrative analysis (*n*=1, <1%). We found that the methods of data analysis used in included studies were in many cases not well-described. Almost a fifth of all studies (*n*=59, 18%) did not report their analysis at all or were unclear in their reporting of how it was performed, while a minority of studies (*n*=23, 7%) described their analysis only in generic or broad terms. Even where reporting of analysis methods bordered on satisfactory, it was still often difficult to categorize. For instance, in the case of studies using what we determined to be a form of thematic analysis almost half (*n*=58, 18%) described their procedures without explicitly referring to thematic analysis or a related label, necessitating a degree of judgement on our part.

Table 5. Use of theories and frameworks in included studies

Category	*N*[1]	%
Use of theories and frameworks		
Studies using a policy/political theory or framework	71	22
Studies using other type of theory or framework only	85	27
Studies using no theory/framework	163	51
Theories and frameworks by frequency of use		
Multiple Streams Theory (John Kingdon)	19	6
Typology of Research Utilization (Carol Weiss)	18	6
Policy Triangle (Gill Walt and Lucy Gilson)	16	5
3-Is Framework (Interests, Ideas and Institutions)	6	2
ODI RAPID Framework (Context, Evidence and Links)	5	2
Pathways to EIPP Framework (Bowen and Zwi)	5	2
Other theories/frameworks (used in <5 studies)	108	34

Abbreviations: RAPID, Research and Policy in Development; EIPP, ‘evidence-informed’ policy and practice.

[1] This table represents data from a total of *N*=319 studies. Some studies used more than one theory or framework, thus the sum of specific theories/frameworks (i.e. *N*) exceeds the number of included studies that used at least one theory/framework.

2.6.6. *Use of theory and frameworks*

Studies used various theories and frameworks to investigate evidence use in policy, as reported in **Table 5**. Almost half of all studies applied a theory or framework to inform data collection or analysis (*n*=156; 49%). Twenty-two percent (*n*=71) of studies used theories or conceptual frameworks drawn from or based on political science or policy studies. Over half (*n*=163, 51%) of all papers did not report the use of any theory or conceptual framework.

The most commonly used theories and conceptual frameworks are reported in the bottom half of **Table 5**. Only six theories or frameworks were used in five or more papers. The three most popular theories/frameworks among our included studies were Kingdon’s Multiple Streams theory (*n*=19, 6%), Weiss's research utilization typology (*n*=18, 6%), and Walt & Gilson's 'Policy Triangle' (*n*=16, 5%).

2.6.7. Types of study participants

Included studies that involved participant responses (defined here as having used either individual interviews, focus groups or a combination thereof) and that reported the number of study participants (*n*=264, 83%), investigated a total of 9436 participants. Of these, 8595 (*mean*=34) were interview (as opposed to focus group) participants. However, many studies did not report details of the participants and their numbers sufficiently enough to be included in these calculations: in 30 (9%) studies the overall number of participants was not clearly reported; nearly half of studies that drew on participant responses did not provide sufficient information to determine the number of participants who were policymakers (*n*=142, 45%). Among those studies in which it was possible to make such a determination, 60% (2973) of participants were identified as some kind of policymaker.

Where possible, we attempted to distinguish between studies that included political decision-makers (e.g. elected politicians) and non-political policymakers (e.g. civil servants, bureaucrats, policy advisors) among their participants. The majority of studies (*n*=167, 52%) exclusively included non-political policymakers, while one quarter (*n*=82, 26%) focused on both groups. Only 5% (*n*=16) of studies that included participants exclusively targeted politicians. In 54 (17%) of this review's included studies, authors did not provide sufficient information to determine the types of policymakers who were interviewed.

2.6.8. Policy and governance features

We categorized included studies according to several policy- and governance-related characteristics. This analysis is summarized in **Table 6**.

Well over half of all included studies were concerned, at least in part, with policymaking at the national level (*n*=188, 59%). One-hundred thirty-nine studies examined sub-national (41%) policies or policymaking, with 79 (25%) of these studying provincial or state (or equivalent) decision-making, and 75 (24%) studying local-level (i.e. municipal or regional) policymaking. Seven studies (2%) were concerned with policymaking at the supranational level. These studies examined the use of evidence in decision-making within the European Union, WHO, and other international policy fora. A considerable number of studies (*n*=29, 9%) investigated the perspectives of policymakers in general without focusing on a particular policy or level of governance.

Table 6. Features of included studies related to policymaking and policy sector

Domain	Category	*N*[1]	%
Level of policy decision-making	Supranational	7	2
	National	188	59
	Sub-National (any)	139	44
	Provincial or state (or equivalent)	79	25
	Local, regional or municipal	75	24
	No specific focus	29	9
Policy stage	Agenda setting	41	13
	Policy formulation	145	45
	Policy implementation	35	11
	Policy evaluation	8	3
	Not focused on a specific stage (or stage unclear)	161	50
Policy sector	Public Health	189	59
	Healthcare	156	49
	Criminal justice and law enforcement	10	3
	Transportation	8	3
	Education	5	2
	Environment	5	2
	International development	5	2
	Agriculture, Food and Nutrition	4	1
	Social care	3	1
	Child welfare and protection	3	1
	Housing	2	1
	Urban planning	2	1
	Social services	1	<1
	Labour and employment	1	<1
	Several sectors or no specific sector	8	3

[1] This table represents data from a total of *N*=319 studies. Some characteristics can have more than one value per study (e.g. studies that investigated more than one policy level). Therefore, the sum of absolute values per characteristic (i.e. *N*) can exceed the number of included studies.

Of the studies that focused on a specific stage or stages of the policy process, we found that most (*n*=145, 45%) examined policy formulation, either alone or in addition to other stages. A roughly similar number of studies focused on agenda-setting (*n*=41, 13%) and policy implementation (*n*=35, 11%), while few focused on policy evaluation (*n*=8, 3%). Overall we found that the focus of most studies could not be summarized under the heading of a policy stage (*n*=161, 50%). Many of these studies investigated a policy process holistically, or policymaking in general within a particular field, without distinguishing between various policy activities.

Unsurprisingly, given the health focus of this review, a great majority of studies looked at policies or policymaking activities within the sectors of public health (*n*=189, 59%), healthcare (*n*=156, 49%) or both of these. However, a significant number of these studies investigated health-related policies or policy processes that also had relevance in non-health sectors, including criminal justice and law enforcement (*n*=10, 3%), transportation (*n*=8, 3%), education (*n*=5, 2%), environment (*n*=5, 2%), and international development (*n*=5, 2%).

Many studies did not describe in detail (if at all) what they understood by the terms “policy” or “policy process”. Many studies termed their focus “policy(making) and practice”, but provided no definitions for, or otherwise distinguished between, these two concepts. This was especially the case with studies that examined local levels of policymaking.

2.6.9. Evidence- and research-related features

All studies included in this review focused in some way on the use of academic research evidence. However, whereas some studies focused specifically on research evidence, others considered research alongside other forms of evidence. That is, some studies investigated research use in the context of broader investigations of knowledge or other kinds of evidence. Conversely, many other studies took a more specific focus, studying either a specific methodological category or other type of research evidence (e.g. systematic reviews), while others still were specifically concerned with what we called evidence “formats”, that is to say, evidence embedded in or communicated via particular vehicles (e.g. reports, guidelines). The research evidence focus of included studies, as described by their authors, is summarized in **Table 7**.

Table 7. Research evidence focus of studies

Domain	Category	*N*[1]	%
Type of evidence investigated	Research evidence or category thereof	247	77
	Research evidence (in general)	177	55
	Particular type of research		
	Economic evaluations	12	4
	Systematic Reviews	8	3
	Health technology assessments	8	3
	Evaluation studies	7	2
	Randomized controlled trials	7	2
	Models or modelling studies	6	2
	Surveys	3	1
	Burden of Disease information	2	1
	Health impact assessments	2	1
	Operational research	1	<1
	Community based participatory research	1	<1
	Population Health Rankings	1	<1
	Needs assessments	1	<1
	Particular forms/formats of embedded research		
	Reports	4	1
	Guidelines or recommendations	4	1
	Evidence services	2	1
	Evidence summaries	1	<1
	Broad focus on ‘knowledge’ in general	72	23
Functional evidence use categories	Instrumental uses of evidence	183	57
	Symbolic uses of evidence	64	20
	Conceptual uses of evidence	43	13
	No specific or discernible focus	122	38
Combinations of functional evidence use categories	Instrumental use only	122	38
	Instrumental + Symbolic + Conceptual uses	32	10
	Instrumental + Symbolic uses	22	7
	Symbolic use only	10	3
	Instrumental + Conceptual uses	7	2
	Conceptual use only	4	1
	Conceptual + Symbolic uses	0	0

[1] This table represents data from a total of *N*=319 studies. Studies can have more than one evidence type focus, thus the sum of health topics (i.e. *N*) exceeds the number of included studies.

Most studies (n=247, 77%) had a clear, central focus on research evidence or a category (type or format) thereof, as opposed to those that studied ‘knowledge’ or ‘evidence’ more generally (n=72, 23%), in which the use of other kinds of knowledge (e.g. tacit knowledge) might be studied alongside the use of research evidence. However, it is worth noting that what the study authors subsumed under the terms “evidence”, “research” and “research evidence” differed greatly between the studies. One fifth of all studies (*n*=70, 22%) focused on a particular type of research evidence. Of particular interest was the use of economic evaluation (*n*=12, 4%), systematic reviews (*n*=8, 3%), health technology assessment (*n*=8, 3%), evaluation studies (*n*=7, 2%), randomized controlled trials (*n*=7, 2%), and modelling studies (*n*=6, 2%). A small number of studies looked at the use of evidence packaged in different delivery formats, including reports (*n*=4, 1%), guidelines or recommendations (*n*=4, 1%), and information from evidence 'services' (*n*=2, 1%) and summaries (*n*=1, <1%).

Regarding the functional categories of evidence use, instrumental use was investigated (alone or in combination) by 183 studies (57%), while symbolic and conceptual uses were investigated to a lesser extent, by 64 studies (20%) and 43 studies (13%), respectively.

These categories appeared in a number of different combinations in included studies. While a large plurality of studies investigated instrumental uses only (*n*=122, 38%), it was also not uncommon for instrumental and symbolic uses (*n*=32, 10%), and conceptual, instrumental and symbolic uses (*n*=22, 7%) to be studied in combination. Notably, very few studies investigated either symbolic (*n*=10, 3%) or conceptual (*n*=4, 1%) evidence use without also looking at instrumental uses.

2.7. Discussion

Qualitative research on the role of research evidence in health policymaking is a popular area of inquiry, and one that is rapidly expanding. In this systematic review, we sought to comprehensively assemble the qualitative evidence base that has investigated the use of research evidence in health policymaking. This review uncovered 319 published qualitative studies on evidence use in health policy spanning the period from 1982 to 2019. While a large proportion of these studies is still drawn from high-income regions like Western Europe, North America and Australia, a growing proportion of this topic area's output is now coming from low- and middle-income countries, especially from sub-Saharan Africa.

We found that a significant number of studies in this topic area – though by no means a majority – sought to catalogue 'factors' related to the use of research in policy, and that these studies conceptualized such factors as barriers to and facilitators of evidence uptake. We classified 23 studies as having this as their core objective and, overall, nearly 100 studies – almost one third of included studies – used the barriers and facilitators constructs in some way. While this finding does not contradict the received wisdom in this topic area that the identification of 'factors affecting' (Nutley et al., 2007) and/or 'barriers and facilitators' (Oliver, Lorenc, et al., 2014) is one of the most well-travelled lines of inquiry, it does indicate that the cataloguing of such factors is usually not the sole or central focus of qualitative studies of evidence use.

Indeed, as demonstrated in this review, the subject matter of these studies is quite varied. For example, we found that large numbers of studies drew on qualitative methods to study the role of research relative to other competing influences in cases of real-world policy change, to examine how evidence use is influenced by political and governance contexts, and to explore how researchers, research organizations and other external stakeholders influence processes of evidence use. Studies took on issues as diverse as, for instance, strategic uses of research evidence in service of political and corporatist interests (Ettelt, 2017), the phenomenon of "imposed" evidence use, in which decision-maker attention to research evidence is compelled through external pressure, top-down regulation, and the like (Weiss et al., 2005), and even the performative "production" of the evidence-based policy paradigm itself (Lancaster, 2016), among a range of other topics.

The literature on EIPM is sometimes said to lack in-depth, rich case studies on policy decisions and processes, and few attempts to study evidence use as it occurs in real-world practice through the use of observational methods (Nutley et al., 2007). We found that many of the studies identified in this review drew on in-depth case studies – often comparative investigations across multiple countries – to examine how and why evidence was used, or not used, in specific instances of policy development or change. This may indicate a gradual shift in research priorities and approaches over time, including a trend toward more such in-depth policy case studies. Still, consistent with previous reviews (Liverani et al., 2013; Oliver, Innvar, et al., 2014), we identified very few studies that employed designs (e.g. ethnography) and data collection methods (e.g. participant observation) that involve direct, real-time observation of policymaking activities and decisions, and that do not primarily depend on eliciting retrospective perceptions in the context of a research interview or focus group.

Many authors have lamented the theoretical shortcomings of the literature on evidence use in health policy, most notably the lack of engagement with political science and public administration theories and concepts (Cairney, 2016; Liverani et al., 2013; Parkhurst, 2017). For instance, Liverani et al. (2013) observed that studies in this area *“do not constitute a clearly defined body of research, developed around shared debates, research questions or theoretical approaches”* and that *“despite the fundamentally political nature of decision making processes [and] the extensive literature on political institutions…very few works could be identified which explicitly applied policy science perspectives to understand the use of evidence in health policy making”* (p. 6). Our review largely confirms this: we noted that while about half of studies used an identifiable theory or conceptual framework, there was a high degree of theoretical variability with no clear dominant approach. While it remains the case that most qualitative studies in this topic area do not explicitly contribute to the development of political science theories and the refinement of policy science concepts, we nevertheless identified a considerable number of studies that employ these theories and conceptual frameworks to guide their data collection and to make sense of their findings. This finding may indicate that calls for greater engagement with policy theories and political concepts are slowly beginning to be heeded by scholars of evidence-to-policy processes in health.

A key finding of this review is that this literature focuses overwhelmingly on the use of research in the policy activities of technical – as opposed to political – decision-makers. The reasons for this are likely many, but it probably owes in part to the relatively high degree of availability of civil servants for research participation, as compared to political actors, as well as the fact that most engagement with the technical aspects of policy development – that are perhaps more amenable to instrumental and other direct forms of evidence use – is work done by unelected decision-makers working in government bureaucracies. Still, high-level policy decisions relevant to health systems and public health, including large budget allocations, decisions about system restructuring and healthcare reform, and even smaller scale decisions of a politically contentious nature, are taken with the direct participation of politicians. We also found that relatively few studies provided in-depth explorations of symbolic uses of evidence, that is, the marshalling of evidence, often selectively, to serve political or tactical ends (e.g. to legitimate pre-existing political agendas). Moving forward, further research on how research evidence features in the decision-making of political actors, including such strategic uses of evidence, would help to provide a more complete picture of the relationship between research and policy processes.

2.7.1. Strengths and limitations of this review

In this review, rigorous systematic review methods were used, including careful piloting of procedures in each review phase, strict double-screening and study selection, and quality assurance measures for data extraction. Multiple sources were searched for relevant studies and a highly sensitive bibliographic database search was developed and conducted across nine databases. This review can therefore be considered a comprehensive collation of the published and peer-reviewed qualitative literature on evidence use in health policy.

While inclusive and broad in many respects, this review also has a specific focus on health-related policymaking, which may entail some limitations. As suggested by Lorenc et al.’s review of evidence use in non-health sector policy decision-making (Lorenc et al., 2014), there may exist distinct and idiosyncratic evidential ‘cultures’ in different policy sectors. While the present review probably captures the majority of qualitative studies in the overall topic area of research evidence use in policymaking (given that the preponderance of evidence in this area comes from public health and healthcare policy) these findings are not necessarily generalizable to the evidence-to-policy topic area as a whole.

Moreover, because of this project's specific interest in qualitative evidence the review only considered qualitative (and qualitative-quantitative mixed methods) studies. Previous reviews demonstrate that a considerable amount of quantitative evidence exists in this topic area (Innvaer et al., 2002; Oliver, Innvar, et al., 2014) that may provide unique insights about evidence-to-policy processes that are inaccessible to qualitative research. The present review was not designed to capture these studies.

We did not conduct any form of quality appraisal or 'risk of bias' assessment as part of this review. While we recognize that qualitatively synthesizing studies without consideration of methodological rigor has the potential to bias synthesis findings (Walsh & Downe, 2005), the descriptive overview reported in this paper does not entail such a synthesis. We did not consider it worthwhile to subject all included studies to quality appraisal with a methodological checklist merely for the purposes of reporting study quality, especially since such instruments are not designed to generate a summary 'score' that serves as a standalone indicator of study quality, but instead are meant to function as a tool to facilitate a critical, engaged reading of a study's methodological strengths and weaknesses (Noyes, Booth, Flemming, et al., 2018).

Finally, for the purposes of this review, we chose to treat the individual research report (i.e. article) – rather than the study, as is often the case in Cochrane-style reviews – as the unit of analysis. One consequence of this decision is that, in some cases, different reports from the same research project have contributed individually to the descriptive statistics. Thus, these statistics are influenced disproportionately by larger programs of research with comparatively high publication outputs. Given our interest in painting a general picture of the existing qualitative literature in this topic area (as opposed to, e.g. conducting a meta-analysis) we did not consider this to be highly problematic.

2.8. Conclusion

This systematic review constitutes the most comprehensive mapping of the extant qualitative literature on the use of research evidence in health policymaking conducted to date. It has provided a “bird’s eye view” of this rapidly growing literature, and has identified key features of – and gaps within – this body of research that will hopefully inform future scholarship in this area.

The use of research evidence in health policy processes is a burgeoning area of scholarship, and the qualitative literature on this subject is expanding with increasing speed year-on-year. Indeed, well over half of all of the qualitative studies on evidence-to-policy processes in health were published during the past five years alone. While high-income countries – especially Australia, Canada, the UK and the US – still lead the qualitative research output in this area, the share of research coming from the Global South is growing. Over 100 qualitative studies on evidence use in African health policy have now been published, and the continent is second only to Europe in overall output.

Qualitative researchers have investigated a diversity of sub-topics related to evidence use. This review has shown that, while certainly a major preoccupation of evidence-to-policy researchers in this area, barriers to and facilitators of evidence use are not the single dominant focus, at least among qualitative investigations. Attention may be shifting (if gradually) to less descriptive topics, with several examples of complexity science-informed approaches, explanatory case studies of policy processes, and critical social science investigations of the evidence-based policy paradigm, among many other topics, emerging from this review.

While this literature is extensive, this review has identified some notable gaps that future qualitative literature should address. On the methodological front, there remain relatively few studies that draw on qualitative observational methods to investigate the interactions between research and policy in everyday policy activities. Our knowledge of how, why and under what circumstances policymakers engage with, use, and/or misuse research would benefit from such immersive work by, for example, participant observers. As well, the vast majority of studies explore the role of civil servants and other unelected decision-makers in evidence-to-policy processes, with far less focus on politicians. Further qualitative study of the how political actors engage with evidence – especially, though not exclusively, how they deploy research-based claims for political, tactical and rhetorical purposes – would greatly enrich this literature.

2.9. Declarations

Ethical issues

Not applicable.

Competing interests

Authors declare that they have no competing interests.

Authors' contributions

BV conceived the study and designed and ran the electronic search strategies. AB supported the testing and refinement of the search strategies. Both authors developed the tools and procedures used, screened and selected studies for inclusion, extracted, managed and analyzed the data, and co-drafted the manuscript. Both authors read and approved the final manuscript.

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2.10. Supplementary files

2.10.1. Supplementary file 1: Sample Search Strategy (MEDLINE).

MEDLINE (Ovid)

(Run on 20 January 2019)

#	Searches	Results
1	Evidence Based Practice/ or (“research evidence” or “evidence based” or “evidence informed” or “knowledge translation” or “knowledge transfer” or “knowledge exchange” or “knowledge broker*” or “knowledge mobili?ation” or “using evidence” or “using research” or “using knowledge” or “using information” or “using science” or “using scientific” or ((evidence or research or knowledge) adj3 (use* or utilis* or utiliz* or uptake or diffus* or disseminat*)) or ((systematic review* or evaluation* or Technology Assessment* or HTA*) adj2 (use* or utiliz* or utilis* or uptake or diffus* or disseminat*))).tw.	208317
2	exp Public Policy/ or exp Policy Making/ or exp Government/ or Decision Making/ or Policy/ or Politics/ or Administrative Personnel/ or Government Employees/ or (health* policy* or health* policies or (health* adj2 planning) or (policy* adj2 decision*) or (political adj2 decision*) or (policy* adj2 develop*) or (policies adj2 develop*) or (policy* adj2 formulat*) or (policies adj2 formulat*) or policy mak* or policymak* or public policy* or public policies or policy* process* or policy* change* or legislat* or politician* or bureaucrat* or governance or (government* adj2 agenc*) or (government* adj2 policy*) or (government* adj2 policies) or (government* adj2 decision*)).tw.	499193
3	exp Health Policy/ or exp Health Planning/ or Health Services/ or Public Health/ or Health Promotion/ or (health* policy* or health* policies or health system* or healthcare system* or health care system* or health service* or (ministr* adj3 health*) or (department* adj3 health*) or (health* adj2 planning) or public health or population health or health promotion or health sector).tw.	828448
4	1 and 2 and 3	9619
5	Qualitative Research/ or Interview/ or (theme$ or thematic).mp. or qualitative.af. or Nursing Methodology Research/ or questionnaire$.mp. or ethnological research.mp. or ethnograph$.mp. or ethnonursing.af. or phenomenol$.af. or (grounded adj (theor$ or study$ or studies or research or analys?s)).af. or (life stor$ or women* stor$).mp. or ((emic or etic or hermeneutic$ or heuristic$ or semiotic$).af. or (data adj1 saturat$).tw. or participant observ$.tw.) or (social construct$ or	2269232

	(postmodern$ or post-structural$) or (post structural$ or poststructural$) or post modern$ or post-modern$ or feminis$ or interpret$).mp. or (action research or cooperative inquir$ or co operative inquir$ or co-operative inquir$).mp. or (humanistic or existential or experiential or paradigm$).mp. or (field adj (study or studies or research)).tw. or human science.tw. or biographical method.tw. or theoretical sampl$.af. or ((purpos$ adj4 sampl$) or (focus adj group$)).af. or (account or accounts or unstructured or open-ended or open ended or text$ or narrative$).mp. or (life world or life-world or conversation analys?s or personal experience$ or theoretical saturation).mp. or ((lived or life) adj experience$).mp. or cluster sampl$.mp. or observational method$.af. or content analysis.af. or (constant adj (comparative or comparison)).af. or ((discourse$ or discurs$) adj3 analys?s).tw. or narrative analys?s.af. or heidegger$.tw. or colaizzi$.tw. or spiegelberg$.tw. or (van adj manen$).tw. or (van adj kaam$).tw. or (merleau adj ponty$).tw. or husserl$.tw. or foucault$.tw. or (corbin$ adj2 strauss$).tw. or glaser$.tw. or interview*.tw. or case stud*.tw.	
6	4 and 5	3855
7	((“research evidence” adj5 (policy* or policies or govern* or politic*)) or ((“use* of evidence” or “evidence use*” or “utili?ation of evidence” or “evidence utili?ation” or “uptake of evidence” or “evidence uptake” or “using evidence” or “utili?ing evidence”) adj7 policy*) or (translat* adj3 (evidence or research or science or scientific or knowledge or findings) adj3 (policy* or policies or govern* or politic*)) or (“role of” adj3 (evidence or research or science or scientific or knowledge or findings) adj3 (policy* or policies or govern* or politic*)) or (“relation* between” adj3 (evidence or research or science or scientific or knowledge or findings) adj3 (policy* or policies or govern* or politic*)) or (apply* adj3 (evidence or research or science or scientific or knowledge or findings) adj3 (policy* or policies or govern* or politic*)) or (impact* adj2 (evidence or research or science or scientific or knowledge or findings) adj3 (policy* or policies or govern* or politic*))).tw. or ((evidence and (policymak* or policy-mak* or public policy* or public policies or health* policy* or health* policies)) or ((evidence or science or scientific or research or knowledge or findings or information) adj3 (“in policy*” or “in health* policy*” or “in policies” or “in health* policies” or “in govern*”)) or ((evidence or science or scientific or research or knowledge or findings or information) adj3 (“into policy*” or “into health* policy*” or “into policies” or “into health* policies” or “into govern*”)) or ((evidence or science or scientific or research or knowledge or findings or information) adj3 (“*to policy*” or “*to health* policy*” or “*to policies” or “*to health* policies” or “*to govern*”)) or ((“evidence based” or “evidence informed” or “research evidence” or (evidence adj2 use*) or (research adj2 use*) or (knowledge adj2 use*) or (research adj2 utili?ation) or	2427

	(evidence adj2 utili?ation) or (knowledge adj2 utili?ation) or “using evidence” or “using research” or “using knowledge” or “utili?ing evidence” or “utili?ing research” or “utili?ing knowledge” or “knowledge translation” or “knowledge transfer” or “knowledge exchange” or “knowledge broker*” or “knowledge mobili?ation”) and (policy* or policies or govern* or politic*)) or (researcher* adj2 (policy* or policies or govern* or politic*))).m_titl.	
8	6 or 7	**5822**

2.10.2. Supplementary file 2: List of Included Studies.

This file presents references for the review’s 319 included studies. The list is organized alphabetically. NB the citation numbers used in this document do not correspond with citations in the text of the paper.

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3. The shift from inpatient care to outpatient care in Switzerland since 2017: Policy processes and the role of evidence

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3.1. Note on the methods used in this case study

This case study is based on extensive document review and analysis. It also draws on data collected through qualitative interviews. However, in accordance with the reporting of similar case studies in the field and matched to the *Health Reform Monitor* format, we do not specify the data and methods used in the manuscript. Briefly, we reviewed a large amount of documents (parliamentary records, legal documents, government and research organization reports, academic publications, press releases, newspaper articles, and stakeholder website content), audiovisual material (media conferences, presentations) and conducted in-depth interviews.

3.2. Abstract

The shift from inpatient care to the ambulatory sector is a central aspiration of European health systems. Despite demonstrated benefits, health reforms have struggled to realize their potential. In this context, we discuss recent hospital sector reforms in Switzerland and analyze the content, process, and role of evidence in the recent introduction of policies to substitute inpatient care with ambulatory care. The prevailing payment system incentivized hospitals to provide unnecessary and costly inpatient services, but federal reform on tariff structures was deemed politically unfeasible. Instead, driven by the pressure to contain costs, cantonal and federal health authorities began to deny reimbursement for selected inpatient procedures in 2017. These regulatory measures were effective in reducing inpatient admissions and health care costs. This case study illustrates that clear, simple messages about hospital sector reform can raise awareness of the need for change. However, the evidence used in the policy process was limited and not critically reviewed. Stakeholders used long-standing international comparisons of inpatient substitution potential to legitimize policies, but not to develop them. The analysis restates the importance of inter- and intranational comparative analyses and institutions such as health observatories and suggests aligning health system governance more proactively with international developments.

3.3. Ambulatory surgery in Europe

Driven by medical and technological advances and steered through policy reforms, the organization and service portfolio of the hospital sector is undergoing substantial change. Most European countries have reduced the overall number of hospitals, decreased the number of hospital beds, and shortened the length of hospital stays (OECD, 2020; OECD/EU, 2018). Advances in surgery, anesthesia, analgesia, and clinical practice have enabled interventions to be performed by hospitals as “day cases” with discharge on the day of treatment, resulting in equivalent or better quality and safety of care but with fewer resources and lower costs (Castoro et al., 2007; Lemos et al., 2006).

Consequently, the number of ambulatory surgeries and other interventions has risen in Europe and elsewhere (Lemos et al., 2006; Toftgaard, 2012), likely stirred by international comparisons of health system indicators, analyses of ambulatory surgery rates, and other evidence (i.e., research or data). However, large differences remain in the speed and extent of this development among different countries (OECD/EU, 2018; Toftgaard, 2012) and across hospitals, surgery types, and surgeons within countries (Lafortune et al., 2012; R. Leroy et al., 2017). Despite scientific evidence supporting the potential benefits of further shifts from inpatient services, countries face resistance based on clinical and patient preference or tradition, lack of appropriate pre- and post-care structures, economic and regulatory barriers, and weak political will (Castoro et al., 2007; Roos Leroy et al., 2017; Toftgaard, 2012).

Yet, policy change enforcing ambulatory care has been central to hospital reforms in Europe and is especially focused on health systems that are essentially geared toward inpatient care structures, i.e., slow adopters of ambulatory surgery (OECD/EU, 2018). Several Central and Eastern European countries made the transition to the ambulatory sector a central objective in their hospital reforms. Their transition approaches included limiting inpatient expenditures through tariff cuts, providing incentives for ambulatory services with payment reforms such as the introduction of case-based lump sums, or adopting global budget formulas (Dubas-Jakobczyk et al., 2020; Sowa, 2016).

Other countries such as Germany and Austria—both have comparatively high hospital bed numbers, as well as admission and discharge rates (Czypionka et al., 2019)—also addressed the shift away from inpatient care in recent reforms. Austria made strengthening ambulatory care and reducing the acute inpatient burden a federal health reform priority in 2017, aiming to establish explicit reduction rates for hospital discharges and hospital bed-days while increasing the number of primary, multi-, and interdisciplinary care providers (Bachner et al., 2018). More directly, Austria's policy made use of international benchmarking to set specific minimum rates of ambulatory surgeries (Bundes-Zielsteuerungskommission, 2017). In Germany, the enforcement of inpatient surgery substitution was one aspect of a recent reform on the audit procedures of hospital bills, which, among other things, aimed to develop further a catalog of ambulatory-feasible surgeries (Bundesgesundheitsministerium, 2019; GKV-Spitzenverband et al., 2019).

The analysis of how evidence was used to develop these reforms can lead to a better understanding of health system characteristics and illustrate potential areas for future action (Oliver, Innvar, et al., 2014). In this article, we focus on policies introduced in 2017 in Switzerland to substitute inpatient care with ambulatory care and describe and analyze their content, the process for their introduction, and the evidence used to justify them. Initially, we provide a brief overview of recent hospital sector reforms and their drivers in Switzerland.

3.4. Recent major hospital sector reforms in Switzerland

Typically, health reforms are difficult to achieve since they necessitate broad stakeholder involvement and consensus (De Pietro et al., 2015; Vatter & Rüefli, 2014). Nevertheless, there have been some relevant hospital sector reforms over the last decade (**Table 8**). Substantial adaptations to hospital financing came with the revision of the Federal Health Insurance Act passed in 2007. The revised law, which came into force in 2009 and was mostly implemented in 2012, had the goal of containing health costs and increasing transparency and economic efficiency (Bundesamt für Gesundheit (BAG), 2019b).

Table 8. Implementation of selected health reforms concerning the shift to ambulatory care

Year[1]	Reform area	Description
Pending	Financing and payment of inpatient and outpatient services	Uniform financing and payment of inpatient and outpatient services to overcome financial disincentives and enforce the shift to the ambulatory sector. Currently in parliament.
2019	Financing and payment of inpatient services	Reimbursement stop of mandatory health insurance for inpatient services regarding six groups of interventions
2012	Payment of inpatient services	Uniform tariff structure for inpatient services (Swiss DRGs)
	Financing of inpatient services	Dual-fixed financing of services by cantons and insurers
	Hospital planning	Transition from capacity-based to performance-based hospital planning
2004	Financing of outpatient services	Introduction of TARMED tariff structure for outpatient services

[1] Year of implementation

The cornerstone of the reform was the replacement of the pre-existing per diem hospital payment system with lump sums for inpatient services, beginning in 2012. The introduction of Swiss Diagnosis Related Groups (SwissDRGs) created a country-wide uniform tariff structure for inpatient services and aimed to increase the transparency and comparability of service costs between cantons and hospitals (Bundesamt für Gesundheit (BAG), 2019b). Moreover, it was expected that the SwissDRGs would lead providers to optimize costs within their treatment procedures and enforce the reductions in lengths of stay, resulting in the shift to ambulatory care (Doser et al., 2006; Thommen et al., 2014).

The reform also changed the financing of inpatient services by creating a fixed scheme that divided expenses between mandatory health insurers (which cover a maximum of 45% of inpatient costs) and the cantons (which pay at least 55% of inpatient costs) (Bundesamt für Gesundheit (BAG), 2019b). By contrast, in the ambulatory sector, cantons have limited steering capacity, and services are reimbursed solely by the health insurers (Sager et al., 2010).

The Federal Health Insurance Act (2007) also introduced market elements, such as letting patients choose their hospital of treatment, and established equal conditions for public, publicly subsidized, and private hospitals (Bundesamt für Gesundheit (BAG), 2019b). Another novelty of the revised law was the regulation of cantonal hospital planning. The cantons were required to use uniform and transparent planning criteria for all the hospitals in their “territory” benefiting from subsidies (Bundesamt für Gesundheit (BAG), 2019b). In addition, cantons were required to coordinate hospital planning across their boundaries and, in areas of highly specialized medicine, across the whole country.

Preliminary reviews indicate limited and modest success from the 2007 reforms. Though the competition between hospitals was increased, a consolidation of the hospital landscape has not yet happened (Fontana et al., 2018). Further, transparent data on costs and payments of services are still limited (e.g., for the comparison of service providers' performances) (Lobsiger & Frey, 2019). With few notable exceptions (Kanton St. Gallen, 2020), most cantons continue to plan their inpatient services independently, focusing on their distinct interests and favoring public hospitals they directly or indirectly own (Rüefli et al., 2005). This occurs despite the existence of platforms and organizational structures for cantonal exchange and collaboration and in contradiction to the calls to optimize resources and avoid duplicate efforts (Bertschi, 2018; Fontana et al., 2018). Regarding the reform’s goal of containing health sector expenditures, inpatient cost growth was stabilized, but there was no effect on overall health expenditures because ambulatory care costs continued to increase (Bundesamt für Gesundheit (BAG), 2019b; Bundesamt für Statistik (BFS), 2020b).

The Federal Council's tariff interventions for outpatient services (i.e., ambulatory services provided in physicians’ practices, clinics, and hospitals) further affected the hospital sector. Introduced in 2004, the fee-for-service tariff TARMED was intended to replace the various cantonal tariffs for outpatient services. Since its introduction, however, it has been considered outdated and economically unviable for many ambulatory services and thus in need of significant reform (Eidgenössische Finanzkontrolle (EFK), 2010; Wanner, 2019). The tariff partners—associations of mandatory health insurers, physicians, and hospitals—have long been unable to agree on substantial revisions to TARMED (Année Politique Suisse, 2020). Proposed developments, such as the revised ambulatory tariff structure TARDOC (Curafutura & FMH, 2020) and the introduction of ambulatory case-based lump sums (Santésuisse, 2020), have not yet been approved or enacted. For this reason, the Federal Council exercised its subsidiary oversight and intervened in the tariff structure in 2014 and 2018 (Bundesamt für Gesundheit (BAG), 2020c). The interventions have increased the cost pressure on hospitals in the outpatient sector, prompting them to implement efficiency measures and adapt processes and structures for outpatient services (Bundesamt für Gesundheit (BAG), 2019d; Sommer et al., 2019).

3.5. The problem of inpatient oversupply

Despite the Federal Council's interventions, TARMED remained outdated and had to be fundamentally revised. As a consequence, the SwissDRG inpatient tariff proved to be more profitable for some interventions than its ambulatory counterpart, leading hospitals to deliver unnecessary inpatient services that consumed significant resources and brought financial burden to the cantons and the health system as a whole (Gafafer, 2012).

This situation was in contrast to the available evidence that suggested the high potential of ambulatory interventions and possible cost-savings to the health system from shifting services to the ambulatory sector (Buchard, 2006; De Lathouwer & Poullier, 1998; Doser et al., 2006; Grosser Rat Kanton Aargau, 2015; Kägi et al., 2004; Stamm, 2013). For example, since 1998, the International Association for Ambulatory Surgery (IAAS) has regularly published data showing significant differences in ambulatory surgery rates among OECD countries (De Lathouwer & Poullier, 1998). Even before the introduction of SwissDRGs, practitioners and academics had pointed out the relevance of adequate remuneration for ambulatory services and its implications for reforms on the inpatient payment system in Switzerland (Buchard, 2006; Doser et al., 2006).

Certain reports, white papers, and strategic analyses have been proven valuable in documenting the problem of unnecessary inpatient admissions in Switzerland and highlighting the need for corrective action (see **Figure 9**, lower section). Key events raised public awareness of the need for health reform, such as the public TV presentation on consumer protection in 2014, which featured a cost comparison between inpatient and ambulatory interventions, like arthroscopic meniscus repair or varicose vein stripping (Woodtli, 2014). Using accessible, simple bar graphs, the case studies, which were based on an analysis from a health insurance company, illustrated the substantial and unjustified higher costs for inpatient interventions and the substantial surcharges for supplementary insured patients. Referencing these examples, the Swiss Health Observatory (OBSAN) started to examine the status of the shift from inpatient to outpatient care for selected elective procedures (Roth & Pellegrini, 2015).

The message of the cost-saving potential was further underlined by a position paper from the consulting firm PricewaterhouseCoopers (Schwendener et al., 2016). The paper estimated that shifting 13 interventions to the ambulatory sector would result in an annual cost savings of EUR 231 million for the whole of Switzerland. Further, by shifting additional hospital short stays, cost savings would increase to the level of almost EURO one billion per year, in other words around 1.5 percent of total health expenditures in Switzerland. The attention of stakeholders and health authorities, in particular, was further raised when a company, that negotiates tariffs for health insurance companies, held a conference on the “ambulatory before inpatient” topic (Einkaufsgemeinschaft HSK, 2016) (see **Figure 9**).

3.6. The introduction of “ambulatory before inpatient” policies

The cost argument emphasized the need for change, but reforms on federal tariff structures were deemed lengthy and politically unfeasible. Instead, cantonal health authorities decided to correct for unnecessary inpatient admissions symptomatically by using a regulatory approach.

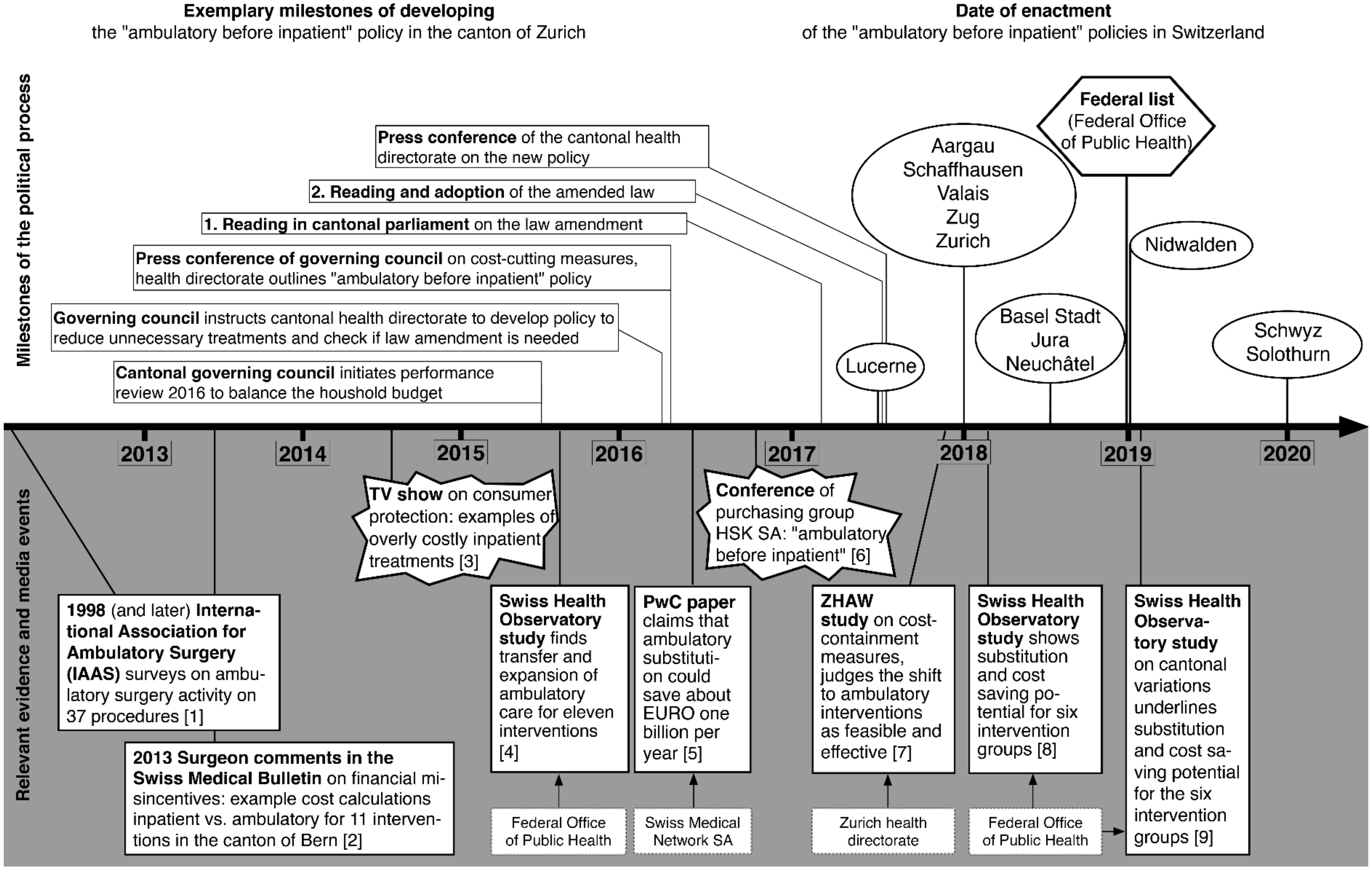

Figure 9. The development of “ambulatory before inpatient” policies in Switzerland: selected milestones, key events, and evidence used to justify the measures.

Notes: The upper portion of the figure presents elements related to the political process: milestones in developing the policy in the example of the canton of Zurich (upper left) and the dates in which cantonal and federal policies were enacted as of January 1, 2020 (upper right). The lower section of the figure (grey shading) displays the publication of particular reports and studies (i.e., evidence) to which stakeholders referred in the process (bottom, squares), the organizations that commissioned the evidence (bottom, dotted rectangles), and key events that promoted the policy development (bottom, stars). PwC: PricewaterhouseCoopers. ZHAW: Zurich University of Applied Sciences. *References*: [1] De Lathouwer and Poullier (1998); [2] Stamm (2013); [3] Woodtli (2014); [4] Roth and Pellegrini (2015); [5] Schwendener et al. (2016); [6] Einkaufsgemeinschaft HSK (2016); [7] Maurer et al. (2017); [8] Roth and Pellegrini (2018); [9] Roth and Pellegrini (2019).

By mid-2017, as shown in **Figure 9** (upper right), the cantonal health authority of Lucerne was the first to introduce a list of 12 intervention groups (elective medical examinations and treatments) that were to be provided on an ambulatory basis only. For these interventions, the canton would henceforth refuse to reimburse its share of hospital inpatient costs, because the delivery of the interventions was judged to be feasible and more cost-effective on an ambulatory basis (Gesundheits- und Sozialdepartement des Kantons Luzern, 2020). Shortly after Lucerne, the canton of Zurich—the first canton to develop such a list—and 10 other cantons introduced the same or similar policies in “ambulatory before inpatient” lists. By January 1, 2019, the FOPH enacted a list of six elective intervention groups (Bundesamt für Gesundheit (BAG), 2019a). By January 2020, 12 Swiss cantons had adopted lists stipulating up to 16 groups of interventions to be delivered in the ambulatory sector, while the remaining 14 cantons rely on the six intervention groups identified in the federal policy (Schweizerische Konferenz der kantonalen Gesundheitsdirektorinnen und -direktoren (GDK), 2020). **Table 9** represents in detail the extent of the services specified in the different cantonal and federal regulatory measures.

As the cantons introduced such policies, they drew on various evidence to develop and justify their measures. Suddenly, long available evidence such as OECD data on ambulatory surgery rates by country was used to underline the fact that Switzerland was lagging behind international development and that action was needed (Gesundheits- und Sozialdepartement des Kantons Luzern, 2020; Schweizerische Konferenz der kantonalen Gesundheitsdirektorinnen und -direktoren (GDK), 2017). The OBSAN analyses also relied on long-published lists of surgical ambulatory procedures from the IAAS (Lemos et al., 2006; Toftgaard, 2012). The observatory demonstrated cantonal variation of inpatient and ambulatory utilization and also reaffirmed the potential for substitution and cost savings in Switzerland. These findings resulted in cantons commissioning substitution potential analyses and served as the basis for the development of the cantonal and federal regulatory measures (Roth & Pellegrini, 2015, 2018, 2019; Schweizerisches Gesundheitsobservatorium (OBSAN), 2019).

Table 9. Interventions to be performed in the ambulatory sector according to cantonal and federal regulatory measures

Groups and interventions	Canton																										FOPH
	AG	AR	AI	BL	BS	BE	FR	GE	GL	GR	JU	LU	NE	NW	OW	SG	SH	SZ	SO	TG	TI	UR	VD	VS	ZG	ZH	
Eyes																											
Cataract	X				X						X	X	X	X			X	X	X					X	X	X	
Musculoskeletal system																											
Hand surgery (carpal tunnel relief and other minor procedures)	X				X						X	X	X	X			X	X	X					X	X	X	
Foot surgery (excl. Hallux valgus)	X				X						X	X	X	X			X	X	X					X	X	X	
Implant removal of osteosynthesis	X				X						X	X	X	X			X	X	X					X	X	X	
Knee arthroscopies incl. interventions on the meniscus	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Cardiology																											
Cardiological examination procedures	X										X	X	X	X			X	X	X					X	X	X	
Cardiac pacemaker incl. change	X										X	X	X	X			X	X	X					X	X	X	
Vessels																											
Varicose vein surgery of the lower extremity	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Percutaneous transluminal angioplasty incl. balloon dilatation, usually excl. access using a sheath >6F	X										X	X	X	X			X	X	X					X	X	X	
Surgery																											
Hemorrhoids	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Inguinal hernias (excl. bilateral surgery and surgery for recurrent hernias)	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Circumcision	X				X						X	X	X	X			X	X	X					X	X	X	
Gynecology																											
Interventions on the cervix	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Uterine interventions	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Urology																											
Extracorporeal shock wave lithotripsy (ESWL)	X				X						X	X	X	X			X	X	X					X	X	X	
Otorhinolaryngology																											
Tonsillotomy and adenoidectomy	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Source: “Listen der ambulant durchzuführenden Eingriffe”; Schweizerische Konferenz der kantonalen Gesundheitsdirektorinnen und -direktoren (GDK) (2020), as of December 1, 2020. Interventions on the list of the FOPH are highlighted in blue.

However, the evidence used by health authorities in the public debate to introduce the regulatory measures was modest and rarely critically reviewed. Some assumptions were treated as facts without being substantiated. For example, the policies were repeatedly presented as being in the interest of patients (Gesundheits- und Sozialdepartement des Kantons Luzern, 2020; Gesundheitsdirektion Kanton Zürich, 2016; Regierungsrat Kanton Zürich, 2016b), but this assumption was never underlined by evidence, nor were patient organizations involved in the development of the policies. Simple graphs, featuring OECD data on day surgery rates, cost comparisons of ambulatory and inpatient interventions, and calculated cost savings for shifting interventions to the ambulatory sector, were sufficient to illustrate the background and rationale of the policies but were rarely put into a broader context by the authorities through more in-depth analysis and the inclusion of scientific literature. Although some documents and political debates referred to international developments and European health systems, detailed descriptions of the context and significance for Switzerland were not provided.

3.7. Discussions associated with the policies' introduction

It was the political pressure to economize that led to the actions of the health authorities not evidence on inappropriate care (Maurer et al., 2017). The canton of Zurich implemented the policy as a cost-cutting measure to balance the cantonal household budget in the long-term, initiated through a regular performance review (Regierungsrat Kanton Zürich, 2016a) (see **Figure 9**, upper left). The canton of Lucerne applied austerity measures in almost all areas of government responsibility, including the health sector, in the years preceding the introduction of the policy (Albisser, 2019). The shift of inpatient interventions to the ambulatory sector was financially beneficial for the cantons because it relieved them of their cost share in the listed inpatient interventions. In the ambulatory sector, the costs are borne by the health insurers without any contribution from the cantons. However, for most of the interventions, ambulatory care costs were less for the health insurers than the 45% share they would have paid on the more costly inpatient services. Thus, the cantons claimed that there would be no shift in overall financing from cantons to health insurers (Regierungsrat Kanton Zürich, 2017).

The insurers, in turn, contradicted this assumption and accused the cantons of merely shifting costs to the ambulatory sector rather than reducing them and consequently burdening households through increased health insurance premiums (Curafutura, 2017). As a result, insurers requested that cantons contribute to the costs of ambulatory services if taking steering action in the sector, relaunching the debate on a uniform financing and payment system for ambulatory and inpatient services (see **Table 8**). The cantons, on the other hand, asserted that most health insurers did not minimize these unnecessary inpatient admissions even though the Health Insurance Act requires services to be effective, appropriate, and economically efficient (Bundesversammlung der Schweizerischen Eidgenossenschaft, 2016). Since cantons cannot access ambulatory care data—it mostly remains in the hands of insurers and providers (Bundesamt für Gesundheit (BAG), 2019c)—they argue that only since the introduction of SwissDRGs in 2012 have they been able to control hospital bills for the quality of the treatment indication and thus consider the appropriateness of inpatient admissions.

The discussions surrounding the introduction of the policies were not devoid of criticism in various respects. Opposition came also from health service providers who criticized governmental over-regulation and complained of being dependent on inpatient and supplementary insurance revenues to cross-subsidize unviable TARMED positions. Physicians feared losing their authority on medical decisions while facing increasing administrative work (Brack, 2017; Regierungsrat Kanton Zürich, 2016b).

Despite this resistance, health authorities were able to involve central stakeholders, such as local physician associations and hospital managers in the development of the “ambulatory before inpatient” lists and succeeded in quickly implementing them. Although the percentage of those in favor of the lists in the medical community increased substantially between 2018 and 2019, there are still many opponents and critics of the policies, their expansion, and the chosen approach to implementation (Gfs.bern, 2019; Trezzini & Bach, 2020).

The lists of interventions had two important characteristics that were regularly used to stress the balancing of the policies. First, to acknowledge that inpatient admissions can be indicated in certain instances, medical and psychosocial exception criteria for inpatient admission were defined, such as age, condition severity, comorbidity, special needs for care or treatment, or limitations of cognitive faculty or communication (Gesundheits- und Sozialdepartement des Kantons Luzern & Dienststelle Gesundheit und Sport, 2020; Schweizerische Konferenz der kantonalen Gesundheitsdirektorinnen und -direktoren (GDK), 2020). Second, the admission decision ultimately remained with the treating physician (Regierungsrat Kanton Zürich, 2016b).

To ensure compliance with the policies, the cantons introduced various procedures. For inpatient admission, depending on the canton, physicians must either document the reason for the exception postoperatively (e.g., in the medical record) or submit the justification to the health authorities in advance (Schweizerische Konferenz der kantonalen Gesundheitsdirektorinnen und -direktoren (GDK), 2020). Some cantons want to review the validity of inpatient admission before reimbursing the inpatient costs by requiring cost approvals or examining the hospital bills before their payment. Other cantons limit their control to an ex-post inspection of statistics or hospital bills as part of their regular reviews (Schweizerische Konferenz der kantonalen Gesundheitsdirektorinnen und -direktoren (GDK), 2020).

3.8. Impact of the policies

Press releases and evaluations by the cantons confirmed that the policies were indeed effective in cutting costs and reducing inpatient admission rates for the six to 14 intervention groups (Dienststelle Gesundheit und Sport, 2019; Gesundheitsdirektion Kanton Zürich, 2019, 2020; Roth & Pellegrini, 2020). The canton of Zurich, demographically the biggest with around 1.5 million residents, declared a 50% reduction of listed inpatient interventions that resulted in projected cost savings of about EUR 9.2 million in one year (Gesundheitsdirektion Kanton Zürich, 2019).

The FOPH has judged the measures successful. Although the trend of decreasing case numbers and costs for inpatient interventions already existed in the years preceding the federal policy, effects were accentuated after the policy was introduced (Bundesamt für Gesundheit (BAG), 2020a). In 2019, inpatient treatments for the six intervention groups have decreased substantially, varying between −48% and −17% (Roth & Pellegrini, 2020). As expected, rates for most outpatient procedures continued to increase in 2019. The shift effect was smaller for cantons that had introduced their own lists before the enactment of the federal list (see **Figure** 9). Cantonal differences regarding the interventions covered by the federal policy are presented in **Figure 10**, showing the percentage and number of interventions performed on an ambulatory basis per canton for the year 2019. In addition, the figure visualizes the type of policy pursued by the cantons (i.e., only federal or extended list) and the respective hospital site density.

For the year 2019 and the interventions covered by the federal policy, the overall costs decreased by EUR 31 million from EUR 311 million to EUR 280 million. The cost savings were exclusively at the cantonal level with compulsory health insurance having to bear only slightly higher costs (Roth & Pellegrini, 2020). The FOPH has planned detailed monitoring of the intended and unintended shift effects and case numbers, cost impacts, quality outcomes, and invoicing audit procedures for the first three years after the introduction of the federal list and a concluding evaluation after the year 2022 (Bundesamt für Gesundheit (BAG), 2019c; Roth & Pellegrini, 2020). More comprehensive results, particularly on potential effects on quality of care outcomes, are not yet available.

The existing data show that the policies were introduced at a time when the shift to the outpatient sector was already underway in Switzerland but had not yet fully affected the strategic reorientation of the large-scale investment plans for new hospital structures (Roth & Pellegrini, 2020; Sommer et al., 2019). Thus, the policies intensified the efforts of hospitals to adapt their infrastructures, investments, and strategies to deliver profitable ambulatory care and cope with increased competition.

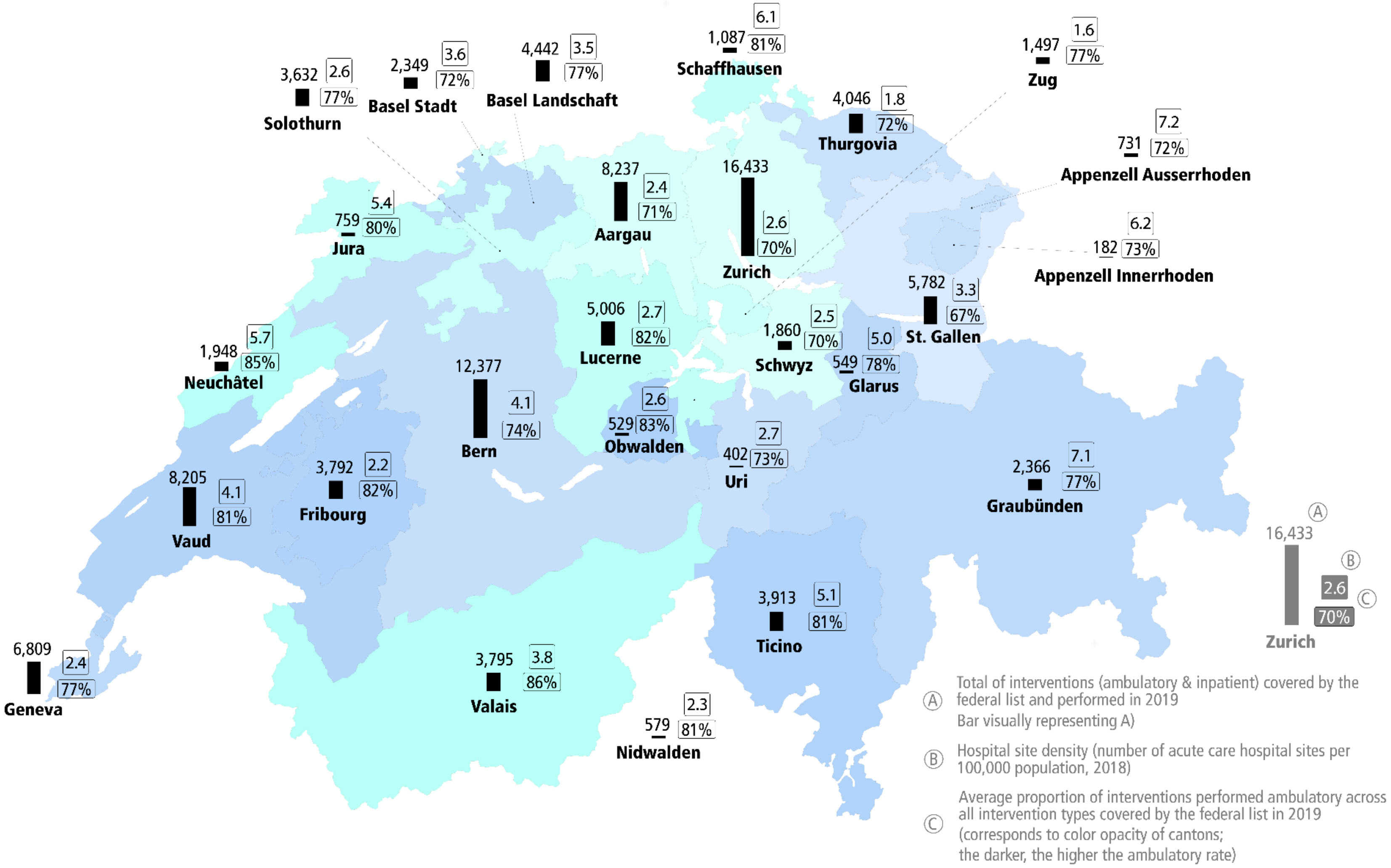

Figure 10. The "ambulatory before inpatient" policy situation in Switzerland as of January 1, 2020.

Notes: A) The federal policy issued by the FOPH encompasses the following groups of elective interventions: hemorrhoid interventions, unilateral hernia operations, examinations and interventions on the cervix or uterus, knee arthroscopies, including meniscus procedures, and tonsil and adenoid procedures. Source: Schweizerisches Gesundheitsobservatorium (OBSAN) (2021). B) Sources: Bundesamt für Gesundheit (BAG) (2020b) and Bundesamt für Statistik (BFS) (2020a). C) Percentages express the average proportion (unweighted mean) of the age and gender standardized rates for ambulatory over total (i.e., ambulatory and inpatient) interventions across all intervention types listed on the federal policy (see A). Interventions with a standardized rate of zero in either intervention modality were not included in the calculation. Thus, the number of interventions represented by the percentage can vary between cantons. Source: Roth and Pellegrini (2020).

3.9. Conclusion

In the present analysis, we described how Swiss health authorities, under pressure to economize, counteracted unnecessary inpatient services by altering the payment and reimbursement mechanisms. This led to a reduction in costs. Policies introduced by the cantons and the federal government for this purpose did not address the underlying problem of misaligned payment systems for outpatient and inpatient services, but they corrected inpatient overuse in a symptomatic way by reimbursing certain elective procedures only when performed in ambulatory settings.

The case study is an example of how clear and simple messages for hospital sector reform can not only serve to increase public understanding of existing policy challenges but also alert health officials and other stakeholders to the need for reform and serve its implementation. However, the evidence used in the policy process was generally limited to a few sources that were not critically reviewed in terms of their scope and validity. Also, long-standing international comparisons of the potential for substituting inpatient for outpatient care were repeatedly used in the process to legitimize the new policies but did not serve their initial development, which was mainly driven by an agenda of cost-savings.

The process around the introduction of the “ambulatory before inpatient” policies further illustrates that not only the availability but also the proactive analysis of service data is central to shaping health care and avoiding overuse and misuse. In this sense, the reform reinforces existing undertakings of Swiss health policy to manage the reduction of health care costs in part through the aspect of quality.

The case study further underlines the importance of inter- and intranational comparisons on intervention case numbers and other indicators. Here, health observatories and initiatives for the development of health care atlases have a special role to play. For example, the analyses of the OBSAN have significantly supported and driven the development of the changes. In the interest of efficient and effective health care, it is therefore desirable that analyses and reports increasingly be handled by health policy actors, even if they do not imply direct cost savings. Health insurers and health policymakers would do well to conduct increased regional comparisons and more proactively steer the management of the health care system to international developments to make the best possible use of the available resources. Consistent engagement with research findings is required to strengthen the shift from hospital care to the ambulatory sector. As policymakers have limited time and resources to find and utilize evidence and health system stakeholders are inclined to follow their particular interests, it is also the task of researchers to create awareness of inappropriate care and disseminate evidence to relevant stakeholders.

3.10. Declarations

Declaration of Competing Interest

The authors report no declarations of interest.

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4. Exploring evidence use and capacity for health services management and planning in Swiss health administrations

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4.1. Abstract

Background: Health administrations require evidence (i.e., robust information, data, and research) on health services and systems. However, knowledge of existing resources and processes to support evidence-informed policymaking is limited in local contexts. This study aimed to assess Swiss health administrations' capacity for evidence use and understand individual civil servants' needs and perspectives regarding evidence in health services management and planning.

Methods: In this exploratory mixed-method study, we interviewed civil servants from Swiss German-speaking cantonal health administrations. Using a validated tool, we quantitatively assessed administrations' organization-level capacity by applying structured interviews (n=6) and explored individual-level needs and perspectives with in-depth interviews (n=12) that were subjected to qualitative analysis using the framework method.

Findings: Administrations reported similar and overall moderate evidence-use capacity. In terms of specific capacity domains, the administrations displayed similar patterns with high and low levels of capacity, generally with considerable variation within administrations. Most administrations disclosed high capacity in producing or commissioning evidence and concerning relationships with research but indicated limited capacity in the documentation of processes, availability of tools, programs, or training opportunities. Findings suggest that administrations place the responsibility for engagement with evidence at the level of individual civil servants who work in a challenging context. Although they highly value evidence-informed policymaking, which they consider vital to effective health services management and planning, they face significant constraints in general and evidence-specific resources and receive little organizational support. To compensate for these limitations, administrations rely on external capacity and engage with evidence pragmatically.

Conclusion: Our findings indicate moderate and improvable capacity for evidence use in Swiss health administrations that place little value on organizational support. To unlock the

potential of strengthened engagement with evidence, leadership buy-in, specific staff needs, and balancing the implementation of specific measures with the provision of more general resources should be considered.

4.2. Introduction

The motivation to understand the role of evidence (i.e., robust information, data, and research) in policymaking is inherently driven by the desire to enhance its contribution to policy decisions and implementation thereof, ultimately improving health system outcomes. Consequentially, initiatives and interventions that seek to strengthen policy actors' capacity to use evidence, i.e., the ability to access, process, and transmit information (Newman et al., 2017), have increased in number in recent years. For example, interventions have sought to support policymakers with better evidence access (Brownson et al., 2007; Brownson et al., 2018; Dobbins et al., 2009; Neil-Sztramko et al., 2021; Sarkies et al., 2017), build relationships and networks with research-related stakeholders (Bornbaum et al., 2015; D. Campbell et al., 2011; Elueze, 2015), provide facilitating infrastructure and processes (D. Campbell et al., 2011; Mijumbi-Deve & Sewankambo, 2017), or strengthen evidence-use skills through training (Champagne et al., 2014; Uneke et al., 2015).

As central health policy actors, public administrations are a key target group for such capacity-strengthening interventions. Administrations depend on the availability of research and data for health services management and planning (HSMP) to foster population health and ensure effective and efficient services (Baumann & Wyss, 2021). Strengthening administrations' capacity to engage with and use evidence in HSMP may help them to make better decisions with scarce resources, ultimately promoting the provision and assurance of value-based health care (Smith et al., 2021).

In Switzerland, a democratic federation with 26 member states (i.e., cantons), there are 26 government health administrations, each with far-reaching health governance and legal, planning and management authority (OECD/WHO, 2011; Rüefli et al., 2015; Vatter & Rüefli, 2014). These administrations oversee all health services areas, and their responsibilities include, among other things, regulating the hospital sector, construction and operation of public hospitals and nursing homes, regulating ambulatory service providers, funding medical training institutions, sanitary duties, and regulating medical product dispensing. Thus, administrations' work on many health system functions would potentially benefit from measures supporting capacity for evidence-informed policymaking (EIPM). Such EIPM measures can range from the introduction of simple tools (e.g., specific training, access to research, or rapid research response mechanisms) (Blessing & Varnai, 2017) to complex, multi-layered interventions (Williamson et al., 2019).

The planning and effective implementation of such measures require understanding the prevailing contextual conditions, existing resources, processes, and necessities for change as perceived by the policymakers concerned (LaRocca et al., 2012; Punton, 2016; Trytten et al., 2019; Verboom & Baumann, 2022). However, previous work on EIPM capacity in Swiss health administrations has mainly been confined to assessing how often administrations commission and use evaluation of policy measures (Frey & Ledermann, 2017). There is a lack of knowledge on available resources and processes that support EIPM beyond aspects that characterize how well evaluation is institutionalized in administrations (Rohrbach, 2020). In addition, research in Switzerland has focused on studying particular policies or specific pieces of evidence (Balthasar, 2010; Balthasar & Müller, 2014; Frey, 2012; Frey & Ledermann, 2017; Frey & Widmer, 2011) but has not attempted to describe administrations' fundamental views on the role and use of evidence and related needs.

This study aimed to explore and characterize Swiss health administrations' evidence use and capacity. This is done by 1) assessing administrations' access to and use of tools and systems that support EIPM on the organizational level and 2) investigating individual policymakers' (i.e., civil servants) perspectives and needs regarding evidence use and capacity for HSMP.

4.3. Materials and methods

4.3.1. Study design

This mixed-method interview study investigated policymakers in German-speaking Swiss cantonal health administrations. Policymakers in this study are civil servants (in this paper, we use the two terms interchangeably) working in Swiss cantonal health administrations as either secretary-general or staff/person in charge of HSMP.

We quantitatively assessed the organization-level capacity for EIPM support tools and systems by interviewing health administrations' secretaries-general, applying an existing interview and scoring tool. To embed these findings in the practical context and investigate individual-level needs and perspectives regarding EIPM, we purposefully selected additional civil servants responsible for HSMP for in-depth interviews that were subjected to qualitative analysis. Before fully outlining the applied methods, we first describe the study's context and provide the definition of evidence used in this study.

4.3.2. Study setting

Switzerland is a democratic federation with 26 member states (i.e., cantons). They have far-reaching health governance and legal, planning and management authority (OECD/WHO, 2011; Rüefli et al., 2015; Vatter & Rüefli, 2014). Cantonal government health administrations (i.e., "health departments") oversee all health services, including acute care, psychiatry, rehabilitation, long-term care, and emergency services. Their responsibilities include regulating the hospital sector, construction, and operation of public hospitals and nursing homes, regulating ambulatory service providers, funding medical training institutions, sanitary duties, and regulating medical product dispensing. Depending on the division of responsibilities concerning the canton, some of these tasks are also performed by the municipalities, particularly ensuring primary, hospital, and long-term care. Lastly, alongside other actors (federal agencies, communes, and non-governmental organizations), cantons play an essential role in disease prevention and health promotion.

The supreme governing body of the health administration, politically and organizationally, is the executive, i.e., one of the five to seven members of the cantonal executive council (the cantonal government). While this member is a politician elected by citizens, the staff of administrations consists of unelected civil servants. The organization of the administrations differs among cantons. Some cantons have distinct health departments, while others have departments responsible for multiple areas, such as health and social affairs, with a specific agency or section dedicated to health. General secretariats support the administration heads in political and operational management and coordination of activities and are thus the central interface between politics and administration. While every administration has one secretary-general, the number of civil servants concerned with HSMP varies considerably, depending on the canton size. The population of Swiss cantons is between 16,000 and 1.5 million.

4.3.3. Definition of evidence

In this study, we understand evidence as “robust information, data, and research” and use these terms synonymously with “evidence” in reporting and discussing the studies’ findings. We used this broad definition in the in-depth interviews but applied a more detailed and illustrative definition that was derived from the literature (Haynes et al., 2015) for the capacity assessment:

> *Systematically and transparently conducted and reported analyses. These may originate from academic literature, monographs, books, or gray literature, and include internal studies and evaluations. In this sense, robust information, data, and research is not limited to the work of academics from universities or universities of applied sciences but may include findings/studies from other research organizations, e.g., independent research institutes, competence centers, and evaluation and consulting offices.*

4.3.4. Quantitative capacity assessment

Assessment tool

For investigating health administrations' evidence-use capacity, we applied the Organizational Research Access, Culture, and Leadership (ORACLe; Makkar, Turner, et al., 2016) instrument. ORACLe was developed and validated to measure research use in Australian health policy organizations (CIPHER Investigators, 2014; Williamson et al., 2019) and assesses the availability of tools and systems to facilitate evidence use, hereafter referred to as simply "capacity." The instrument is theoretically grounded in an action framework that aims to support developing and testing strategies to enhance evidence use in policy (Redman et al., 2015). ORACLe consists of a structured 23-question interview and a three-point scoring guide to measure organization-level capacity on seven domains: 1) documented processes for policymaking, 2) leadership training, 3) staff training, 4) research resources and systems, 5) generation of new research, 6) undertaking of evaluations, and 7) relationships with researchers.

We then carefully translated the ORACLe interview and scoring guide from English to German, adapted keywords to the local context where necessary (e.g., there is no German word for "policy"), and ensured clear wording while preserving the original meaning. Next, we back-translated the guide to English, compared both versions, and made adaptations to the German version where needed. See **Table 11** (4.7.1, Supplementary file 1) for the translated interview and scoring guide.

Participant selection and data collection

We contacted all Swiss health administrations with German as one of the official cantonal languages and a population larger than 50,000 (n=16). This arbitrary cutoff was chosen because several of the resources surveyed were likely to be inexistent in small to very small health administrations consisting only of a handful of civil servants.

We contacted administrations' secretaries-general by email or telephone and invited them to take part in an interview. Where secretaries-general were unavailable, we accepted employees with a suitable level of knowledge. In addition, we provided interview questions for preparation purposes. All interviews were conducted via telephone in Swiss German by the first author and recorded with the software Zoom. Interviews started with providing key definitions, followed by the structured interview. At the end of the interview, we asked for a referral to potential interview candidates for complementary in-depth interviews.

Data processing and analysis

All interview recordings were transcribed in the intelligent verbatim fashion to assist scoring and allow for subsequent qualitative analysis and data triangulation with in-depth interviews where the focus is congruent. Overall and domain-specific capacity scores were calculated using the scoring guide (see **Table 11,** 4.7.1, Supplementary file 1). In brief, for each interview and all 23 questions, a value of one to three was assigned, where one means low and three means a high manifestation of capacity. Values were then averaged per domain to calculate domain scores (range 1−3). For the calculation of overall health-administration scores (range 0−9), values were mean-centered and subjected to a formula that considers the relative weight of the domains (for details, see (Makkar, Turner, et al., 2016)). In addition, we summed the domain scores to provide a comparison with overall scores independently of a priori domain weighing. An additional researcher trained in rating and otherwise not involved in the project independently double-scored all interviews to ensure consistency. Disagreements in scoring were resolved through discussion.

We used StataCorp Stata 15 software to calculate domain and overall capacity scores and display them as bar plots herein. ORACLe data are reported narratively and supplemented with information from the interview transcripts.

4.3.5. Qualitative in-depth interviews

Semi-structured interview guide

We developed a semi-structured interview guide with open-ended questions, probes, and prompts (see 4.7.2, Supplementary file 2) that aimed to gain additional insights on evidence use and capacity from an individual perspective, elicit responses regarding the needs to use evidence, situate the findings in the area of HSMP, and understand them in a practical context. In brief, questions of the guide addressed the personal perspective on the role and relevance of evidence in policymaking, resources, need for and potential of evidence use, organizational culture, and collaboration with research organizations.

Participant selection and data collection

We purposefully sampled civil servants responsible for HSMP, with one exception (from the area of prevention), from all German-speaking cantons, regardless of their population size (n=21). We used information from health administration websites and nominations provided by the ORACLe interviewees to identify potential in-depth interview candidates. We aimed to include at least one civil servant from each health administration that participated in the ORACLe interviews, preferably from the higher hierarchical levels, so that certain proximity to political–strategic decisions, an overview of the administration’s activities, and breadth of the work portfolio could be assumed.

Interview candidates were contacted via telephone and email and invited to participate in a face-to-face or video interview. A summary of interview topics was provided on request. All interviews started with the provision of key definitions, followed by the questions of the semi-structured interview guide, and ended with capturing sociodemographic data. Interviews were recorded (either via Zoom or smartphone), and notes were taken. All interviews were conducted in Swiss German. After each interview, participants were asked to nominate further informants from the same administration. Sampling was made until saturation became apparent, meaning that the same ideas repeatedly appeared (Corbin & Strauss, 2014). Due to the exploratory character, however, we did not strive for complete thematic saturation (Weller et al., 2018) but expected to reach this point between ten and fifteen interviews, as the target audience was judged to be relatively homogeneous (Guest et al., 2006).

Data processing and analysis

All interviews were transcribed verbatim within a few days of each interview. NVivo 12 was used to facilitate the organization, coding, and analysis of data. We thematically analyzed interview data using the framework method, an approach suitable for policy research (Gale et al., 2013; Ritchie et al., 1994). We chose this method because it allows the use of qualitative and quantitative data and lends itself to comparative analysis. We applied a combination of inductive and deductive analysis to develop the coding framework through open coding while drawing on the existing literature on EIPM and major topics from the interview guide. A preliminary coding framework was developed based on the first four in-depth interview transcripts. All transcripts, including the first four in-depth and those of the ORACLe interviews, were then systematically coded applying this framework. Concepts not covered by the framework were recorded under new codes and integrated into the final framework once all interviews were coded.

We used the Standards for Reporting Qualitative Research guidelines to report the present study (O’Brien et al., 2014). Data are presented without naming health administrations (we use the letters A−K instead) or participant details (numbers are used to distinguish between civil servants of the same administration, and SG stands for secretary-general) to preserve anonymity.

Ethics

Ethics approval for the studies was sought with the northwestern and central Switzerland ethics committee. As determined by the committee, this study is not subject to the permit of ethics clearance. The study, however, complies with the general ethical principles for research on humans, as stated by the Swiss Human Research Act. Updates to the research design, specific methods, and documents were filed with the committee and were approved before execution. Participants were informed about the study’s purpose and objectives. Written informed consent and verbal agreement to interview recording were obtained from all participants before conducting the interviews.

4.4. Results

We collected data from the health administrations of 11 cantons, representing 60% of the Swiss population. Participating administrations were from small, large, rural, and urban cantons. Interviews took place between October 2020 and May 2021. We conducted six structured telephone interviews with secretaries-general from six cantons for the capacity assessment. The mean interview length was 48 minutes, and the participation rate was 38%. Additionally, we performed 12 in-depth interviews with civil servants from 10 cantons concerned with or responsible for HSMP. All but one participant (work area: prevention) were

Table 10. In-depth interview participant characteristics

Characteristics	n or mean (% or range)
Sex	
Female	5 (42%)
Male	7 (58%)
Age	51 (39−62)
Highest academic qualification[1]	
No academic degree	1 (8%)
Master/Bachelor	9 (75%)
PhD	2 (17%)
Postgraduate education at university	8 (67%)
Work experience in research	
No	10 (83%)
Yes	2 (17%)
Work experience in administration	
Years in current position	9 (3−28)
Years in administration	14 (3−28)
Hierarchical level	
Head of health agency[2]	3 (25%)
Head of health services division	9 (75%)
of which health agency deputy	*4 (44%)*
Number of subordinates	11 (0−60)

[1] Multiple answers were possible.

[2] Highest civil servant responsible for all areas of “health”.

responsible for health service planning, but their primary responsibility area or titling could encompass other fields. Details of the 12 in-depth interview participants are shown in Table 10. In-depth interviews ranged from 40 to 80 minutes (average: 55 minutes), and the participation rate was 52%.

Civil servants who were not available for interview participation in either interview type stated the COVID-19 pandemic and the consequential very high work load as their reason not to participate. In addition, several interviews were canceled or postponed on short notice due to developments in response to the pandemic management. In the following sections, we first present the capacity assessment results and then describe and discuss findings from the in-depth interviews.

Moderate evidence-use capacity in health administrations

The administrations' overall capacity (scale: 0−9), as assessed by the ORACLe tool, was generally moderate among the administrations, with only minor differences. In numbers, the mean overall capacity was 5.1 (range: 4.4−5.8), whereas zero means no and nine means high capacity. For a visual representation, see **Figure 12** (4.6.3, Supplementary file 3). Calculation of the unweighted total (i.e., the sum of the domain scores, making no assumptions about the relative importance of domains) resulted in a similar pattern, though with a slightly different rank order. Details are presented in **Figure 13** (4.7.4, Supplementary file 4).

Regarding the administrations' capacity on the level of the seven ORACLe domains, administrations expressed a similar pattern of domains with high and low capacity, generally with considerable variation among domains (**Figure 11**). Most administrations were particularly strong regarding their efforts to produce their own analyses (e.g., regarding health services demands and prognoses) or commission research and their established relationships with researchers and research organizations. Secretaries-general generally reported limited capacity in the documentation of processes, availability of tools and programs for leaders, and staff support with training and tools. As such, administrations scored lowest in domains two to four, which were weighted strongest in calculating the overall capacity score (Makkar, Turner, et al., 2016). In the following paragraphs, we inspect the administrations' domain capacity in more detail.

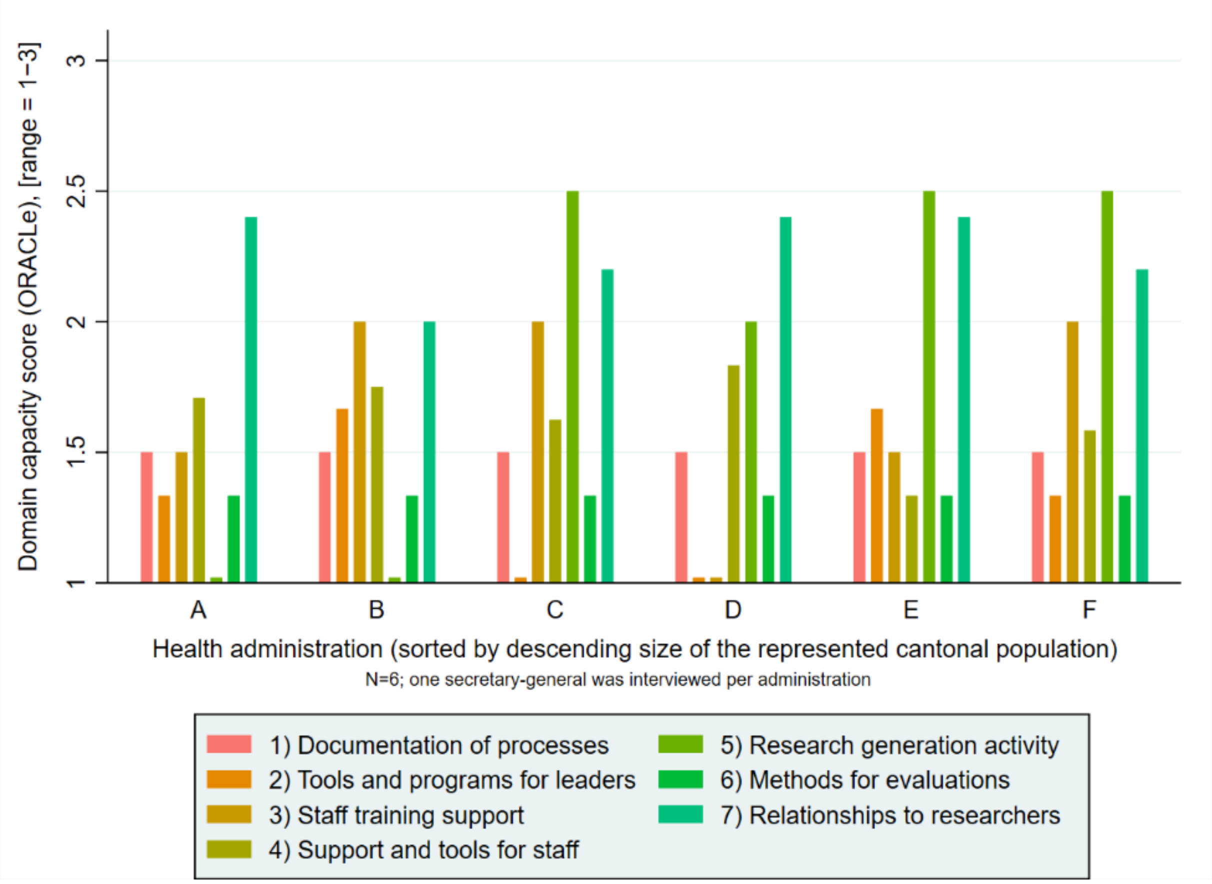

Figure 11. Domain capacity scores by health administration.

Administrations indicated uniformly low capacity regarding the documentation of processes that mandate or encourage the consultation of evidence to develop policies (domain one). Documentation was generally limited to formal aspects of politico-administrative processes (e.g., legislative procedures) by the decentralized Swiss political system. However, consultation and integration of evidence were often expected or constituted the norm in these processes without explicit documentation of encouragement or requirement. There was no reporting of specific examples of written guidance to develop the content of policies and programs. Most explicit requirements were described as being ad hoc on a case-to-case basis, while generally, the scope of the policy or program (i.e., its costs, duration, and extent) determined how relevant the consultation and demonstration of evidence use was. Projects carried out over a more extended period, such as comprehensive health strategies, were reported to be especially evidence-informed, often through the involvement of external partners such as academic institutions or consultancy agencies.

Similarly, administrations exhibited little capacity concerning tools and programs that assist leaders in supporting evidence use (domain two), with two administrations indicating no capacity in this domain. In most administrations, there were no specific programs for leaders to enhance confidence or expertise in evidence use, and neither job descriptions nor performance evaluations/targets entailed expertise in evidence use. The frequency of leaders referring to evidence in internal communication varied among cantons, with two where leaders did not refer to evidence.

In contrast to the first two domains, capacity in programs enabling staff to learn and maintain evidence-use skills (domain three) varied more strongly among the administrations. Three administrations showed moderate capacity scores, two minimal, and one no capacity at all. Administrations generally provided regular access to external training, and access to, assessment of, and application of evidence to policymaking was sometimes part of the offering. While participation in such training was usually not considered in staff-performance management in half the administrations, three considered such efforts, depending on the function and background of the staff. However, administrations generally reported continuing education and training as expected but relied mainly on the staff's initiative.

Administrations showed a similarly low capacity for systems and tools that support staff using evidence (domain four), with two being slightly lower in value than the other four. All but one administration reported regular internal events for the dissemination of evidence. No resources were available that guided access to, appraisal of, or application of evidence. Most administrations indicated having staff expertise in evidence use. While the expertise was required or assumed for certain functions, it was not tied to a specific role. In general, this expertise was described as being accessible to other employees. Secretaries-general also stated that administrations had access to most or all relevant academic journals but indicated that needs and, thus, access differed significantly among individuals and different fields of work. On the other hand, Bibliographic databases were available only in some administrations. About half the administrations had an easily accessible and cataloged library, and none provided licenses for literature-management software. There were no established methods to commission literature reviews and no knowledge-management systems specifically applied for evidence management. However, existing business-management systems were reported to be principally available for such purposes in half the administrations.

Secretaries-general indicated the highest capacity scores for existing efforts to generate new evidence (domain five). While four of six administrations showed moderate to high capacity, two exposed none. Most research projects were carried out with the involvement of external partners. Half the administrations reported recently having commissioned one or more research projects.

Capacity regarding processes for evidence-informed policy evaluations (domain six) was uniformly low among all administrations. Although evaluations for measures of certain scope were expected and carried out regularly or frequently, a requirement for undertaking such evaluations was not explicitly documented.

All administrations showed moderate to high capacity regarding their relationships with researchers and research organizations (domain seven). Administration staff generally participated in research fora or conferences, and most administrations had several formal and informal relationships with research organizations. There were no administration-staff appointments from research organizations in the area of health services. However, there was regular consultation and involvement of external experts in administrations' work, often service providers (e.g., physicians) with double roles in practice and academia.

There is potential for increased organization-level, structural capacity in health administrations

In general, when asked about the evidence base for HSMP, civil servants criticized data gaps in certain areas of their work and the fact that, despite the slow improvement, data can be challenging to access (“there we are groping around completely in the dark”—A1) and dispersed (“we really have to scrape it together”—J1). While the availability of inpatient care data is typically considered satisfactory, the “black box” of outpatient data presents a challenge due to poor accessibility and quality (F1), making it intricate to assess important trends, such as the shift of inpatient care services to the outpatient sector. Similarly, outcomes data related to the quality of care would be necessary for civil servants’ work in governing health care but hardly exist. Individual voices criticized “statistical silos” and emphasized the potential value of better linking data collected through different systems—for example, health and social care data (D1).

However, there is not only a lack of data but also of personnel, expertise, and time to analyze available evidence. Civil servants felt that they did not have enough time to deal with specific problems in greater depth or study the academic literature due to the limited resources provided by the administration.

> *Lean management means efficient reduction [of activities] to the core business [...] not prospective planning and projects … that is a bonus. So, the more you are under pressure with resources, the more you have to reduce [the time you devote] to the day-to-day business. And I think that’s not just in our office, but that’s the situation in the administration in general.* D1

In this context of scarce resources, civil servants are forced to use evidence pragmatically. Data and information are sought and processed when they are timely available and “accessible at a reasonable cost,” and their contribution is judged to be meaningful (H1). Consequentially, in many cases, intuitions or clues have to be sufficient to make HSMP decisions. If something works, i.e., the administration can manage a task satisfactorily, there is little incentive from an organization-level perspective to examine the validity of underlying data more closely.

Apart from the lack of general resources, the pragmatic engagement with evidence is a consequence of the low institutionalized EIPM-specific support and guidance in the administration (i.e., limitations in structural capacity). Despite administration leadership generally supporting EIPM, administrations place the focus and responsibility for engagement with evidence at the level of individual civil servants.

> *My understanding of my employees is primarily that they should be able to work as freely as possible with as few framework conditions and terms of reference as possible […]. And I also try to encourage employees to check certain things, as far as possible, and to back them up with facts and scientific findings.* H1

While the administrations' prevailing informal culture towards EIPM is considered a relevant factor in influencing the individual civil servants' behavior regarding evidence use, this behavior is perceived as being influenceable only to a limited extent, as one secretary-general outlines:

> *People just have different ways of doing things. Some find it exciting and like to read such documents; others do it less [gladly]. You can't enforce this very well. You can't tell someone that they have to read three academic publications on a certain topic every month. You can't do that at this level. It's more about having that culture and also keeping the curiosity to know what's happening in the specialty and what exciting things have come out of the research.* A-SG

When asked about their needs for the administration's support in dealing with evidence, the civil servants provided few specifics, revealing that there is no conception of potential targeted EIPM support measures. Instead, civil servants indicated that they require generic resources such as time and additional staff. An exception to this were two resource-rich administrations that claimed to have limited access to databases of academic publications, and interviewees reported that some of their staff found this situation highly unsatisfactory. Other needs were directed not at the administration but at the evidence producers. Several civil servants would welcome more orientation to and overviews of existing data, statistics, and academic publications, and indicated that federal agencies could strengthen these efforts by providing increased guidance and easy-to-access information. One expressed a desire for guidelines on the health system level that would provide normative direction for achieving the "target state," "in the sense of what would actually be a best practice, what would actually be good care" (A1).

The administrations use external resources to compensate for their limited internal capacity to produce and engage with evidence. An essential such resource, especially for medium-sized and smaller cantons, is the OBSAN (https://www.obsan.admin.ch/en). OBSAN is a competence center supported by the Confederation and the cantons. It offers analytical expertise to the administrations, provides access to otherwise difficult-to-access data, and produces valuable evidence, especially for health care planning.

> *They [OBSAN] can actually reconcile the balancing act between, let's say, demands that are perhaps not always so scientific on the part of the cantons with their ethos and with their scientific background. And that is not always easy. And I think they do that very well.* H2

In its function "as a sparring partner," OBSAN plays a role that goes beyond that of an evidence producer, becoming, to some extent, a knowledge broker (D1). For example, as a "transformation agency," OBSAN stimulates new research through its workshops and presentations of analyses in the cantons (K1). OBSAN's work is unanimously praised for its quality and usefulness for policymaking. However, the relevance of external partners in the generation and application of evidence also illustrates the dependence on external resources in dealing with evidence.

> *And I simply notice that today there are still cantons that are not able to use the available data. But they are almost condemned or obliged, not in the sense that they would not do a good job, but they really have to place such tasks with OBSAN. Because they're simply overwhelmed with making use of the overall Swiss data that are also made available to them.* H1

As also noted in the capacity assessment, the in-depth interviews confirmed that collaboration with research organizations and research-related consulting firms is central to the administration. However, such collaboration is sporadic, with little direct contact overall. While some civil servants emphasized that research and evaluation assignments would be "horribly expensive" (F1), others regretted that "you just can't spend money if you don't have time" (A1) to manage an evaluation mandate.

Besides the OBSAN and research organizations and firms, health care providers—first and foremost, hospitals—are vital to the administration. They build a "bridge between practice, research, and health authorities" by providing access to evidence and supporting the administration in its appraisal (A-GS). They are essential partners in aligning, planning and implementing health care policies.

> *We always rely on the expertise of the experts who are on the front lines, be it university hospitals or professors who are also doing research in their field and trying to generate evidence, as well as regional hospitals to bring in their perspectives.* G1

However, this relationship, with its knowledge asymmetry in favor of the service providers, is not without problems, especially since they do not think in terms of a "health care logic for the population" of networked, integrated health care (A1). An interviewee from a large canton expressed the hypothesis that in the administration's efforts to better manage the service providers, "a change" has occurred in favor of the administration's need for more evidence (G1). All civil servants agreed that evidence is becoming increasingly crucial to the administration's work to shape health care.

Evidence is highly valued for health service management and planning

Evidence provides civil servants with confidence in and orientation for actions, helps them understand the current health care situation, identifies areas in which action is needed, allows forecasting of future needs, and drives planning. Evidence was characterized to be central to the ability of health administrations to perform their function of regulating service providers. External demands, such as those from the government, parliament, and citizens, require the administration to employ evidence. Some institutionalized political processes, such as reporting to parliament or legal requirements, even oblige the use of evidence.

> *I think evidence is very important for us in our daily work but also in health care planning. If we have to assess the health care situation, we need information, data, evidence, we need to know if access is guaranteed—if they [the patients] can see a general practitioner within such and such a time, for example, or a hospital, and so on. Yes, I think [it] is important, the evidence.* K1

Besides the relevance of evidence for effective HSMP from an organization-level perspective, civil servants consider the employment of evidence greatly important. Situations with little or unclear evidence are considered unsatisfactory, making it challenging to meet one's professional aspirations. Civil servants wish existing evidence to be consulted more frequently and desire opportunities to perform more in-depth analyses of topical areas they are tasked with. Their narrative suggests that efforts to incorporate evidence into the work "as well as possible" (F1) is a consequence of their self-image in the sense of a "professional self-expectation" (D1) and "attitude" (A1). Thus, accounts of using evidence as working "well and carefully" (A1) highlight the internalization of evidence's fundamental importance and its normative meaning as the right guide to make decisions about HSMP.

The area of hospital planning is perceived to be particularly evidence-informed, and for care planning in general, the medical statistics of the hospitals to represent the "basis of the whole" (E1). Still, population, hospital cost, social security data, and other forms of evidence, such as academic publications and survey data, also feed into policymaking. The academic literature seems considerably less broadly relevant for HSMP; it is used to answer specific questions, such as how health care for medical conditions like strokes should be provided or how case rates should be used to steer care.

> *These minimum case rates are also underpinned by the findings of studies conducted abroad, that is, minimum case rates used abroad are adopted, in part, for use in Switzerland.* H1

Much more prominent than the potential usefulness of the international research literature for health care governance in Switzerland is the narrative that research results, in many cases, are “not useful for our conditions or our problem” (H2).

> *Only studying the literature doesn’t help that much either, so if you read any [studies] from Germany or England ... we don’t have an NHS (National Health Service), and we don’t have the same underlying circumstances in terms of funding as Germany or so. Thus, certain things you just can’t realize.* A1

However, the same argument is made about the transferability of evidence or policy solutions between cantons.

> *In a canton like ours, where very different conditions prevail, primarily of a geographical nature … it [adopting minimum case rates] does not serve this purpose at all.* E1

Whereas other civil servants emphasize the potential of intensified exchanges of evidence and tacit knowledge between the cantons. In health care planning, such exchanges are described as close in isolated cases but limited overall. Essentially, they depend on individuals in the administration, predominantly involve the nearest neighboring cantons, and hardly exist across language borders.

> *Between the cantons, there is actually almost ... there is very little exchange, it seems to me. Which is actually a bit of a shame. You could learn something from each other, as the case may be.* A1

Besides the relevance to achieving good policy work, evidence supports civil servants in their arguments within the administration and discussions with external policy actors (e.g., service providers or professional associations); evidence helps justify actions, convince stakeholders, and enforce plans.

> *I think evidence is always important in argumentation. So, we have ideas about how the healthcare landscape will or should develop. And if we have to advocate for this*

> *politically, even just within the directorate, or then to the outside and say, that's where we want to go, then we need arguments, and science actually provides them.* G1

> *I then simply had the idea that with such a health economic evaluation, the health insurers could perhaps be convinced as well.* D1

From a theoretical point of view, the conceptual evidence use (Weiss, 1977a)—for example, to develop new ideas for health services and their regulation—seems to be less predominant than, for example, symbolic uses to legitimize preexisting positions (Boswell, 2008).

High individual-level motivation to engage with evidence despite a challenging politicized context

The administration work occurs in a "political environment" (B1). Therefore, administrations can only contribute to EIPM to some extent, for example, by providing information and creating framework conditions to promote the integration of evidence through their role in the management of service providers.

The civil servants see it as the role of the administration "to do a balancing act" between "those who are concerned, science and politics" (H2) and trying to "promote evidence-based policy" (J1). As individuals who help the administration carry out this role, they felt it was their duty to call attention to policy proposals that conflicted with evidence.

> *Now if my boss, the Executive Councilor, wants something, and then wants me to kind of back it up for him with data or with facts, or something, sometimes I have to say no, if you want to do it that way, then do it, but that doesn't really hold up.* J1

In some cases, evidence is brought into the political discourse beyond the administrations' management level if it is in danger of being withheld there. Here is how one civil servant describes such actions:

> *By working on it and making the evidence available to different political stakeholders … and with that, the possibility was actually no longer there to just let the [evidence] disappear into the drawer. That was not always without its problems, that conduct.* H1

Nevertheless, civil servants understood and accepted political rationales but sometimes described being dissatisfied with the limited relevance of the evidence to such rationales. In their descriptions, they drew a picture that resembled a dichotomy (Caplan, 1979) between substantially evidence-informed work on the part of the administration (at least up to the political-strategic level) versus the political decision-making arena, in which evidence does not play a major role except for the symbolic benefit, and ideologies and short-term perspectives dominate.

> *They are almost mutually exclusive, the evidence and policymaking. Or they are two different tracks. Policymaking is precisely not evidence-based. Otherwise, we wouldn't need so many [politicians] in parliament. Then a few would be enough in parliament if you could just say that's the science, and that's it.* C-SG

> *So, when I accompany a decision, it is rare that someone says, "What do the numbers tell us? Do we have studies on this, or is there evidence on this?" I think I've almost never heard that since I've been here.* I1

To be sure, interview respondents provided several examples where evidence significantly influenced policymaking or even shaped it. However, their discussion of health policy was dominated by accounts of the limited impact of evidence on the political rationales. One civil servant made an exception, describing the very small-scale nature of the canton as conducive to EIPM.

> *Politics in the canton, I sense, are always very interested in this [evidence]. There is less, I would almost say, politicking with preconceived opinions. Instead, people want to deal with an issue. That is perhaps the specialty of a smaller canton, where party*

> *politics is less in the foreground than fact-based politics, where people really deal with issues. And fact-based politics then presupposes that you have information.* K1

However, another interviewee from a similarly small canton had a fundamentally different view and held the right-wing political attitude in the canton and beyond accountable for a state not very receptive to evidence in the parliament.

> *But in this region, it's quite the case that most cantons have a similar attitude when it comes to evidence. That is, it doesn't have a huge status.* I1

The local and regional policy context was generally described as more ideology-based and conflicting with EIPM. One civil servant elaborated on the reason for this.

> *The more local [the policy issue] the less, how should I say … evidence-based, data-based it is, because those data are not available in studies or anything the like.* D1

In this politicized context, using evidence to advocate for a cause can result in negative consequences. A few civil servants reported being verbally attacked professionally or even personally for ideological reasons, given "a roasting" (A1) or "finished off" (H2).

The discrepancy between political motives and evidence becomes particularly apparent in the case of recommendations to discontinue ineffective but established programs (such as disease screening programs), or when health care sites are to be closed or their services abolished to save costs, concentrate efforts or achieve higher quality services.

> *You could say that health care, accessibility, remains just as good, but the quality could increase, and the costs are better controlled. These are not always the arguments that work when it comes to a local vote on whether a population wants a hospital close to home or not. There are completely different emotional and, economic, local aspects involved, which then prevent this.* G1

The COVID-19 pandemic exemplifies the imperative of engaging with evidence

Although the COVID-19 pandemic was not an a priori focus of this study, most interviewees referenced EIPM in this context. The statements on COVID-19 summarize some of the abovementioned perspectives and illustrate the principal relevance of evidence to HSMP.

Making and justifying decisions during the COVID-19 crisis was perceived as complicated, in part because little or no evidence was available, and it was unclear how well the evidence could be trusted.

> *Corona shows us this quite obviously, where so much is written and said and especially claimed, and we always have to go by the facts and see what the situation really is and how it presents itself and where the information comes from—is it backed up, and so on.* K1

Fundamentally, however, evidence was essential for the authorities to manage the crisis and sharpened the administration's view of the inherent relevance of evidence. Civil servants acquired evidence to develop policy measures through intensified contacts with service providers and experts, including informal networks. Chief Medical Officers of the cantonal administrations' public health offices were critical in preparing and introducing evidence. Overall, in this crisis, the administration has gathered much more evidence than usual and used it for policy decisions.

> *But in principle, it has to be acknowledged that collecting such know-how and grounding it in evidence, that is, we collect it from the hospitals practically weekly, is an absolute novelty that would not be done otherwise.* F1

> *But I think now it becomes clear to everyone that without evidence, it simply goes little. Otherwise, you are flying blind and especially the steering in an epidemic ... you need information, otherwise, you don't know what's happening.* K1

However, civil servants said that influential and local political factors qualified the importance of evidence and dependence on it in making decisions. Such factors could diametrically oppose research findings.

> *It's difficult to say just on the basis of data that we're doing this now. Almost no politician can get carried away with this, even if the data show that something should be done. That is one side, but the other side is the political assessment, is it opportune, does it match the attitude in the canton, does this correspond to our circumstances, do we find that [this is] basically something good, or too much ... that the state intervenes too much and that's just ... I sometimes have the feeling that it almost has the upper hand, not simply the pure data.* I1

4.5. Discussion

Healthcare governance is becoming increasingly complex and requires more than ever the incorporation of information, data, and research to find effective and broadly supported solutions to health systems' challenges. This interview study with civil servants explored evidence use and capacity to that, as well as related needs and perspectives in Swiss health administrations in the area of HSMP. The findings contribute to understanding the prevailing context for introducing EIPM support measures in health administrations. To our knowledge, this is the first study with this focus in the Swiss context.

Interviews revealed that administrations would particularly benefit from implementing EIPM-specific structural measures (e.g., programs, alignment of processes) at the organizational level where there is currently limited support and guidance for EIPM. Administrations seem to place the focus and responsibility regarding the engagement with evidence at the level of individual staff and provide them and their leaders with few specific measures to support EIPM. While preliminary, the findings of this study also suggest that allocating more “general” (i.e., staff, time) resources would further drive the engagement with evidence for HSMP, as scarcity of these resources limits exploiting the existent capacity of individual civil servants. These civil servants are highly committed to EIPM and value evidence for their work and can be considered the foundation and substrate for EIPM in health administrations. Thus, providing sufficient general resources is a prerequisite for broadly meeting civil servants’ needs and motives regarding EIPM and HSMP. Because general resources build the basis for engagement with evidence in the first place and determine the potential of EIPM-specific support, thoughts on implementing EIPM support should consider strengthening general resources alongside targeted measures. For example, we found that civil servants demand more and better quality health care data for effective system governance. However, making use of such data requires time and expertise. Without basal resources to understand and analyze these data within administrations, investments in enhanced data availability and access alone will be of little value (Evans et al., 2013; Sosnowy et al., 2013).

Our study showed that administrations seem to compensate for the lack of internal resources for EIPM by drawing on external capacity, for example, by commissioning analyses or reports with research and evaluation offices—a consequence of the vital role of private actors in policymaking and the relatively lean staffing in Swiss administrations (Crivelli & De Pietro, 2020; Vatter & Rüefli, 2014; Widmer et al., 2009). The support of the OBSAN best demonstrates this in analyses and health care planning, which is both required and highly appreciated by many cantons (Trageser et al., 2019). Outsourcing capacity may be instrumental where fast results are required, projects are large or highly complex, or administrations lack skilled personnel. However, building internal capacity instead of relying on external services may have the advantage of promoting EIPM beyond addressing concrete and immediate practical issues, for example, by fostering the chances for conceptual evidence use through a research-affine environment (Albæk, 1995; Weiss, 1977a). Building internal capacity for EIPM may also help the administrations critically review and interpret the evidence provided by other health system actors, such as service providers, support the assessment of policy measures, and ensure their efficient implementation (Brownson et al., 2018; Howlett, 2009; Khaleghian & Gupta, 2005). Beyond that, administration leadership and civil servants currently possess little knowledge on potential EIPM-supportive measures. Building internal capacity might help them making better use of already existing tools and services (Brownson et al., 2018; Cassola et al., 2022; Moore et al., 2011; Sarkies et al., 2017).

This study aimed to assess the EIPM capacity of health administrations. In general, we found moderate evidence-use capacity in Swiss health administrations that exhibit a similar profile of domains with strong and weak capacity. Surprisingly, the administrations' overall capacity was comparable in magnitude, regardless of their size. In light of the existing literature on the relationship between administration size and the use and institutionalization of evaluations (Balthasar, 2010; Balthasar & Müller, 2014; Dolder et al., 2017; Wirths et al., 2017)—as a specific form of evidence and thus an indicator of EIPM—these results are somewhat surprising and require further clarification.

The in-depth interviews provided a nuanced view of the capacity assessment in two cases. First, the secretaries-general considered access to academic publications to be ensured in all cases, although they noted that access depends on the needs of individual specialties. However, in-depth interviews revealed groups of people within the administration with limited access to academic publications but would need that access for their work, which is in line with international findings (Harris et al., 2014; Oliver, Innvar, et al., 2014). On the methodological side, this finding illustrates the difficulty for a single interviewee to make assertions that apply to an entire administration. Thus, the reliability of ORACLe results might be improved by using it for more than one individual per organization (Windle et al., 2021). On the practical side, this finding highlights that implementing even simple and low-cost measures, such as providing access to existing research, can benefit EIPM in HSMP.

Second, most secretaries-general indicated that the administration had close formal and informal relationships with researchers, a finding that was qualified by the in-depth interviews. Nevertheless, contact was characterized as very limited and isolated because it specifically happens in larger joint projects, which are rarely carried out due to the number of resources they tie up. A differentiated assessment could provide a more precise picture of the strengths, weaknesses, and potentials of relationships with research.

This study confirms that administrations work in a politicized environment with many different actors, interests, and values (Boaz & Davies, 2019; Boswell, 2014; Frey, 2012; Oliver, Innvar, et al., 2014; Schlaufer et al., 2018; Schrefler, 2010; Weible, 2008). It is, however, surprising how prominently the discrepancy between policy decisions taken and the policy options informed by available evidence is prevalent. Concerning the implementation of EIPM support measures in health administrations, this finding suggests that fostering the engagement with and use of evidence depends on the buy-in of administration leaders (Brownson et al., 2018; Peirson et al., 2012; Zarkin, 2021), be it straight-forward measures such as promoting or demanding the use of evidence in administrations processes and mission statements, to more complex changes like adapting the organizational culture towards EIPM (Brownson et al., 2018; Dobbins et al., 2018; Sarkies et al., 2017). Thus, future research will have to show how administration staff can convince their leaders that investing in EIPM serves the needs of individual civil servants and the administration's agency, effectiveness, and impact (Sager et al., 2019).

An alternative way of supporting EIPM that depends less on the endorsement of administration leaders is the investment in the already established relationships and services from external capacity providers (Bastani et al., 2022; MacKillop & Downe, 2022). Given the credibility and usefulness of evidence generated by the OBSAN, one could consider expanding its role and providing it with more financial resources and tasks. Ideally, such investments are coupled with efforts to institutionalize part of the externally provided capacity (Kuchenmüller et al., 2022). Finally, the findings indicate that existing resources could be used more efficiently by intensified cooperation between administrations, large-scale, cross-cantonal studies, or jointly funded contract research.

The findings of this study highlight how essential evidence is to the daily work in planning and securing health services by administrations. However, we found that civil servants particularly require health service data and statistics, whereas the promotion and accessibility of health data is essential for further developing HSMP (Funk et al., 2022; Geneviève et al., 2019).

Research evidence, on the other hand, was reported to have primarily limited relevance in daily work. Not surprisingly, one possible explanation for the low value placed on academic literature may be the difficulty of applying foreign studies to the local context (Lavis, Oxman, Souza, et al., 2009), as stated by several interviewees. Since administration staff struggles with applying research to real-world problems, non-governmental organizations and federal agencies could further drive EIPM in Switzerland and beyond by contextualizing international data and studies, identifying possible policy measures for adoption, and outlining implementation considerations in local settings (MacKillop & Downe, 2022; Nolte & Groenewegen, 2021; Sarkies et al., 2017; Vickery et al., 2022). Thus, considerations on strengthening EIPM would benefit from a holistic perspective that highlights system needs for evidence use capacity and requires multiple stakeholders' involvement.

4.5.1. Limitations

This study targeted a specific group of policymakers from German-speaking state-level health administrations and focused mainly on HSMP at the intermediate to high managerial level. The specificity of the sample might limit the transferability of findings to other work areas within health administrations and language regions in Switzerland and beyond. However, as participants were from administrations representing diverse cantonal characteristics, we consider central issues for Swiss health administrations to be captured. In addition, the descriptions provided by the interview participants were found to correspond broadly with findings from the international literature, suggesting that the results of this study are also relevant to other countries and contexts.

It must be noted that the capacity data presented here are based on a small number of health administrations, with only one participant representing each administration. Therefore, the results should be judged as exploratory and interpreted with caution. Moreover, it is conceivable that the secretaries-general interviewed might not have been aware of all details concerning evidence in specific administration areas (Widmer et al., 2001). Future studies should verify and extend these results with a broader target group and a larger sample, preferably with quantitative surveys in written or electronic form (e.g., Brennan et al., 2017).

Several capacity-assessment tools are currently available (e.g., Kothari et al., 2009; McCaughan et al., 2002; Rodriguez et al., 2017). We selected ORACLe because its development was strongly guided by academic literature and extensively informed by policymakers and knowledge-translation experts. The tool provides clear operationalization of capacity magnitude and tool availability, targeted toward health-policy organizations. Moreover, ORACLe was developed for and tested in a high-income context and found helpful (Makkar et al., 2018; Williamson et al., 2019). However, the application of the capacity-assessment instrument showed the potential for improvement, as recently confirmed by other scholars (Windle et al., 2021). For example, we found that the formulation of interview questions might benefit from a more detailed operationalization of the concepts surveyed. Furthermore, the specificity of the scoring guides' categories could be enhanced, as assigning interviewee responses to the categories proved challenging in some instances. While these issues should be addressed in future applications of ORACLe, we mitigated shortcomings in the assessment and improved consistency by consulting a second independent rater who double-coded all interviews.

Finally, due to the heavy workload of health administrations in responding to the COVID-19 pandemic, such a quantitative approach involving a large group of civil servants was not considered ethical and operationally feasible. Indeed, this study was conducted in a pandemic context that strongly influenced the operations of cantonal health administrations. As data collected were self-reported, it cannot be ruled out that the salience of research in the pandemic context has impacted current perspectives on the relevance of evidence and administrations' resources to engage with it.

4.6. Conclusion

This study showed moderate capacity for EIPM on HSMP in Swiss health administrations but indicated potential for improvement while attesting that opportunities for implementing EIPM support do exist. While individuals of the administration are committed to EIPM and value evidence for HSMP, the significance of evidence to their work is constrained by scarce resources and limited organizational support and guidance for EIPM. So far, the focus and responsibility for EIPM in HSMP rests on individual staff that demonstrates the need for EIPM support to carry out effective work, and that depends on the external capacity to compensate for an internal lack of resources. To unlock this potential in health administrations, the assessment of EIPM support options should pay attention to leadership buy-in and specific staff needs and might benefit from balancing the implementation of specific measures with the provision of more general resources.

4.7. Supplementary files

4.7.1. Supplementary file 1: ORACLe German translation

Table 11. ORACLe German translation

Interview-Frage	SPIRIT Bereich	Bewertungsschema		
		ja, sogar sehr (3 Punkte)	teilweise/begrenzt (2 Punkte)	nein (1 Punkt)
1. Verfügt Ihre Verwaltung über dokumentierte Prozesse, wie politische Massnahmen oder Programme entwickelt werden sollten? → Falls *keine* weiter zu Frage 3	Bereich 1: Dokumentierte Prozesse, die den Einsatz von Forschungsergebnissen für die Entwicklung von politischen Massnahmen und Programmen fördern oder vorschreiben	Es gibt standardisierte, schriftliche Anleitungen, die beschreiben, wie politische Massnahmen und Programme entwickelt werden sollten, und diese sind organisationsspezifisch.	Es gibt dokumentierte Prozesse für einige Aspekte der Massnahmen- und Programmentwicklung, aber nicht für alle, nicht auf einem sehr hohen Niveau und mit wenig Details.	Es gibt keine dokumentierten Prozesse.
2. Ermutigen oder erfordern diese Prozesse, dass Forschungsergebnisse in der Entwicklung von politischen Massnahmen und Programmen genutzt werden?	Bereich 1: Dokumentierte Prozesse, die den Einsatz von Forschungsergebnissen für die Entwicklung von politischen Massnahmen und Programmen fördern oder vorschreiben	Die Forderung nach der Nutzung von Forschungsergebnissen muss in der Dokumentation der Verwaltung explizit und unmissverständlich vermerkt sein (entweder als Forderung oder als Ermutigung) und muss die Art und Weise der Nutzung von Forschungsergebnissen sowie die Forderung, dass diese genutzt werden sollten, enthalten.	Die Nutzung von Forschungsergebnissen ist impliziert, in der massgeblichen Dokumentation aber nicht ausdrücklich empfohlen oder verlangt. Oder die Dokumentation beinhaltet nicht, auf welche Art und Weise die Forschungsergebnisse genutzt werden soll. Impliziert ist es, wenn die Dokumentation auf die Unterstützung von «Evidenz» im Allgemeinen hinweist und	N/A wenn Prozesse nicht vorhanden sind. Nein, wenn es dokumentierte Prozesse gibt, diese sich aber nicht auf die Nutzung von Forschungsergebnissen beziehen. Oder wenn es eine "Kultur" oder die Annahme einer Forschungsnutzung gibt, diese aber in der massgeblichen Dokumentation nicht vorgeschrieben oder gefördert wird.

			nicht auf Forschungsergebnisse im Spezifischen.	
3. Gibt es Programme für Führungskräfte, um deren Selbstvertrauen oder Expertise hinsichtlich der Nutzung von Forschungsergebnissen in der Politikgestaltung zu verbessern? Als Führungskräfte gelten Mitglieder der Exekutive oder des Managements sowie andere Personen mit einer formellen oder informellen Führungsrolle.	Bereich 2: Werkzeuge und Systeme zur Unterstützung von Führungskräften, um den Einsatz von Forschungsergebnissen in der Entwicklung von politischen Massnahmen und Programmen aktiv zu fördern	Muss speziell auf Führungskräfte abzielen (und nicht auf Programme, die sich an alle Mitarbeitende, einschliesslich der Führungskräfte, richten). Diese Programme sollten regelmässig, d.h. mindestens einmal im Jahr, angeboten werden.	Programme für alle Mitarbeitende, einschliesslich Führungskräfte. ODER bietet einmalige oder gelegentliche Programme nur für Führungskräfte an.	Es gibt keine Programme, an denen Führungskräfte teilnehmen oder die speziell für Führungskräfte gedacht sind.
4. Beinhalten Stellenbeschreibungen oder Leistungsbeurteilungen/Zielvorgaben von Entscheidungsträger/innen die Expertise in der Nutzung von Forschungsergebnissen bei der Politikgestaltung	Bereich 2: Werkzeuge und Systeme zur Unterstützung von Führungskräften, um den Einsatz von Forschungsergebnissen in der Entwicklung von politischen Massnahmen und Programmen aktiv zu fördern	Die Expertise in der Nutzung von Forschungsergebnissen muss explizit sein und in den meisten Stellenbeschreibungen oder Leistungsbeurteilungen der Entscheidungsträger/innen enthalten sein. (Entscheidungsträger/innen und nicht generell leitende Mitarbeiter)	Die Stellenbeschreibungen oder Leistungsbeurteilungen von Entscheidungsträger/innen können sich auch auf Expertise beziehen, die den Einsatz von Forschungsergebnissen implizieren, aber nicht explizit machen. ODER die Expertise in der Nutzung von Forschungsergebnissen wird zwar explizit erwähnt, aber ist nur in einigen wenigen Stellenbeschreibungen der Entscheidungsträger/innen vorhanden.	Es gibt keinen Hinweis auf die Verwendung von Forschungsergebnisse in den Stellenbeschreibungen oder Leistungsbeurteilungen der Entscheidungsträger/innen.

5. Haben Führungskräfte Ihrer Verwaltung in den letzten sechs Monaten in ihrer internen Kommunikation auf Forschungsergebnisse hingewiesen (z.B. Newsletter, Bulletins, Tweets usw.)?	Bereich 2: Werkzeuge und Systeme zur Unterstützung von Führungskräften, um den Einsatz von Forschungsergebnissen in der Entwicklung von politischen Massnahmen und Programmen aktiv zu fördern	Dies sollte innerhalb der letzten sechs Monate mindestens einmal pro Monat geschehen sein.	In der internen Kommunikation wird nur unregelmässig und selten auf Forschungsergebnisse verwiesen. Dies erfolgt weniger als einmal pro Monat. ODER Newsletter oder Mitteilungen gibt es zumindest monatlich, diese beziehen sich aber nur unregelmässig (weniger als einmal pro Monat) auf Forschungsergebnisse	Es gibt keine relevanten internen Mitteilungen oder, falls es doch solche gibt, beziehen sich die Führungskräfte darin entweder nicht auf Forschungsergebnisse oder haben dies in den letzten 6 Monaten nicht getan.
6. Bietet Ihre Verwaltung Zugang zu Fortbildungsmassnahmen hinsichtlich dem Zugang, der Beurteilung und Anwendung von Forschungsergebnissen für die Politikgestaltung?	Bereich 3: Verfügbarkeit von Programmen zur Ausbildung und Aufrechterhaltung von Fähigkeiten für die Nutzung von Forschungsergebnisse in der Massnahmen- und Programmgestaltung	Die Ausbildung sollte spezifisch auf Forschungskompetenzen ausgerichtet sein und nicht bloss im Verlauf anderer Ausbildungen erwähnt werden. Die Verwaltung muss die Ausbildung intern durchführen oder den Mitarbeitenden die Teilnahme an externen Schulungen ermöglichen. Der Zugang zu den Programmen wird den meisten Mitarbeitenden aktiv angeboten, nicht nur auf Anfrage. Sollten regelmässig, d.h. mindestens einmal im Jahr	Ja, Schulungen werden auf Nachfrage hin angeboten, aber sie werden nicht allgemein angeboten oder unterstützt, und auch nicht auf kontinuierlicher Basis. ODER Ja, aber das Personal ist sich dessen vielleicht nicht bewusst. Es gibt Schulungen zum Zugang, zur Bewertung und/oder Anwendung von Forschungsergebnissen im Allgemeinen, jedoch nicht speziell für die Massnahmen- und Programmgestaltung	Es werden keine internen Schulungen angeboten, und es gibt keine Unterstützung für Mitarbeitende extern an Kursen teilnehmen.

		stattfinden, und für alle zugänglich sein.		
7. Wird die Teilnahme an Schulungen über den Zugang, die Beurteilung und Anwendung von Forschungsergebnissen in der Politikgestaltung in den Leistungsbeurteilungen/Zielvorgaben von Mitarbeitenden berücksichtigt?	Bereich 3: Verfügbarkeit von Programmen zur Ausbildung und Aufrechterhaltung von Fähigkeiten für die Nutzung von Forschungsergebnisse in der Massnahmen- und Programmgestaltung	Die Leistungsbeurteilungen müssen für die meisten relevanten Mitarbeitenden ausdrücklich die Schulung zur Nutzung von Forschungsergebnissen oder Evaluationen erwähnen.	Die Leistungsbeurteilungen decken nur einen oder zwei dieser Aspekte ab, z.B. ist die Anwendung von Forschungsergebnissen oder Evaluation nicht enthalten. ODER dies wird nur für das Leistungsmanagement einer sehr kleinen Gruppe von Mitarbeitenden als relevant erachtet, z.B. von Mitarbeitenden, deren gesamte Arbeit im Bereich Evaluation liegt, die aber keine regulären Entscheidungsträger/innen sind. ODER es ist im Leistungsmanagement impliziert, aber nicht explizit erwähnt. ODER es wird nur dann als Problem betrachtet, wenn sich das verfügen über Forschungskompetenzen als relevant herausstellt.	Die Teilnahme an Schulungen wird beim Leistungsmanagement nicht berücksichtigt.
8. Wurden in den letzten sechs Monaten relevante Forschungsergebnisse (Publikationen, Berichte, Synthesen oder Bulletins) in Ihrer Verwaltung verbreitet?	Bereich 4: Verfügbarkeit von Hilfsmitteln und Instrumenten, die den Zugang zu Forschungsergebnissen und deren Anwendung erleichtern	Dies sollte häufig geschehen, d.h. mindestens mehrmals im Monat, und muss in den letzten sechs Monaten geschehen sein.	Dies geschieht weniger als zweimal im Monat.	Relevante Forschungsergebnisse wurde in den letzten sechs Monaten nicht verbreitet oder wurde generell nicht verbreitet.

		Es spielt keine Rolle, wer diese versendet, d.h. durch Kollegen auf einer Ad-hoc-Basis oder mittels einem systematischeren Ansatz.		
9. Verfügt Ihre Verwaltung über Ressourcen, die für den Zugang, die Bewertung und Anwendung von Forschungsergebnissen anleiten?	Bereich 4: Verfügbarkeit von Hilfsmitteln und Instrumenten, die den Zugang zu Forschungsergebnissen und deren Anwendung erleichtern	Die Verwaltung muss über dokumentierte Ressourcen (Handbücher, Leitfäden, Online-Lernmodule usw.) zu allen drei Aspekten verfügen und den Mitarbeitenden leicht zugänglich sein.	Die Ressourcen sind begrenzt oder decken nicht alle drei Aspekte der Forschungsnutzung ab.	Es gibt keine dokumentierten Ressourcen.
10. Verfügt Ihre Verwaltung über Mitarbeitende mit anerkannter Expertise hinsichtlich dem Zugang, der Beurteilung und der Anwendung von Forschungsergebnissen für die Politikgestaltung?	Bereich 4: Verfügbarkeit von Hilfsmitteln und Instrumenten, die den Zugang zu Forschungsergebnissen und deren Anwendung erleichtern	Die Expertise muss für die meisten Mitarbeitenden zugänglich sein, ein hohes Niveau haben und an eine bestimmte Rolle gebunden sein und nicht an eine Person, die zufälligerweise über diese Fähigkeiten verfügt.	Die Expertise ist nicht an eine Rolle gebunden. Einige Personen mögen über diese Fähigkeiten verfügen, aber dies ist zufällig und/oder andere Mitarbeitende sind im Allgemeinen nicht in der Lage, auf diese Expertise zuzugreifen.	Nein, niemand solches ist verfügbar.
11. Verfügt Ihre Verwaltung über folgende Ressourcen **i. Abonnemente für Forschungszeitschriften?**	Bereich 4: Verfügbarkeit von Hilfsmitteln und Instrumenten, die den Zugang zu Forschungsergebnissen und deren Anwendung erleichtern	i. Themenspezifische Fachzeitschriften - ja, der Zugang zu allen oder den meisten relevanten Zeitschriften ist möglich. - Dieser Zugang muss von der Verwaltung zur Verfügung gestellt werden und nicht von einem Universitäts-Login	i. Ja, einige Zeitschriften sind zugänglich, aber viele der benötigten Zeitschriften sind nicht zugänglich.	i. Keine Abonnemente von Fachzeitschriften
ii. Abonnemente für Datenbanken mit Forschungspublikationen?		ii. Zum Beispiel Medline, Embase, PsycInfo, etc. als relevant	ii. Ja, Zugang zu einigen Datenbanken oder einer Datenbank, aber mehrere wichtige Datenbanken sind nicht verfügbar.	ii. Keine Abonnemente von Datenbanken

iii. Eine Bibliothek oder eine elektronische Bibliothek?		iii. Eine Bibliothek, die Zugang zu einer Reihe von Ressourcen bietet, nicht lediglich ein gemeinsam genutztes Ablagesystem, Forschungsergebnisse sind über eine elektronische/online Datenbank einfach und schnell verfügbar sind (ähnlich wie eine Universitätsbibliothek funktioniert)	iii. Ja, aber es dauert lange, bis man Zugang zu Artikeln im Volltext erhält, oder man kann keinen Volltext erhalten, oder ja, aber viele der benötigten wichtigen Bücher sind nicht auf Lager.	iii. Kein Zugang zu einer Bibliothek oder elektronischen Bibliothek
iv. Lizenzen für Literaturverwaltungssoftware (z.B. Endnote) Hinweis: Diese Fragen beziehen sich auf Ressourcen, die von der Verwaltung zur Verfügung gestellt werden, und beinhalten NICHT Ressourcen, die einzelnen Mitarbeitern gehören (z.B. Universitäts-Logins, eigene Lizenzen für EndNote). Wenn dies der Fall sein sollte, wird der Wert 1 vergeben. Bei dieser Frage werden Punkte für jeden der vier Bereiche (i-iv) vergeben.		iv. Ja, zu Endnote oder etwas Ähnlichem (einschliesslich Zugang, wenn darum gebeten wird). Dies bezieht sich auf die Verwaltung, die den Zugang gewährt, nicht auf den Zugang über andere Mittel, z.B. die Universitätszugehörigkeit des Mitarbeiters.	iv. Hier gibt es keinen mittleren Punktewert, da nicht mehr als einen Ressource benötigt wird	iv. Keine Lizenzen für Referenzmanagement-Software
12. Verfügt Ihre Verwaltung über definierte Prozesse zur Auftragsvergabe von Übersichtsarbeiten (Reviews) zu bestehenden Forschungsergebnissen?	Bereich 4: Verfügbarkeit von Hilfsmitteln und Instrumenten, die den Zugang zu Forschungsergebnissen und deren Anwendung erleichtern	Ja, es gibt einen standardisierten schriftlichen Ablauf, den die Mitarbeitenden bei der Vergabe von Forschungsaufträgen anwenden sollen.	Ja, aber die Methoden sind nicht verschriftlicht, ad hoc oder situationsspezifisch.	Es gibt keine Methoden, um Übersichtsarbeiten in Auftrag zu geben ODER die Verwaltung gibt keine Übersichtsarbeiten in Auftrag.

		Zu dieser Kategorie werden auch Rapid Review Prozesse gezählt.		
13. Verfügt Ihre Verwaltung über Systeme zur Wissensverwaltung hinsichtlich Forschungsergebnissen? Zum Beispiel. Systeme zum Abrufen, Zusammentragen, Speichern und Übersetzen von externen und internen Forschungsergebnissen	Bereich 4: Verfügbarkeit von Hilfsmitteln und Instrumenten, die den Zugang zu Forschungsergebnissen und deren Anwendung erleichtern	Es gibt gemeinsame Ablagesysteme, Datenbanken usw., die für die meisten relevanten Mitarbeiter leicht durchsuchbar und zugänglich sind. Muss gut organisiert und strukturiert sein; nicht einfach nur ein grosser Ordner oder ein Laufwerk, auf dem die gesamte Palette von Dateien abgelegt sind (einschliesslich nicht-forschungsbezogener Dokumente)	Wird an einem Ort aufbewahrt und ist zugänglich, aber nicht indexiert oder leicht durchsuchbar. Die Verwaltung ist auf das Firmengedächtnis angewiesen, um zu wissen, welche Forschungsarbeiten durchgeführt wurden und wo sich diese befinden. Zentralisiertes System, aber unorganisiert oder noch nicht vollständig entwickelt.	Es gibt keinen zentralen Speicherort und keinen Prozess zur Verwaltung von Wissen aus der Forschung.
14. Hat Ihre Verwaltung in den letzten sechs Monaten interne Forschungsarbeiten zur Unterstützung der Politikgestaltung durchgeführt? Zum Beispiel Fokusgruppen oder Zufriedenheitsumfragen. Diese Frage beinhaltet NICHT, ob die Verwaltung Evaluationen ihrer Politische Massnahmen und Programme durchgeführt hat. Dies wird in den Fragen 16-18 erfasst.	Bereich 5: Vorhandensein von Systemen und Methoden zur Generierung neuer Forschungsergebnisse für die Arbeit der Verwaltung	Muss in den letzten sechs Monaten und von Mitarbeitenden der Verwaltung durchgeführt worden sein. Umfasst mindestens eine grosse oder vertiefte interne Untersuchung oder mehrere kleinere interne Untersuchungen.	Eine kleine interne Untersuchung.	Nein, nie oder nicht in den letzten sechs Monaten.
15. Hat Ihre Verwaltung in den letzten sechs Monaten externe Forschungsarbeiten zur Unterstützung der Politikgestaltung in Auftrag gegeben? Gemeint ist externe Forschung zur Unterstützung der Politikgestaltung. Bei	Bereich 5: Vorhandensein von Systemen und Methoden zur Generierung neuer Forschungsergebnisse für die Arbeit der Verwaltung	Von einer anderen Organisation durchgeführte Forschungsarbeiten (möglicherweise in Partnerschaft mit dieser Organisation). Muss in den letzten sechs Monaten und	In den letzten sechs Monaten, aber nur einmal.	Nein, nie oder nicht in den letzten sechs Monaten.

dieser Frage geht es nicht darum, ob die Verwaltung ihre politischen Massnahmen und Programme evaluiert.		mehr als einmal durchgeführt worden sein.		
16. Fördert oder fordert Ihre Verwaltung die Integration von Evaluationen in die Planung und Entwicklung von politischen Massnahmen und Programmen? *Die Fragen 16-18 schliessen extern in Auftrag gegebene Evaluationen mit ein.*	Bereich 6: Klare Methoden, welche angemessene und evidenzbasierte Evaluierungen der politischen Massnahmen und Programme ermöglichen	Es gibt eine explizit dokumentierte Anforderung der Verwaltung, dass die Evaluierung in jede Massnahme/jedes Programm eingebaut werden muss.	Ja, dies wird erwartet, aber nicht verlangt, oder es wird nicht von allen Programmen verlangt.	Evaluationen finden nicht oder nur gelegentlich statt, aber es besteht keine verwaltungsinterne Notwendigkeit, diese durchzuführen.
17. Verfügt Ihre Verwaltung über dokumentierte Prozesse wie politische Massnahmen und Programme evaluiert werden sollen? → Falls *nein* weiter zu Frage 19	Bereich 6: Klare Methoden, welche angemessene und evidenzbasierte Evaluierungen der politischen Massnahmen und Programme ermöglichen	Die Prozesse müssen im Detail darlegen, wie die Politische Massnahmen und Programme evaluiert werden sollen.	Ja, es gibt dokumentierte Prozesse, die sehr allgemein gehalten sind. ODER dokumentierte Prozesse werden auf Fall-zu-Fall-Basis oder nach anfänglichen Vorbereitungen entwickelt	Keine dokumentierten Prozesse.
18. Ermutigen oder erfordern diese Prozesse, Forschungsergebnisse in der Evaluation von politischen Massnahmen oder Programmen einzusetzen ODER basieren diese Evaluationsprozesse und -methoden auf Forschungsergebnissen? Bezieht sich NICHT auf die Datenerhebung als Teil der Evaluation. Hier geht es darum, ob der von der Verwaltung angewandte Evaluationsansatz auf Forschungsergebnissen basiert, oder ob Mitarbeitende in der Gestaltung der Evaluation zur Nutzung von Forschungsergebnissen angehalten ist.	Bereich 6: Klare Methoden, welche angemessene und evidenzbasierte Evaluierungen der politischen Massnahmen und Programme ermöglichen	Die Anforderung, Forschungsergebnisse zu nutzen, muss explizit und unmissverständlich sein. (Dies kann sowohl die Recherche von Evaluierungsmethoden als auch von Szenarien umfassen. "Forschungsergebnisse" umfassen nicht lediglich Datenerhebung, darauf bezieht sich Frage 14.) Entweder basieren die Prozesse auf Forschungsergebnissen, oder	Die Prozesse beziehen sich auf Forschungsergebnisse, fördern oder fordern aber nicht, dass Forschungsergebnisse genutzt werden. ODER die Evaluation wird von einem Experten durchgeführt, von dessen Ansatz angenommen werden kann, dass dieser durch Forschungsergebnisse beeinflusst wurde (eher indirekter Einsatz von Forschung)	Es gibt dokumentierte Prozesse, aber es besteht keine Forderung Forschungsergebnisse einzusetzen, oder es gibt keine dokumentierten Prozesse bezüglich der Evaluation.

Wenn Frage 17 mit NEIN beantwortet wird, dann gibt es für diese Frage den Wert 1, auch wenn die Evaluation von einem Experten/einer Expertin durchgeführt wird.		diese weisen Mitarbeitende dazu an, nach Forschungsergebnissen zu suchen, um ihren Evaluationsansatz zu unterstützen.		
19. War Ihre Verwaltung in den letzten sechs Monaten auf Forschungsforen oder Konferenzen vertreten?	Bereich 7: Mechanismen, die zur Stärkung von Beziehungen zu Forschenden beitragen	Die Teilnahme an solchen Veranstaltungen war üblich und wurde von einer Reihe von Mitarbeitenden besucht.	Nur eine bestimmte Ebene von Entscheidungsträger/innen nimmt daran teil oder nimmt nur als eingeladene/r Referent/in teil oder nimmt nur selten teil.	Nein, nicht in den letzten sechs Monaten oder überhaupt nicht.
20. Unterhält Ihre Verwaltung formelle, vertragliche Beziehungen zu externen Forschungseinrichtungen?	Bereich 7: Mechanismen, die zur Stärkung von Beziehungen zu Forschenden beitragen	Jede formell dokumentierte Beziehung zählt. Kurzzeitige Beziehungen sind in Ordnung, wenn diese zum Zeitpunkt des Interviews aktiv sind. Es müssen mehrere solcher Beziehungen bestehen, und es muss das Gefühl bestehen, dass diese (oder andere) wahrscheinlich weiter bestehen würden und dass das Bestehen solcher Beziehungen für ihre laufende Arbeit wichtig war.	Derzeit nur eine.	Nein, dies passiert nicht oder es gibt derzeit keine.
21. Unterhält Ihre Verwaltung informelle, kooperative Beziehungen zu externen Forschungsorganisationen?	Bereich 7: Mechanismen, die zur Stärkung von Beziehungen zu Forschenden beitragen	Jede nicht formelle Beziehung (auch auf der Basis von Mitarbeitenden zu Mitarbeitenden) zählt hier.	Derzeit nur eine.	Nein, dies passiert nicht oder es gibt derzeit keine.

22. Haben Mitarbeitende Ihrer Verwaltung Berufungen oder nebenberufliche Funktionen an Forschungsorganisationen?	Bereich 7: Mechanismen, die zur Stärkung von Beziehungen zu Forschenden beitragen	Übliche Beispiele hierfür sind Berufungen an Universitäten. Eine hohe Bewertung würde bedeuten, dass mehrere Mitarbeiter solche Positionen bekleiden. Dies gilt auch, wenn Mitarbeitende in Teilzeit bei der betreffenden Verwaltung arbeiten und auch bei einer Forschungsorganisation angestellt sind.	Derzeit nur eine.	Nein, dies passiert nicht oder es gibt derzeit keine.
23. Haben externe Forschende in den letzten sechs Monaten in Ihrer Verwaltung an Beratungsgremien zur Politikgestaltung (oder ähnlichem) mitgewirkt?	Bereich 7: Mechanismen, die zur Stärkung von Beziehungen zu Forschenden beitragen	Die Beteiligung von Forschenden in diesen Rollen ist häufig, d.h. sie kommt mehr als einmal in sechs Monaten vor, und sie ist systematisch (nicht zufällig).	Nur einmal in den letzten sechs Monate.	Nein, dies geschieht nicht oder ist in den letzten sechs Monaten nicht geschehen.

4.7.2. Supplementary file 2: In-depth interview guide

Background

1. Can you briefly describe your current position and responsibilities?

   How long have you been in this position?
   How long have you worked in this administration?

Role of Evidence

2. In making health policy, what information bases are relevant?

   Statistics such as hospital statistics?
   How do you assess the availability of information and data for health policymaking?
   How do you rate the linkage of data?

3. What do you think about the role of evidence in your work?

   What is the value of evidence in your work?
   What evidence is helpful in your work?
   In which areas of your work does evidence play a role, and where does it tend not to?
   How do you rate the importance of evidence in health policymaking over the last years?

4. What similarities and differences in the role of evidence do you see between your administration's various areas of work (e.g., health care services vs. prevention)?

   What is the value of evidence in hospital planning compared to other fields?

Values regarding evidence

5. What are your general attitudes regarding the use of evidence in health policymaking?

Engaging with evidence

6. How do you personally engage with evidence?

   How do you find and access evidence for your work?

7. What is the function of evidence in your work?

   In what situations is evidence particularly important?

8. How would you rate your knowledge and skills for using evidence?

   What enables you to deal with evidence (e.g., internal research, mandated evaluation)?
   How do you succeed in finding, assessing, and applying evidence?

9. What personal resources help you deal with evidence?

Organizational factors

10. How would you describe the culture for using evidence in policy in your administration?

    Are there incentives to use evidence? If so, what do they look like?

    Is there an expectation that evidence should be used in health policymaking?

11. What are the attitudes of leaders in your administration toward using evidence in policymaking?

Existing resources

12. How do you support your staff in using evidence?

    What resources and infrastructure does your administration provide?

    Time, training, processes and systems, tools, access to experts, consulting mandates?

Needs

13. What are your needs for support in engaging with evidence in your work?

    Where do you expect more support?

    Access, assessment, and application of research?

    Potential for increased use of evidence?

14. Where do you see the potential for increased use of evidence in your administration?

    Where do you think it would be important to consult more evidence?

15. How could this potential be realized?

    What are the most important starting points to increase the value of evidence in your administration?

Existing collaboration with research

16. How would you describe the current collaboration with researchers and research institutions?

    With which institutions and individuals do you collaborate or exchange information?

    Universities/universities of applied sciences, Obsan, auditing organizations, evaluation offices?

    What about the exchange between the cantons and the federal administration regarding evidence?

Examples

17. Can you give a concrete example where evidence was not used although it was presumably available?

18. Can you give a concrete example where evidence was used?

Conclusion

19. Is there anything else you would like to add to this topic? Was anything left out? Do you have any questions?

Sociodemographic information

- Sex
- Age
- What is your highest tertiary level of education (university, college, college of education, or arts)? None/Bachelor's/Master's/Doctorate degree
- Have you completed any advanced/continuing studies at a university (e.g., continuing education master's MPH, MHA, MAS, MBA, or similar) or individual courses/modules of these programs? (Title and subject/area)
- Years of work experience in science/research
- Management function yes/no; if yes, responsible for how many perso

4.7.3. Supplementary file 3: Total capacity scores by health administration

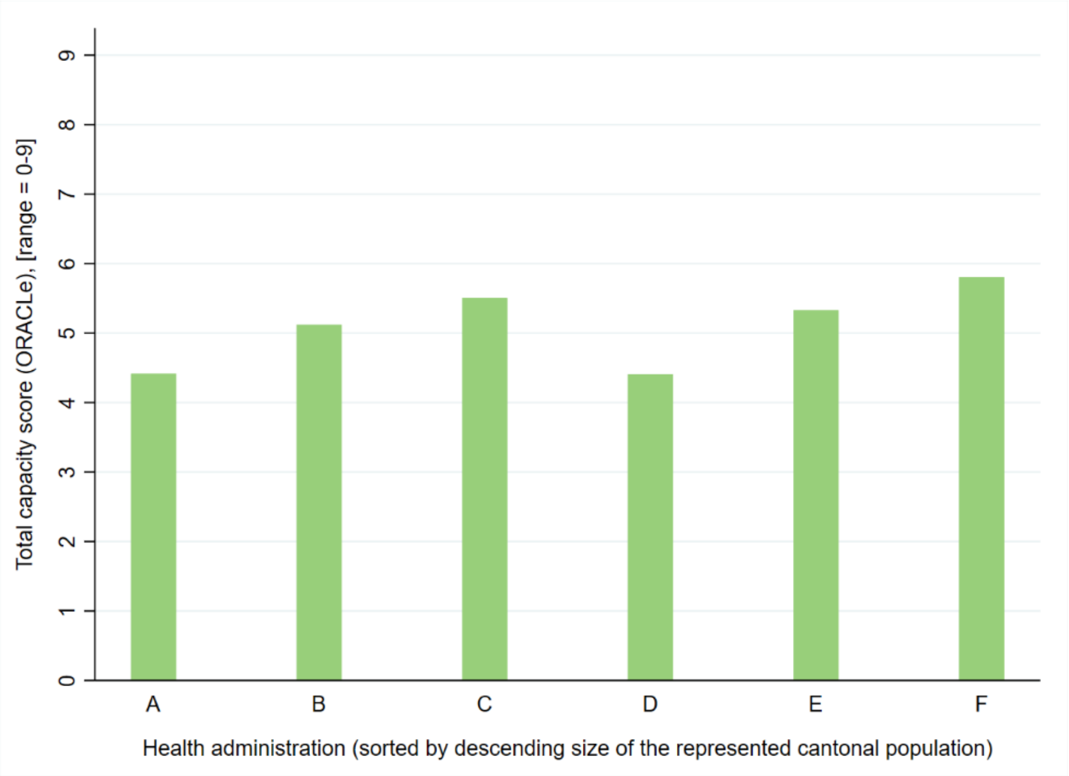

Figure 12. Total capacity scores by health administration

4.7.4. Supplementary file 4: Unweighted total capacity scores by health administration.

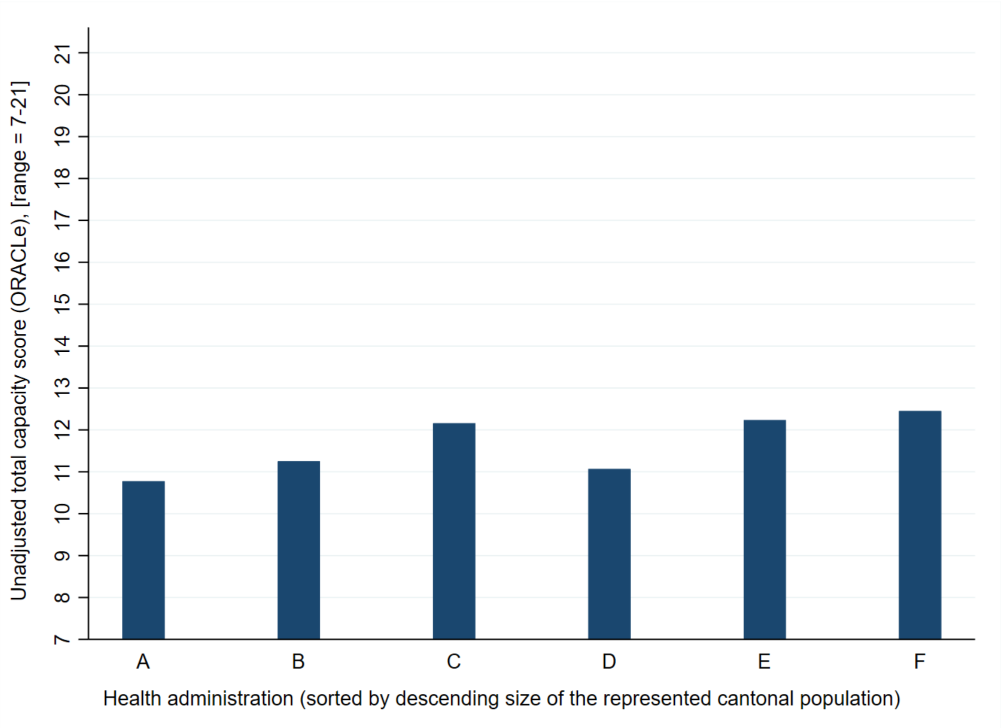

Figure 13. Unweighted total capacity scores by health administration

5. Health reforms should focus on improving services and systems, not just containing costs

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5.1. Health reforms should focus on improving services and systems, not just containing costs

Health systems must continuously evolve and strive for efficiency both in care and its organization to meet the challenges of society, keep pace with medical progress and cope with rising costs (Hansen et al., 2021). In the absence of adequate protection systems, rising costs may threaten health equity, social justice, and health outcomes (Karanikolos et al., 2013). Policy measures for containing costs (by stabilizing health expenditures or slowing growth) may make health systems more financially sustainable and reduce the cost of care, but they may be ineffective by design and result in negative consequences on health (Stadhouders et al., 2019). Instead of simply focusing on reducing costs, health reforms should aim to increase efficiency.

For example, if policies to rigidly contain costs are introduced in response to an economic crisis, patients may have a harder time accessing healthcare, suicide rates may rise, and infectious disease outbreaks may increase (Karanikolos et al., 2013). When governments take measures to reduce budget deficits, they can worsen social determinants and indicators of child health (Rajmil et al., 2020). Policy measures designed to cut costs in the short-term, but that do not make sustainable changes in the structure and organization of the health system may make systems less responsive and neglect investments in, e.g., prevention which can save money over the long-term (Clemens et al., 2014; White, 2013). Cutting necessary services, restricting health insurance coverage, and increasing cost-sharing can reduce the likelihood governments will meet health targets and worsen health outcomes.

A recent review of the United States' health system found waste constituted about a quarter of total health care expenditures (Shrank et al., 2019). Reforms designed to contain costs should ideally curb ineffective or wasteful health services and bureaucratic functions and have positive outcomes like improving delivery and coordinating care, reducing overtreatment, or simplifying unnecessarily complex administrative systems (OECD, 2017b). Costs could also be saved by reducing unnecessary care by, for example, shifting costly inpatient services to the outpatient sector (Baumann & Wyss, 2021).

But reforming the health system to increase its efficiency requires coping with fragmented governance structures and stakeholder interests (Senkubuge et al., 2014; Shrank et al., 2019). These challenges must be addressed when introducing alternative provider payment methods, centralizing procurement, reducing drug prices, or reconfiguring services toward integrative care. Such attempts may be impeded by policy actors with strong veto powers. Federalized or decentralized policy structures may make it hard to make and implement decisions when responsibility is distributed across policy levels and actors (Clemens et al., 2014; White, 2013). In these types of systems, it may be helpful to use evidence to draw attention to problem areas that are generally accepted as relevant to action, and to target reforms accordingly.

Focusing reforms on problem areas in the health system requires consideration of two main factors. First, policy makers must be able to draw on comprehensive quality and outcome data that demonstrate inefficiencies in care, and integrate this evidence into arguments for reform. These data should be translated into monetary terms (e.g., through economic evaluations) so policy makers can argue for value-based health services and make persuasive arguments for policy change. This data is best collected from and processed within interoperable electronic systems that enable exchange between stakeholders. Establishing and applying quality indicators by, for example, including patient-reported outcome and experience measures, can help identify fields of action. Developing strategies and providing resources to collect and apply quality of care data can contain costs over the long term. Along with collecting data crucial to monitoring public health, governments must support and co-produce research on health services and the health system so policy makers can compare health service utilization, performance, and outcomes within and between countries to identify policy solutions.

Second, policy actors like health authorities must be able to request and collect data, consult relevant research literature, and develop and implement evidence-informed interventions to address current problems with health service provision and organization. Health services can be managed proactively and their inefficiencies addressed more consistently if health authorities are adequately staffed and can translate available evidence into policy decisions.

Policy makers who engage with evidence can more quickly take advantage of emerging policy windows, choose and frame acceptable health system improvement measures, and collaborate with other stakeholders to inform and build majorities for policy alternatives even when faced with political resistance.

Reforms designed to increase the quality of a health system and reduce its inefficiencies will have better long-term outcomes than reforms that focus only on cost savings. But if these reforms are to be successful, we must make it easier to collect and analyze quality and outcome data and support health authorities to consult more health services research. One step in this direction is that governments strengthen health authorities' resources and abilities to proactively engage with health services and system evidence to inform policy development for effective and efficient solutions.

5.2. Declarations

Author contributions

The author confirms being the sole contributor of this work and has approved it for publication.

Conflict of interest

The author declares that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

6. Effective interventions to strengthen capacity for evidence-informed policymaking in Swiss health authorities (Swiss Learning Health System policy brief)

Swiss Learning
Health System

Aron Baumann

Policy Brief # 11

Swiss Learning Health System, https://www.slhs.ch/

https://www.slhs.ch/images/learning-cycles/topics/2020
Baumann/SLHS_PolicyBrief_Interventions_Capacity_final.pdf

6.1. Policy briefs and stakeholder dialogues of the Swiss Learning Health System

The SLHS was established as a nationwide project in 2017. One of its most important objectives is to bridge research, policy, and practice. For this, an infrastructure supporting learning cycles will be provided. Learning cycles enable the ongoing integration of evidence into policy and practice by:

- continuously identifying issues and questions that are relevant to the health system,
- summarizing and providing relevant evidence from research, and
- presenting potential suggested solutions and courses of action.

Key features of the learning cycles in the SLHS include the development of policy briefs that serve as a basis for stakeholder dialogues. In addition, issues or questions identified to be further pursued are monitored for potential implementation and eventually evaluated to inform new learning cycles and support continuous learning within the system.

A policy brief describes the respective issue or respective question by explaining the relevant contextual factors and describing several (evidence-based) suggested solutions or recommendations. In addition, the policy brief explains relevant aspects and potential barriers and facilitators to their implementation for every suggested solution or recommendation.

During a stakeholder dialogue, a group of stakeholders discusses the issue or the question, the proposed recommendations, and possible barriers and facilitators presented in the policy brief. The aim is for all stakeholders to develop a shared understanding of the issue and collaboratively discuss and compile potential courses of action to solve the issue.

6.2. Key messages

- The use of evidence (i.e., research and data) in health policymaking is limited
- Interventions that aim to build the capacity of policymakers and policy organizations for using evidence have been implemented, but proof of impact is still limited

- Nevertheless, future initiatives that aim to increase evidence use can draw on a considerable amount of recommendations, such as:
    - Capacity-building interventions may address the individual, interpersonal, organizational, and institutional level (i.e., broader societal context) to be effective
    - Interventions are preferably targeted and tailored for the local context
    - Sufficient resources should be provided for the effective implementation of capacity-building interventions
    - Simple strategies can be as effective as complex, multi-faceted interventions
    - Building a supportive environment for change and selection of participatory approaches for development and implementation of interventions are commendable
    - Strategies may include partnering with researchers, development of skills, and provision of infrastructure and processes for eased research access and use
- This policy brief aims at providing recommendations on effective interventions to build capacity for evidence-use and the implementation thereof to increase the relevance of research in policymaking in Swiss health authorities.

6.3. The challenge

Policymakers have to consider various factors and information types when making decisions about policies, health service management, and delivery, often within complex environments addressing ambiguous problems (Cairney & Oliver, 2017). Research and data (i.e., evidence) can be an essential input to policy- and decision-making but stakeholder interests, public opinion, ideology, values, and emotions may essentially influence how policymakers think and decide (Cairney & Kwiatkowski, 2017; Mair et al., 2019). Apart from this, policy organizations such as health authorities can be limited in gathering and processing evidence. Research has, however, identified levers and respective measures to support policy-makers and policy organizations in using evidence, and one approach is to invest in the capacity to use evidence. This policy brief is about recommendations for effective interventions to build capacity for evidence-use and the implementation thereof to increase the relevance of research in policymaking in Swiss health authorities.

6.4. Approaches to foster evidence use

Global and national initiatives have been launched to foster EIPM, and programs and tools have been developed (Green & Bennett, 2007). For example, programs and networks such as the Evidence-Informed Policy Network EVIPNet from the WHO have been central to stimulate efforts and gave rise to many resources to support evidence use in policy (see box below for example tools to ease evidence access). In addition, institutions such as the European Observatory on Health Systems and Policies and the OBSAN have provided useful health system decision-making information. The institutionalization of policy evaluation, the promotion of health technology assessments, and the universal access to high-quality medical research provided by Cochrane are other examples to support decisions informed by research and data in Switzerland. However, approaches to foster the relevance of evidence in policymaking go beyond providing more and better information. Initiatives such as the SLHS, for example, aim to integrate policymakers throughout the research process in order to increase the relevance and applicability of health system evidence for policy and practice.

In recent years, numerous targeted strategies to translate evidence into policy, i.e., “knowledge translation and exchange” strategies, have been developed and proved effective, for example, in changing the attitudes and awareness of policymakers towards research, by increasing the research needs of policymakers and leading to policies that are better informed by research (Dobbins et al., 2009; Edwards et al., 2019). The following list provides a rough overview of types of strategies to strengthen evidence use:

1. Create a supportive environment and value research in policy,
2. align research production to the needs of policymakers,
3. invest in “push efforts” to bring research to policymakers,
4. facilitate access to research,
5. build policymakers’ capacity to engage with and use research, and

6. establish a regular exchange between research producers and policymakers (Lavis et al., 2006; Moat & Lavis, 2012).

While some of these strategies aim to increase the relevance and applicability of research itself, e.g., through aligning research priorities to policy needs or by providing appropriate formats of research "products" (Akl et al., 2017; Dobbins et al., 2007; Francis et al., 2015); or aim to strengthen research dissemination and impact from research(ers') side, e.g., through deliberate framing of problems, methods of persuasion or networking (Lavis et al., 2005; Oliver & Cairney, 2019; Wallace et al., 2014); the remainder of this policy brief focuses on what can be done to strengthen capacity for accessing and using evidence in policy organizations, more specifically health administrations. Building capacity might be of particular interest for Swiss health authorities with limited staffing and resources that might benefit from measures that can be implemented with only little resources.

Box 5. Examples of resources for better research access and use

https://www.pdq-evidence.org/
Rapid access to systematic reviews of health systems evidence

http://supportsummaries.org/
Summaries on the effects of health systems interventions (from low- and middle-income countries)

https://www.healthsystemsevidence.org/
Syntheses repository of research about governance, financial and delivery arrangements, and implementation strategies within health systems

6.5. Organizational factors facilitating evidence use

Studies have identified several factors that facilitate evidence use in policy (Edwards et al., 2019; Humphries et al., 2014; Jakobsen et al., 2019; Oliver, Innvar, et al., 2014; Schleiff et al., 2020; Tricco et al., 2016). **Figure 14** on the next page provides an overview of factors associated with increased evidence use in policy organizations, highlighting that factors concern various aspects of organizations (Jakobsen et al., 2019). Thus, interventions that aim to build capacity can address these factors at several levels of health administrations. These

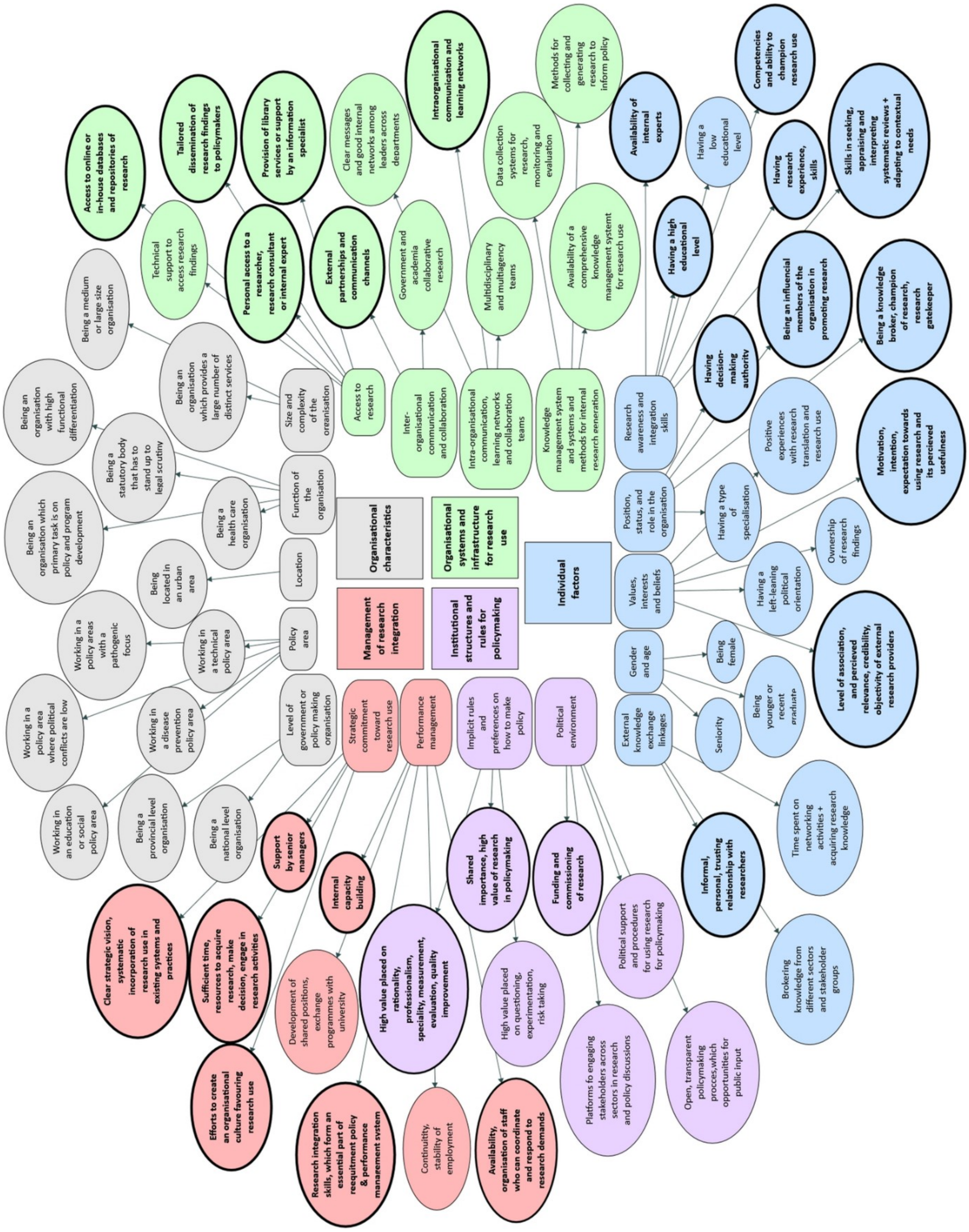

Figure 14. Organizational factors facilitating research use.

Source: Jakobsen et al. (2019); No changes were made to the figure. *License*: Creative Commons Attribution 4.0

levels are a) the individual level of policymakers, b) the interpersonal level, which includes relationships and networks, c) the level of the health administration itself, and d) the institutional level, i.e., the broader societal context that includes political and economic factors beyond the health administration (Punton, 2016). Existing interventions addressed these levels mainly by supporting research access, policymakers' skills, organizational systems, and research interaction (Haynes et al., 2018). Proposed interventions are various in their degree of complexity and resource intensity. They may promote a culture of learning but also draw on tools, for example, by providing technical assistance and digital resources for better access to research (Brownson et al., 2007; Dobbins et al., 2009); relationships and networks, e.g.,

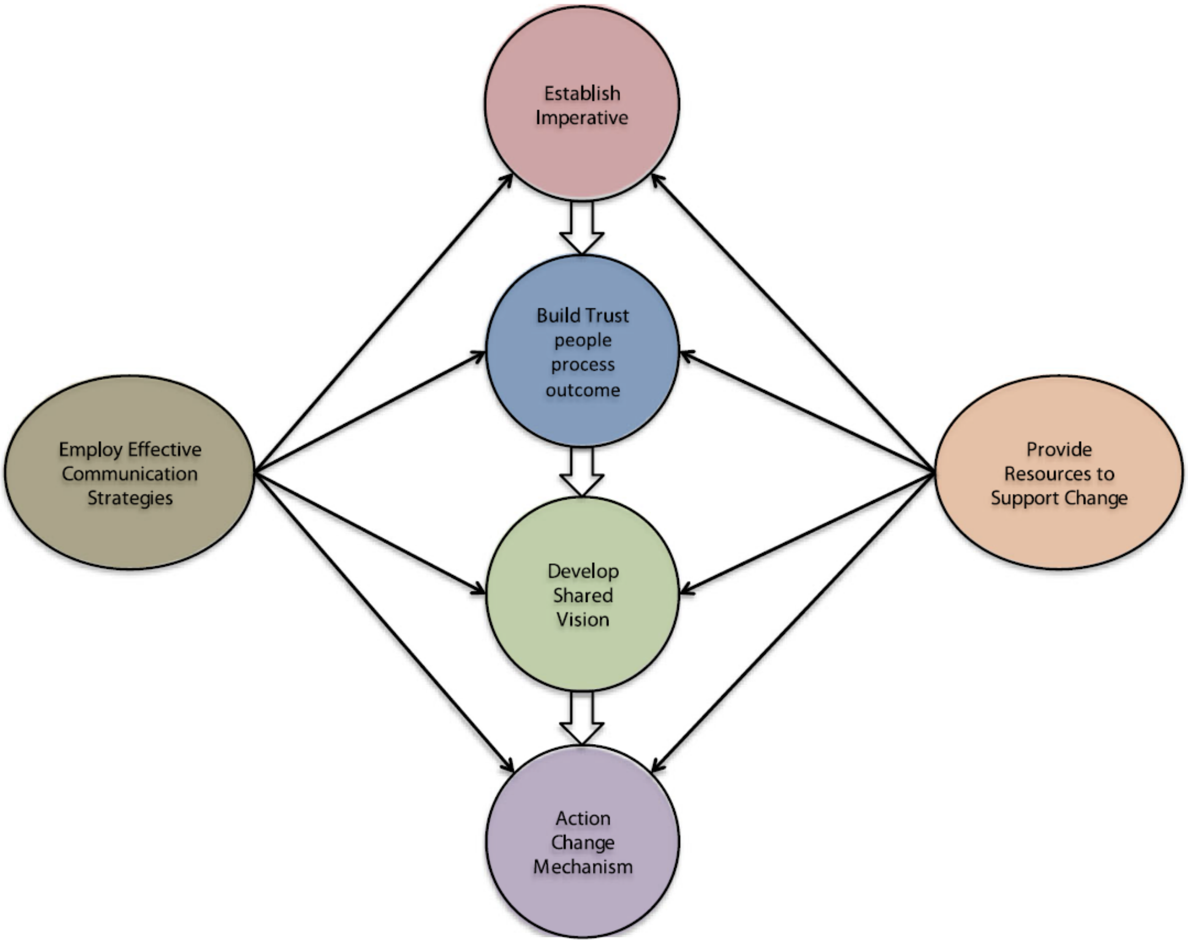

Figure 15. Characteristics of effective strategies to promote evidence-informed healthcare policy

Source: Sarkies et al. (2017); No changes were made to the figure. *License*: Creative Commons Attribution 4.0

through the implementation of knowledge brokers (Bornbaum et al., 2015; D. Campbell et al., 2011; Elueze, 2015); infrastructure and processes, e.g., via rapid response systems (D. Campbell et al., 2011; Mijumbi-Deve & Sewankambo, 2017); or workshops and training, e.g., to learn appraising and applying research (Champagne et al., 2014; Uneke et al., 2015). Some of these interventions may promote learning through improving the confidence policymakers place in their ability to understand and use research, by providing inspiration and support, by increasing the value policymakers attach to research, or by facilitating work by providing supportive tools, processes, and systems (Haynes et al., 2018; Punton, 2016). However, understanding how these interventions work, how effective they are, and how they are implemented best is still limited (Leeman et al., 2015; Mitton et al., 2007; Sarkies et al., 2017). **Figure 15** illustrates characteristics that have been associated with effective strategies to foster evidence use in policy organizations such as health authorities.

6.6. Recommendations and implications

In this section, we summarize some recommendations on effective interventions and the implementation thereof to increase research in policymaking. These recommendations might be helpful for health authorities considering investing in capacity building to use evidence. The summary is based on findings of systematic and scoping reviews that explored how and whether these interventions worked.

6.6.1. Aims of interventions and planning thereof

- Interventions should be fit-for-purpose and tailored to the local context (Haynes et al., 2018); i.e., consider practice needs of health authorities
- Strive for increased access to and availability of locally relevant research that provides guidance for decision-making but which is not too prescriptive (Sarkies et al., 2017)
- To strengthen capacity, address the individual and organizational level but consider their reciprocal relationship too (Brownson et al., 2018; Edwards et al., 2019; Williamson et al., 2019); e.g., by focusing on individual behaviors and attitudes towards research use and addressing the climate and culture of the health authority towards research use

6.6.2. *Supportive environments for interventions*

- Identify EIPM as a strategic priority, e.g., expressed through language or mission statements, and establish an organizational imperative of evidence use (Dobbins et al., 2018; Sarkies et al., 2017)
- Create a supportive culture by engaging leaders and “champions” in prioritizing and supporting research use (Dobbins et al., 2018; Schleiff et al., 2020)
- Outline personal, organizational, and societal gains for engagement and consider appropriate incentives (Sarkies et al., 2017)
- Develop skills in accessing and using research but influence beliefs and leadership where the prevailing culture is not valuing research (Haynes et al., 2018)

6.6.3. *Choosing and developing interventions*

- Simple interventions can be as effective as complex multi-component strategies. Similarly, the selection, tailoring, and implementation of interventions may be of more relevance than the intervention modality itself (Haynes et al., 2018; LaRocca et al., 2012; Sarkies et al., 2017); e.g., tailored evidence messages for policymakers can be more effective if provided solely rather than accompanied with other measures such as interaction with knowledge brokers (Dobbins et al., 2009)
- Consider training, tools, expert advice, capacity assessment and feedback, and peer networking to foster evidence use (Brownson et al., 2018)
- Invest in infrastructure and access to data and research, and commission research synthesis (Haynes et al., 2018; Schleiff et al., 2020)
- Build structures and processes that support evidence use, such as guidelines, specialized units, or platforms (Schleiff et al., 2020; Williamson et al., 2019)
- Invest in in-house research experts, such as knowledge brokers, but consider resource needs and focus on long-term investment (Haynes et al., 2018)
- Provide interactive training and support for skills and capacity development, especially for staff that might support the diffusion of the innovations (Dobbins et al., 2018; Sarkies et al., 2017; Schleiff et al., 2020; Williamson et al., 2019)
- For approaches involving knowledge brokers or training, preferably use physical presence and support active exchange (Dobbins et al., 2018; Elueze, 2015; LaRocca et al., 2012)

- Isolated interventions such as workshop provision only might be insufficient for sustainable change. Thus, consider actively support the intervention and its goals, e.g., investing in social support and shaping conditions for learning (Haynes et al., 2018)
- Partner with well-recognized research experts and institutions and establish strong and long-lasting relationships but use trusted and familiar networks rather than formal connections (Haynes et al., 2018; Sarkies et al., 2017)
- Facilitate genuine collaboration with researchers, e.g., through the co-production of research, and simultaneously assure shared visions, expectations, ownership, and benefits (Haynes et al., 2018; Sarkies et al., 2017)

6.6.4. Implementing interventions

- Provide sufficient resources to implement measures, including time and funding (Schleiff et al., 2020)
- Tailor interventions to organizational needs and priorities and assure that they provide a clear benefit (Dobbins et al., 2009; Dobbins et al., 2018; Edwards et al., 2019; Haynes et al., 2018; Williamson et al., 2019); e.g., align interventions to existing strategies and aims of the health authority
- Identify and actively involve committed staff, e.g., “early adopters and innovators”, in the development and implementation of interventions (Dobbins et al., 2018; Haynes et al., 2018)
- Carefully select who is part of such initiatives to assure mutual respect and commitment (Haynes et al., 2018)
- Consider contextual factors beyond the organization that might influence how the interventions work (Haynes et al., 2018; Schleiff et al., 2020)

6.6.5. Capacity assessment and evaluation

- Build and implement interventions based on needs assessments and analysis of existing capacity in health authorities (Haynes et al., 2018)
- Use audit and feedback to monitor development and to adapt goals (Haynes et al., 2018)
- Evaluate outcomes and impact of realized interventions (Boaz et al., 2009; LaRocca et al., 2012)

6.7. Further resources

- Breckon et al. (2016). Using Research Evidence: A Practical Guide. Alliance for Useful Evidence. → link
- Green and Bennett (2007). Sound choices: enhancing capacity for evidence-informed health policy: Geneva, World Health Organization. → link
- Wills et al. (2016). Guidelines and good practices for evidence-informed policymaking in a government department. Pretoria: Department of Environmental Affairs; and London: Overseas Development Institute → link
- Lavis, Oxman, Lewin, et al. (2009). SUPPORT Tools for evidence-informed health Policymaking from Health Research Policy and Systems → link

7. General discussion

The overall aim of this Ph.D. thesis was to contribute to a better understanding of the role and relevance of evidence in health policymaking. In particular, the thesis brings forth insights on the use, capacity, and perspectives of evidence, particularly concerning health authorities and hospital-sector policies in Switzerland. This chapter discusses the findings, methodology and methods, and implications of the individual chapters as a whole, contextualized within the latest research and theory. Firstly, a summary of the leading research findings is presented. Then, aspects of the methodology and methods of the individual studies are critically appraised and analyzed regarding their strengths and limitations. Finally, implications for policy and further research are formulated.

7.1. Main findings

This section provides a brief narrative overview of the thesis’s central findings. First, a summary of the main findings as per each chapter is presented. **Table 12** provides a list of findings on each research objective. Then, aspects of these findings are discussed in detail.

7.1.1. Summary of main findings

Chapter 2 described the systematic collection and analysis of existing qualitative research on EIPM about public health and health system issues. It demonstrated that the field of research is multifaceted, growing rapidly, not focusing predominantly on “barriers and facilitators”, and expanding in geographic focus increasingly to the Global South. The systematic review identified a substantial body of research that had analyzed and described policy processes and decisions in-depth and engaged with political science and public administration theory. However, the chapter also shows that there are still few attempts to study policymaking directly through real-world observations and that the field of research is dominated by a focus on civil servants rather than elected politicians. **Chapter 3** investigated the role of evidence in recently introduced hospital-sector policies in Switzerland. Analysis of the case study found that the reform to substitute inpatient care with outpatient care was driven by an agenda of cost savings.

Table 12. Main findings by objective theme

Objective theme	Main findings
1. Qualitative research on evidence use in health policymaking	– The research landscape is thematically diverse and rapidly growing – A considerable group of in-depth case studies and research engaging with political science and public administration theory was identified – There is little application of observational methods and restricted focus on elected policymakers or symbolic evidence use
2. Evidence in the shift from hospital inpatient to outpatient care	– Simple evidence-informed messages can show reform need – Evidence was used to legitimate policies but not to develop them – Comparative health-service data is crucial to steer health reforms – Health observatories are relevant to foster evidence generation/use
3. Capacity, needs, and perspectives regarding evidence in health administrations	– Administrations indicate moderate and similar evidence-use capacity – Capacity focus seems to depend on individuals and external resources – Health care data is central for policymaking, but academic evidence is less so
4. Evidence to improve health-service and -system inefficiencies	– Reforms should aim at improving quality and reducing inefficiencies rather than focusing on cost containment – Collection and use of quality and outcome data and research are required for health governance – Health-administrations' capacity to engage with evidence is key
5. Recommendations for evidence-use capacity-building interventions	– Interventions to strengthen evidence-use capacity in health administrations should be aligned and tailored to the local context – Simple interventions can be as effective as complex ones – Supportive environments for capacity building should be established, and participatory approaches to interventions are recommended

Although available evidence indicated the problem of inpatient overuse long before the reform, evidence was not used to initiate the reform but rather symbolically to justify health authorities' measures. The chapter highlighted that comparative international analysis of health service data and the work of health observatories are central for effective health governance and the correction of health services misuse. **Chapter 4** indicated that the capacity regarding tools and systems to support evidence use seems moderate and indifferent among Swiss health administrations. The focus and responsibility to engage with evidence seem to rest upon individual administration staff with little explicit organizational support. Due to limited internal resources and capacity, administrations depend on external partners to generate, find and make sense of evidence, such as contract research and evaluation offices. Besides these, the OBSAN and health service providers such as hospitals proved essential in providing or translating evidence. Local health care data and statistics are relevant to the work of administration staff, but there is less engagement with scientific literature. **Chapter 5** stressed the value of evidence in tackling health services and system inefficiencies. The chapter proposed strengthening prerequisites for evidence generation and capacity to steer health reforms by administrations toward health system improvements and avoid potentially harmful effects of cost-containment measures. **Chapter 6** summarized the available scientific knowledge on effective interventions to foster EIPM in Swiss health authorities and provided recommendations. The literature review identified various strategies and presented several factors influencing evidence use at the individual level of policymakers, the intrapersonal level, the administrations’ organizational level, and the broader institutional context.

7.1.2. New ways of researching evidence-informed policymaking

Policymaking is a complex exercise involving many actors, processes, and influences (Geyer & Cairney, 2015; Head, 2010; Heikkila & Cairney, 2018; Sabatier & Weible, 2014). Since policy processes are strongly shaped by their context, qualitative research methods are central to understanding the role of evidence in these processes (Contandriopoulos et al., 2010; Davies et al., 2000; Head, 2008). To date, however, there has been no systematic undertaking that has surveyed and detailed the existing qualitative studies on EIPM.

The research presented in this thesis has revealed several insights regarding the EIPM research landscape. On the one hand, findings of previous work were confirmed and complemented, e.g.; we were able to show that qualitative studies on EIPM have been thematically and geographically diverse and represent a rapidly growing field of research. In contrast to the focus of previous reviews (Innvaer et al., 2002; Oliver, Innvar, et al., 2014; Tricco et al., 2016), which focused in particular on studies investigating barriers to and facilitators of evidence use, we were able to unearth a substantial number of studies on other topics related to EIPM and shed light on new aspects of the research field. Contrary to what was previously assumed, we found that a considerable number of the studies were increasingly devoted to more in-depth and less descriptive analyses and adopted theories and frameworks from political science and public administration. The inventory of studies identified here provides a valuable resource for future research efforts, specifically qualitative evidence syntheses (Booth, 2019; Dixon-Woods et al., 2005). Such evidence syntheses can contribute significantly to testing and refining existing theories and may benefit from the intentionally broad perspective of this review in providing an in-depth analysis of identified studies with specific research questions. This thesis has identified potential questions that would lend themselves to more in-depth analysis.

Another finding of this work with implications for future research is that the international literature to date has predominantly not addressed the use of evidence by political policymakers. The majority of existing studies and the focus of this thesis examined the work and perspective of technical policymakers, such as civil servants. For an understanding of EIPM, the relationship between administration and politics and the question of how this relationship corresponds to the use of evidence are essential issues, and the theoretical and empirical foundations underpinning these are available outside the field of EIPM (Demir & Nyhan, 2008; Georgiou, 2014; Montjoy & Watson, 1995; Svara, 1985).

As we have shown, most qualitative EIPM studies have used interviews as the data source, and few papers have relied on non–self-reported data. Only 10% of the identified studies used observational methods, and in most cases, these served to complement interview data but were not central to the methodology. In this context, insights gained through participant observation, for example, could make a significant contribution to understanding the everyday realities of policymakers. This, in turn, would help develop assessment tools of greater practical relevance (requiring fewer resources devoted to surveys) and more appropriate and responsive support measures for dealing with evidence and implement these more adequately. Encouraging trends in the methodological development of qualitative evidence syntheses, such as meta-ethnography (Brookfield et al., 2019; R. Campbell et al., 2011), which is now increasingly being applied in the policy and EIPM fields (Berlan et al., 2014; Clarke et al., 2016; Jensen-Ryan & German, 2018), require primary literature to provide credible qualitative analyses with thick descriptions and “contextual richness” (Booth et al., 2013), for which observational methods provide a good foundation.

Another finding was that a large number of publications reported and described study characteristics poorly. For example, the methods used or the study participants investigated were in many cases inadequately delineated. The difficulty of definitions in the EIPM field and the way these are applied in scientific publications is an issue that has also been noted in other research (Haynes et al., 2015; Oliver, Innvar, et al., 2014; Oliver & de Vocht, 2017). Therefore, the present study indicates that the EIPM research landscape would benefit from a more unified lexicon and more detailed explanations of methods used and how they have been applied, as well as detailed descriptions of central EIPM terms such as policy, policymaker, evidence, or policy process. This is essential for ensuring the transferability of results to other contexts and relevant for comparative analyses of the primary literature of both an aggregative and interpretive nature.

7.1.3. The use of research evidence in policymaking by cantonal health administrations

Reviews have highlighted that a variety of studies on EIPM already exist in a wide range of contexts (Innvaer et al., 2002; Liverani et al., 2013; Lorenc et al., 2014; Masood et al., 2018; Oliver, Innvar, et al., 2014; Orton et al., 2011). As confirmed by our work, the focus of research so far has been heavily on a few Anglo-Saxon countries. For example, in the systematic review, we identified only two papers from Switzerland that met the inclusion criteria (Frey, 2010; Frey & Widmer, 2011). Little is known about the use of evidence in Swiss health policymaking, especially at the cantonal level, and existing knowledge is primarily limited to the relevance of evaluations.

Our findings on the use of evidence in Switzerland indicate that academic literature may play a modest role in cantonal policymaking in the area of health services management and planning. While policymakers certainly acknowledge the fundamental relevance of research for health policy, direct engagement with academic literature in everyday work seems less relevant, or if so, then only for a small group of administrative staff. In marked contrast, medical and health care data and statistics have proven to be central to the work of policymakers, where a lack of and delay in availability can have a direct impact on their work. Therefore, the finding of evaluations' limited scope in the field of health care at the cantonal level seems to generalize to research evidence (Dolder et al., 2017).

Although these findings cannot be quantified, the relatively low importance of research literature in contrast to other forms of evidence is noteworthy. For example, Balthasar and Müller (2014) studied the use of evidence by cantonal administrations in tax and social transfer policy and measured a frequent reliance on empirical knowledge from the literature. Although it is acknowledged that there are differences in the role and relevance of evidence between policy sectors (Amara et al., 2004; Dolder et al., 2017; Frey, 2012), one might nevertheless have expected greater relevance of research findings in the area of health care. Not surprisingly, one possible explanation for the low value placed on academic literature may be the difficulty of applying foreign studies to the local context, as stated by several interviewees. More generally, it may be assumed that policymakers' conception of the administration's "mode of governance" influences the way they deal with academic findings in crafting policies (Sager, 2007).

If we look at this thesis's findings on how evidence was used, the symbolic utilization is particularly salient. The case study highlighted the importance of evidence in legitimizing measures and decisions already taken, and the interviews stressed the function of evidence as a "tool" for justification. In their overview of existing findings on Switzerland concerning evaluations, Frey and Ledermann (2017) similarly note frequent symbolic use by government and administrations to legitimize bills in the Swiss context. Interestingly, although the assumed primarily symbolic use of evidence by policymakers is a common EIPM narrative (Boswell, 2008; Newman, 2017; Oliver, Lorenc, et al., 2014), our systematic review found that few studies had, in fact, addressed this type of use. As such, the case study presented in this thesis contributes to a deeper understanding of this form of use, in this case, the legitimization of decisions that have already been made.

The focus of this thesis was on the work of policymakers, especially civil servants. However, other actors besides cantonal administrations have influential roles in health policy making too (see also 1.1.2), and these actors can be both producers and users of evidence. For example, our case study outlined that the calculations and prognoses of an audit and advisory company significantly influenced the problem perception of inpatient services overuse in the policy arena and provided administrations with a good argument for policy action. On the other hand, interviews highlighted the central role of health service providers in generating and communicating evidence. Understanding EIPM in Switzerland thus requires knowledge on how nongovernmental actors, such as civil society, think tanks, lobby groups, and powerful associations, such as those of the health insurers or the physician community, affect policy through the production and reception of evidence. The Swiss Medical Association's dispute with the FOPH over the interpretive authority and validity of study results on physician wages illustrates that these actors can exert a strong influence on public discourse and, ultimately, policy decisions (Ärzte für Zürich, 2018; Brunner & Kraft, 2019; Medinside, 2018; Schäfer, 2018). Other actors, such as health leagues, can shape the (scientific and political) debate on health care and disease prevention too and may influence the perception of facts by the public (Hofmann et al., 2015) and professionals, as the discussion on the recommendation of the Swiss Medical Board to abolish mammography screening in 2014 exemplifies (Arie, 2014; Chiolero & Rodondi, 2014; Vassilakos et al., 2014) and interview responses of policymakers attest.

7.1.4. Evidence-informed policymaking's potential to reconfigure health care in Switzerland

Both in the analysis of the studied policymaking process on inpatient services and in the interviews with civil servants, we found a limited relevance of intra- and international data and comparative analyses, such as health care data from cantons or countries, in the planning and design of health services. For example, long-available evidence on the potential for outpatient care was late to be used to correct inpatient overuse, and international statistics and health services research were not given central importance in everyday policymaking by administration policymakers. These results underscore the real potential of such evidence for the development and implementation of effective measures by cantonal administrations, especially in the context of increasing pressure for cost-containment measures in health policy.

One possible reason for this low status could be that health services research remains poorly established in Switzerland (Schweizerische Akademie der Medizinischen Wissenschaften, 2014), and local evidence is thus available only to a limited extent. There has been some progress in this area in recent years, e.g., a national research program on health care has been underway since 2015 (http://www.nfp74.ch/en), which also includes projects relevant to care at the system level (Puhan, 2017). Nevertheless, also research suffers from the limited availability of health care data and opportunities to link them with other information, limiting causal inference about the effectiveness of policy interventions (Geneviève et al., 2019; Martani et al., 2020; Zwahlen et al., 2020).

In addition to the availability and accessibility (see 7.1.5) of evidence, in many cases, local and regional political factors define the possibilities of EIPM by the administration. These are essentially determined by democratic processes, the culture of deliberation, and the search for consensus and compromise, thus making evidence an integral aspect of shared debate (including competing narratives) and, at the same time, a tool for political argumentation (Boswell, 2014; Frey, 2012; Schlaufer et al., 2018). As the policymakers stated in the interviews, citizens’ demands, such as inpatient acute care close to home, can be opposed to the rationality of high-quality and efficient care, which has also been found in contexts outside Switzerland (Fraser et al., 2017). Policymaking in this area is complicated by the emotionalization of issues, which can entrench opposing positions and make it difficult to find a mutually beneficial solution, as is typically evident in reform efforts aimed at hospital closures.

Empirical studies have shown that constellations of diverging interests and values in policymaking can limit or even prevent the influence of evidence (Frey, 2012; Ledermann, 2014; Schrefler, 2010; Weible, 2008). Frey (2012) argued that in arenas with strong ideological controversies and low administration capacity, evidence was fundamental of little significance for policymaking. Our case study showed that, in principle, evidence could play an important (symbolic) role, even in contexts where disagreement and limited capacity prevail, a finding in line with Schaefer's theoretical model on knowledge utilization (2010).

A congruent description of the reality of healthcare policymaking within such a context can be found in Phillips and Green (2015), notably one of the studies identified in the systematic review that applied participant observation. The authors examined the work of policymakers in local English health authorities. They found that it took place in an "entirely different framework" (p. 502) from the normative EIPM paradigm, which requires consideration of different values and perspectives for decisions with various goals, and because of the politicized context places a substantial value on local experience: "Rather than citing a neutral discourse of evidence-based practice to justify decisions, officers drew on rather different epistemologies of practice. These were rooted in localism, empiricism, and a holistic approach that arose from the need to defend decisions from the scrutiny of diverse potential stakeholders" (p. 501). Therefore, discussion of the EIPM potential for Swiss health administrations must be held in light of the local conditions that define the boundaries of possibilities (Sager et al., 2019).

Ultimately, the interviews with the policymakers also showed a fundamental interest on the part of the administration in evidence for the development and implementation of policies but underlined the reality that evidence is not always available and applicable to the local context. In particular, data on outpatient care and outcome data on the quality of care were described as almost non-existent or difficult to access; these areas were occasionally referred to as a "black box". Finally, the statements in the interviews underline the complexity of working with evidence from the perspective of the administration, namely that the generation of health system evidence can be challenging, that available evidence can be of questionable quality and objectivity, and that there is sometimes no consensus on the state of knowledge on the scientific side.

7.1.5. The capacity of cantonal health administrations to engage with evidence

The capacity to access, process, and apply evidence is an essential prerequisite for EIPM (Frey, 2012; Howlett, 2009; Newman et al., 2017). However, knowledge about the strengths and weaknesses in this regard in the context of Switzerland is limited.

This thesis shows that the availability of tools and systems that support evidence use is moderate in cantonal health administrations. Frey (2012) similarly found moderate capacity when studying a legislative revision to regulate outpatient health care at the federal level. However, these results are hardly comparable due to the different operationalization of capacity and dissimilar policy levels. On the other hand, individual findings are in line with a study on the evaluation culture in cantonal health administrations (Dolder et al., 2017; Rohrbach, 2020). The work examined the institutionalization of evidence (the existence of an evaluation office and corresponding documents and processes), evaluation practice (frequency of participation in and use of evaluations), and attitudes toward evaluation. As in our results, no specifically documented requirements regarding evaluation were found in the three cantonal health administrations studied, nor did administrations significantly differ in terms of staff attitudes toward evaluation, if this can be taken as a proxy for requirements and expectations related to the production of evaluations within the administration.

Interestingly, the administrations studied in the present thesis appear to have the similar overall capacity, regardless of their size. These results are surprising in light of the existing research and require further clarification (see 7.2.4). Studies on Switzerland point to a relationship between the population size of the canton (or its administration) and EIPM indicators, such as the use and institutionalization of evaluation, and in some cases show significant differences in the extent of these indicators between the cantons (Balthasar, 2010; Balthasar & Müller, 2014; Balthasar & Rieder, 2009; Dolder et al., 2017; Rohrbach, 2020; Wirths et al., 2017).

Looking at the measured capacity across dimensions, we find a primarily similar pattern of strengths and weaknesses. According to the assessment, among the strengths of most administrations appear to be relationships with research organizations. However, in-depth interviews highlighted, in most cases, limited direct contact with academic research but stressed the relevance of applied research provided by contract and evaluation offices and expert consultants. Other administrations' strengths include the production of evidence. These findings correspond with the existing literature. For example, Balthasar and Müller (2014), albeit in a different policy area, also found frequent use of in-house calculations and analyses among cantonal administrations. We found less pronounced capacity concerning the documentation of processes, the availability of tools and programs for managers, and staff support through training and tools for EIPM. These areas need to be examined in more detail to take stock and identify the potential for support measures.

The interviews also highlighted the administrations' dependence on external resources related to evidence generation, processing, and use. Service providers, such as hospitals and physicians, were essential producers and suppliers of data and academic evidence for administrations and partners in analyzing and interpreting the results. Policymakers' accounts of the relevance of exchange and collaboration with service providers thus seem to support the hypothesis of Dolder et al. (2017) that cantons in the health care sector predominantly use other instruments for policy assessment than evaluations. The statements in the interviews also confirm other results of Dolder et al. (ibid.), namely that in the field of health promotion and prevention, evaluations play a more critical role than in health care. Policymakers referred to instrumental use for the effective design of prevention projects, symbolic use to legitimize the prevention work and especially to get funds, and imposed use (Weiss et al., 2005) due to the evaluation requirements of the Health Promotion Switzerland Foundation. For example, all projects sponsored by the Foundation in the field of prevention in health care (https://gesundheitsfoerderung.ch/pgv.html) are to be evaluated, and in the case of large-scale projects, the evaluations are carried out by external institutes.

Contract research and evaluation offices and consultancies have also been a critical external resource to compensate for mainly human-resource and analytical limitations in engaging with evidence. Due to the essential role of private and civil actors in health policy and the relatively lean staffing, administrations in Switzerland rely on such organizations and the evidence they produce (Crivelli & De Pietro, 2020; Vatter & Rüefli, 2014; Widmer et al., 2009). The circumstance of scarce internal resources and outsourced capacity to generate and apply evidence could result in a limited potential of conceptual evidence use for policymaking by administrations. Collaboration with external actors requires purposeful exchange and commissioning, so a more substantial instrumental or symbolic use of evidence can be assumed here.

By strengthening internal capacity for collecting and analyzing data, comparing the health care situation with that of other cantons and countries, and consulting international evidence, administrations can be made less dependent on service providers, allowing them to fulfill better their steering and control function for efficient health care (Brinkerhoff & Bossert, 2013). In addition to such resource-intensive adaptations, there is potential for optimization on a smaller scale. On the one hand, access to evidence must be ensured for administration staff, and they need to know where to find it (see 6.2.). Surprisingly, there were statements from resource-rich cantonal administrations in the in-depth interviews that disclosed limited access to scientific publications. Moreover, it was mentioned that the federal administrations could improve accessibility to the already existing evidence since this was difficult to find on their websites. While providing access to research literature databases and optimizing resource access on governmental webpages is relatively straightforward, the more fundamental problem of timely available evidence that is useful and applicable to specific policy problems remains difficult to address (Davies et al., 2000; Kitson et al., 1996; Oliver, Innvar, et al., 2014). For example, the long time lag between biomedical research and its application in practice is well-known (Hanney et al., 2015; Morris et al., 2011). However, policymakers may have short time windows to make use of evidence or may need answers instantaneously, no matter how sound they are. While novel forms of collaboration between policy and research, such as research co-production (Rycroft-Malone et al., 2016) or faster forms of research conduct, such as rapid reviews (Polisena et al., 2015) can alleviate evidence supply issues, they will not overcome the fact that many other factors influence if and how evidence eventually influences policy (Cairney, 2016).

Finally, our recommendations derived from the literature review (Chapter 6) have shown several effective ways to strengthen capacity in using evidence. In addition to improvements in access to research, other measures can strengthen areas of limited capacity with modest resources. For example, the importance of evidence can be incorporated into strategic documents or mission statements, and organizational culture open to research can be actively lived by leaders (see also 7.3). Our results further suggest that besides implementing EIPM-specific support, strengthening general resources such as staffing could also promote EIPM.

7.1.6. The central role of the Swiss Health Observatory as evidence producer and broker

A key question in research on EIPM is making evidence better available and increasing its use in policymaking (Oliver, Lorenc, et al., 2014). This thesis contributes in this regard. A key finding of the studies presented here is the relevance of OBSAN in generating and disseminating the evidence. As we have shown, this evidence can be significant for identifying reform needs and cost-saving potential and for diffusing policies among cantons. In day-to-day work in health care, OBSAN data and analyses provide an essential basis for administrations' work. For small and medium-sized cantons, OBSAN is an exceptionally essential external resource through which data that is otherwise difficult to obtain can be accessed. In the interviews, policymakers considered the work of OBSAN highly competent and service-oriented. Balthasar (2010) showed that a service contract with OBSAN was associated with a more vital interest of administrations in conducting evaluations. Based on what we have found, this finding can now be expanded to suggest that the evidence generated by OBSAN itself informs health policymaking and constitutes actionable knowledge for health policy. Our findings confirm the most recent of the regularly conducted evaluations of OBSAN (Trageser et al., 2019), which noted high satisfaction with the services and that administrations use the work of OBSAN for planning and implementing health-policy measures, particularly for health-services planning. The results of this thesis indicate the potential to strengthen the role and relevance of OBSAN in the future and should thus be taken into account in upcoming decisions on funding and the portfolio of tasks (Trageser et al., 2019).

Interestingly, the role of health observatories appears to be underresearched in the EIPM literature to date. Of the 319 studies identified in the systematic review, not a single study addressed their role, which is surprising given their central function for EIPM to “combine the qualities of academic and state based public health by providing high quality, relevant regional health intelligence for those who need it” (Hemmings & Wilkinson, 2003, p. 325).

However, other relevant producers of evidence besides OBSAN can or could influence policymaking, but of which cantonal authorities may be less aware. The public health community in Switzerland, for example, has sought to support policymaking in addressing the COVID-19 crisis through various means. The SSPH+ initiative established a closed link between the scientific community and the federal authorities through an online platform, undisturbed by media and other channels. In the earliest pandemic phase, the platform was used as a discussion forum and data-sharing and analysis platform. Later, the FOPH started to formulate specific questions for which they inquired the SSPH+ to review and constantly update the emerging literature. The SSPH+ mandated and monitored qualifying applicants within the extensive SSPH+ network across 12 Swiss universities to provide these review reports. The FOPH, the Swiss National COVID-19 Science Task Force, and others drew on this information to make decisions.

Another example is the SSPH+ Corona Immunitas program on the SARS-CoV-2 seroprevalence, which provides essential and timely evidence to inform government decisions on COVID-19 containment measures (West et al., 2020). Notable about this project are the efforts to translate research conduct and results understandably to the public and policy. In addition to the scientific expertise, the project established a political advisory board (SSPH+, 2021), showing that both researchers and politicians are increasingly making an effort to contribute their share to knowledge translation and exchange. Similarly, through its projects and activities, SLHS contributes to the generation and communication of policy-relevant knowledge about the Swiss health system, such as by its efforts to promote discussion about integrated care in Switzerland among various stakeholders, including researchers, practitioners, and policymakers (SLHS, 2021).

7.1.7. Health administrations' limited agency in steering health care using evidence

Public administration is only one of many actors in health policy and has a defined scope of action to govern health care given their statutory directives (Rüefli et al., 2015; Vatter & Rüefli, 2014). Therefore, the potential for EIPM by cantonal administrations must be considered in terms of existing governance potential (Zarkin, 2021). There are opportunities where administrations could be more proactive in governing care, drawing on the experience of other cantons and countries and applying it within their discretion (Expertengruppe Kostendämpfung, 2017; Sager et al., 2010; Trageser et al., 2017), as demonstrated in the case study of this thesis. Given the existing reform deadlocks in many areas of Swiss health policy and the increasing pressure for economization, exploiting existing room for maneuver by administrations within existing legal and political frameworks is imperative (Sager et al., 2019). Consulting available evidence and promoting the access to and use of data is central to govern health policy through quality and efficiency and preventing cutbacks to beneficial services. Administrations might strive to integrate stakeholders in governing health care and test innovative approaches in the production and application of evidence for health policy such as citizen science or panels (Den Broeder et al., 2016; P3 Project Database, 2021).

7.2. Methodological considerations

This thesis used a mixed-method approach with primary and secondary research methodologies to understand further how evidence is used in policymaking. The following subsections critically address the methodological strengths and limitations of this work and the respective consequences for the validity of the findings. As details regarding the methodical rigor are presented within the chapters, this section focuses on a broader perspective beyond the reflections in the individual chapters.

The methodologies chosen and the methods applied in this thesis complemented each other in various ways. The systematic review provided an overview of the existing qualitative research landscape, described its main features, confirmed or challenged existing assumptions, and pointed out research gaps. Systematic reviews, while comprehensive, can be limited in the detail of their analysis due to the sometimes large number of studies included. The case study, which was also conducted in this thesis, can provide deeper insight and, rather than at the meta-level in a global context, allows for the analysis of EIPM in a concrete policymaking process in a local context. Finally, because the interview studies' focus is independent of specific policies or policy processes, it allows us to draw conclusions beyond the individual case and, thanks to the mixed-methods design, to describe EIPM characteristics in various ways. Although the results of the qualitative analyses cannot be directly generalized, they offer a deeper insight into the EIPM situation in the health care policymaking by cantonal administrations.

7.2.1. Review of the qualitative literature on evidence-informed policymaking

The planning and conduct of the systematic review followed standard procedures and recommendations and were thus carried out rigorously (Higgins et al., 2019). The strength of the review is its exhaustive search based on a very sensitive search strategy without restrictions on language or publication date that allowed producing this most comprehensive overview of qualitative EIPM research to date.

Due to the labor-intensive screening, it was possible to identify eligible research under the challenging conditions of over 10,000 studies and a research area with nonuniform terminology. Indeed, the lack of binding definitions and standard wording posed a significant challenge in conducting the review. A great deal of effort had to be put into the operationalization of the inclusion criteria. The concepts to be captured (e.g., "policymaker") were complicated, and thus these criteria could not be straightforwardly applied to the studies. In addition, they required apprehending the context of the study in detail, which was particularly burdensome in full-text screening. Other scholars have attested to challenges like this in reviewing public policy literature (Leuz, 2018; Miljand, 2020). As already outlined, efforts toward a generally accepted lexicon and a more consistent description of EIPM aspects would be conducive to the development of the research field.

The focus of the systematic review was limited to published, peer-reviewed papers and can thus make robust statements on this subject matter. The delineation from gray literature was necessary to make the work feasible in the first place. However, there are likely valuable documents outside scientific literature (e.g., case studies or evaluations prepared as part of EIPM projects) that would meet other inclusion criteria and have thematically and methodically enriched the review (Adams et al., 2016; Lawrence et al., 2014). In light of this possibility and the large amount of work required for this review, future projects may be well advised to consider the pros and cons and the need for a systematic approach (Petticrew, 2015).

7.2.2. Participant sample and potential limitations to results' validity

This thesis's results are partially based on interviews with Swiss cantonal health-administration policymakers (Chapters 3 and 4): secretaries-general and civil servants responsible for health services and planning. While interviews with this target group have yielded relevant findings on perspectives from the practice, a few considerations must be made regarding the internal and external validity of these results based on the characteristics of the participant sample. A quantitatively oriented perspective is adopted (and respective vocabulary is used), even though certain statements do not strictly apply to the study's qualitative parts or conclusions, given its mixed-method design (Chapter 4). Reflections about the trustworthiness of the qualitative findings are presented in the following subchapter.

First, the **sample** of policymakers studied was **small**. Only six individuals were interviewed for the quantitative capacity assessment, and 12 were interviewed for the in-depth interviews of the same study. While these numbers are reasonable considering the limited population of health-administration secretaries-general (one per administration) and high-ranking civil servants (at maximum a few per administration), the homogeneity of the targeted sample and the explorative purpose of the study, conclusions about the capacity results have to be drawn with care, as the sample size poses limitations to statistical validity. As such, further studies should aim to validate these findings with larger samples. For additional considerations in this regard, see 7.2.4.

Second, it is necessary to consider the potential influence of the participants' recruitment strategy and the sample's composition on the assessment of the results.

Regarding the composition of the secretary-general sample, **participation bias** cannot be completely ruled out. It could be assumed that individuals with little regard for study findings or negative attitudes toward science refrained from participating. What cannot be ruled out either is the possibility that secretaries-general decided not to participate in the interview because of an administration head's negative or politically accentuated attitude toward evidence to avoid having to justify themselves or revealing contradictory positions. Ultimately, however, the fact that all the secretaries-general who declined to participate cited the current workload due to the COVID-19 pandemic as their reason speaks against participation bias. Conversely, it cannot be ruled out that only resource-rich administrations could take the time to participate in the interviews. This may have led to an overestimation of the availability of tools and systems to support evidence use in Swiss administrations. Nevertheless, as small and large cantons participated in the study (however, very small cantons were excluded from the assessment), this bias also seems unlikely.

Concerning the in-depth interview sample of civil servants, potential impacts of the **sampling process** must be reflected. A pragmatic strategy for recruiting participants was sought in the face of the administrations' heavy workload due to the COVID-19 crisis. Most of the interview participants were recruited with the support of the secretaries-general, i.e., they approached the potential participants, or in the case of an inquiry by us, allowed to refer to the recommendation by the secretary-general. The advantage of this procedure was that it increased the chances of the policymakers participating. It also allowed us to assess the administration’s current exposure to the COVID-19 crisis (see also 7.2.5) and thus to judge the appropriateness of seeking input from additional individuals in the administration. Although the target audience for the in-depth interviews within the administration was relatively well defined before contacting the secretaries-general, it cannot be ruled out that the secretaries-general chose administration staff with high regard for evidence. However, such regard is to be somewhat expected for staff involved in health-service planning. Moreover, it was challenging to make further requests for in-depth interviews in small administrations without going through the secretary-general, who had already declined the initial request. To prevent potential annoyance for the secretaries-general, further requests were waived in these situations.

Third, the sample reflects variability in the surveyed cantons’ central characteristics and can be considered **representative** in some respects. For instance, the sample included administrations from large, medium-sized, and small cantons, both rural and urban, from several major Swiss regions. Findings might thus be generalized to cantons not investigated. However, the investigation focused on German-speaking health administrations only. It may be assumed that health authorities in French- and Italian-speaking regions of Switzerland face similar challenges and thus that policymakers would formulate similar perspectives and needs regarding evidence for policy. Nevertheless, known cultural differences among the language regions might manifest in the extent of elements contributing to evidence use and the capacity to do so (but see Balthasar & Müller, 2014). In French-speaking Switzerland, for example, cantons have a more significant role (compared to municipalities) than in German-speaking Switzerland, and in many cases, French-speaking cantons prefer a more decisive role for the state, with the public service at the forefront in such issues as public health (Ladner, 2019; Vatter & Rüefli, 2003).

7.2.3. Trustworthiness of qualitative findings

The qualitative methods in this thesis allowed us to analyze and understand the perspectives of policymakers in health care and planning in greater depth, validate quantitative findings, and trace the role of evidence in a recent policymaking process. The semi-structured interviews also allowed flexibly addressing emerging themes and reflecting findings in the context of practice. As in all studies, a few considerations about potential unintended influences on study findings should be made. This section addresses considerations regarding the validity of the qualitative findings, first discussing issues associated with the interview process and then drawing on two of the four criteria of the trustworthiness model for qualitative research: credibility and trustworthiness (Lincoln et al., 1985).

Concerning the interviews, two types of **response bias** are theoretically conceivable. On the one hand, secretaries-general are entrusted with leadership support for political heads and responsibility for public communication in many cases. Therefore, they might have adopted a thoughtful and sometimes cautious approach to express critical statements regarding their administration, making them susceptible to social desirability effects. However, the technical nature of the capacity-assessment questions and the prespecified conversion of the qualitative statements into quantitative values with the scoring guide renders the influences of such behavior negligible. Participants felt comfortable expressing criticisms of their administration in the in-depth interviews, although several participants formulated certain statements with caution. In addition, interviewees might have been subject to courtesy bias in their efforts not to criticize other actors or partners too strongly. However, the occasionally very explicit complaints lead to the conclusion that this did not pose a problem. Prompt, friendly, and sympathetic communication during the recruitment and scheduling process established the grounds for a trustworthy interview atmosphere and contributed to preventing or mitigating these two biases. Repeated assurance of participation and interview-content anonymity, as well as anonymous reporting of the administration’s capacity estimation, created conditions of trust.

Various other measures were taken to ensure the **credibility** of the qualitative findings. For example, different data sources and methods were used to triangulate the findings. In the case study (Chapter 3), scientific articles, government documents and reports from agencies, information from websites, and also qualitative interviews were drawn on for the analysis, and the interviews served to verify the findings generated by such research. In the interview study (Chapter 4), different data-collection methods were used for triangulation instead of using different sources of information, although only certain information could be triangulated due to the restricted content congruence of the capacity assessment and the in-depth interviews. Despite measures taken to strengthen credibility, a downside of the study is the lack of exposure to the field. Although the qualitative data collection and analyses (Chapters 3 and4) spanned several months and were accompanied by intensive study of media reports and related documents, allowing consistent observation of the topic, the immersion depth remained limited. Here, observational participation would have had great potential for nuanced contemplation and identification of additional perspectives and concepts.

Concerning the **transferability** of the findings, thick descriptions of the research context and the policymakers studied have been provided. For example, the description of the interview study includes detailed accounts of the study setting and the work functions of the interview participants. Furthermore, contextual influences such as the COVID-19 pandemic have been explicitly discussed. Potential limitations to transferability and considerations for applying the findings to other contexts have been outlined (Chapter 4) to increase further the capacity for judgment of how transferable the findings are. In this regard, it should be borne in mind that the interviewees were primarily high-ranking civil servants in management positions.

7.2.4. Assessment of administrations' capacity to use evidence

The strength of the instrument that was used to measure capacity is that the assessed values imply areas for capacity-strengthening action. The instrument also shows individual aspects of capacity in detail but summarizes them under different dimensions, making assessment and comparison among administrations practical. Its focus is on evidence-use capacity characteristics that can be easily improved, thus establishing a possible starting point for interventions to strengthen EIPM (see more under 7.3). However, the application of the instrument revealed a potential for improvement, which will be briefly highlighted and reflected. Several shortcomings of the tool have recently been confirmed by Windle et al. (2021).

In **methodological terms**, collecting qualitative data through interviews for subsequent transformation into quantitative data had certain advantages over a direct quantitative survey approach. In the context of COVID-19, it proved helpful in reducing the workload for the participants and thus ensured a sufficiently high response rate, which would not have been achievable with a written survey approach (see also 7.2.5). In addition, the capacity-assessment interviews were transcribed and used to supplement and triangulate in-depth interviews, providing additional value not envisioned in the original methodology (Makkar, Turner, et al., 2016). Interview participants often provided enriching content beyond the specific question focus, e.g., giving examples, comparisons, and reflections, which in our case, was also suitable for qualitative analysis. However, outside a context with severely limited availability of interview participants, more direct forms of data collection that evoke targeted responses would increase the effort:return ratio. Data collection via written survey would have significantly reduced the overall time required of interview participants, eased and sped up data analysis, and contributed to the reliability of data collection.

With regard to **internal validity**, a few further considerations must be made. Analysis of the transcripts to derive capacity values did not turn out to be straightforward in practice, as respondents had sometimes provided evasive or vague answers. Some of the ORACLe guide’s questions were not operationalized precisely enough by its designers, e.g., terms like “internal communication” or “research organizations” were not further defined, which allowed the interview participants to assume various concepts. The operationalization of the scoring guide could similarly have been enhanced, as the selectivity of the categories proved, in some cases, insufficient when assigning values to the interview statements. In the present case, however, to increase reliability, a second independent rater was consulted, who double-coded all interviews. This allowed more consistent assessment across interviews.

Regarding the **reliability** of the assessment tool, it should be noted that it targeted a single respondent per organization. However, one person is likely to have limited information about the entire organization and provide detailed answers to all questions. Consequently, it would be helpful to interview different people in the administration in various functions and hierarchy levels to see what tools and systems are specifically available in their area. Ideally, questions would be targeted to specific audiences.

In addition, a few questions can be raised about the **construct validity** and, in particular, the content validity of the capacity assessment. We found a similar extent of overall capacity across all administrations, regardless of size, but one would expect greater capacity for larger administrations with more infrastructure, staff, and other resources (see 7.1.5). Further studies should aim to associate the assessed capacity values with other quantitative indicators of capacity to determine how well the construct of capacity (for tools and systems) is captured. This limitation might have been addressed by using additional measurement tools (e.g., Kothari et al., 2009; McCaughan et al., 2002; Rodriguez et al., 2017) and complementary data-collection methods, such as observation. Unfortunately, due to policymakers' limited time for study participation, such improvements could not be implemented in the present case.

Finally, to what extent is the **external validity** of the results guaranteed? Comments from interview participants indicated limitations in the practical relevance of the specific tools and systems in dealing with evidence. Therefore, the extent to which the tools and systems surveyed contributed to the overall organizational capacity to engage with evidence (e.g., organizational culture, legal frameworks, and institutional contexts), as well as associations with outcome measures (such as the degree to which evidence affects policies), are questions for future research.

7.2.5. Research in the context of the COVID-19 pandemic

The COVID-19 pandemic, which manifested in Switzerland in the spring of 2020 with the first wave (Kohler et al., 2020), had a substantial impact on the design and conduct of this research and potentially also on the appraisal of some of the findings. Due to the work overload of health authorities in response to the pandemic, a planned and prepared quantitative survey on evidence-use capacity could not be realized (see 1.3.1). Instead, a design, method, and tool were chosen to collect data through interviews based on a smaller sample and thus with less burden on health administrations. The smaller sample required a relatively homogeneous composition to generate enough meaningful data for a focused qualitative analysis. However, a small and homogeneous sample potentially comes at the expense of lowering the possibility of identifying deviant cases or triangulating sources (Patton, 1999).

Aside from affecting the research design, the pandemic significantly influenced data collection. The workload of the administrations made it challenging to find interviewees and arrange respective appointments. High workload and pressure on the administration were often mentioned during telephone inquiries, highlighting that it was difficult to devote resources to an interview. These circumstances also affected the case study (Chapter 3), which was initially planned to be based on interview data but ended up being primarily a document analysis instead.

The potential mediation of the pandemic's context on the capacity assessment results and qualitative findings should not be neglected. In the qualitative interviews, reference to the current situation was regularly made or cited as an example of how the administration would deal with evidence. As such, it cannot be ruled out that the context of data collection influenced the assessment of evidence's inherent relevance for policymaking and was therefore reflected in the salience of attitudes, needs, and opinions. Although COVID-19 was not an a priori focus of the study, the theme was taken up in the qualitative analysis to reflect its meaning for the other findings. The chosen framework-analysis method proved suitable for this purpose, as the analysis step of "charting" offers the opportunity to simply review and compare codes and concepts (Gale et al., 2013).

The interviews in this thesis have also shown that the COVID-19 crisis is an example where evidence is of great importance for the administration, and hence there is pronounced demand, attention, and interest from authorities for research results in this context. The COVID-19 crisis is an opportunity to shed light on EIPM in several ways. On the one hand, the crisis shows that evidence can play a central role in policymaking and how difficult it is for agencies and policymakers to make good decisions with little evidence. On the other hand, the crisis brings the relationship between politics and science into focus, as exemplified by the sometimes heated discussions about the role of the Swiss National COVID-19 Science Task Force in politics. Initial studies on the federal administration's crisis management indicate the relevance of scientific experts in managing the crisis but also ascertained that they were—at least at the beginning—involved too late and not systematically enough and that cooperation was initially characterized by mistrust (Balthasar et al., 2020). This demonstrates that it is necessary to build conditions that enable a close relationship between science and politics characterized by mutual trust, even beyond the current public health crisis.

7.2.6. The Swiss Learning Health System initiative

This Ph.D. project was realized within the SLHS initiative, which strives to generate and integrate scientific evidence for health-policy issues (Boes et al., 2018). As the SLHS aims to address the very topic of this dissertation, it provides an opportunity to reflect on the value of an EIPM-strengthening project from an “inside” perspective. The following paragraphs thus briefly provide an appraisal of the project, some reflections on its challenges, and a few considerations regarding future endeavors addressing similar aims.

The SLHS initiative’s launch and the grant approved by the federal government for the second funding cycle (2021−2024) highlight the continued increased interest in the relationship between research and policy. The initiative focuses attention in this regard, making researchers aware of policy issues and implementation considerations and critically reflecting on their work’s policy relevance. Moreover, the SLHS potentially contributes to raising policymakers’ interest in new solutions to address policy problems and ways to interact with research. It serves as a learning opportunity to experiment with investments in capacity building for knowledge exchange and translation. Ultimately, it can be hoped that such initiatives as the SLHS contribute to evidence use, capacity building, the development of other initiatives, programs, tools, and collaborations, and hopefully, lasting relationships between research and policy.

Among the main aims of the SLHS is to bridge research, policy, and practice (through aligning research topics with policy needs, providing policy briefs and rapid reviews, and conducting stakeholder dialogues) and to build scientific capacity (through a Ph.D. program with a specialized course curriculum). If these ambitious aims are to be achieved, the following considerations should be taken into account. First of all, research has shown the importance of involving policymakers from the very beginning of a research endeavor, as outlined in the policy brief of this thesis. This is necessary to increase the relevance and applicability of research results for policy, drive continuous knowledge exchange between policy and research, and enable ownership of research on the policy side (Cvitanovic et al., 2016; Vanyoro et al., 2019). Thus, policymakers' priorities should essentially contribute to the definition of the SLHS's research agenda, and windows of opportunities should be considered in project selection based on the current political situation. Novel strategies such as placing Ph.D. students in policy organizations have already been implemented by the SSPH+ and could be adopted in future SLHS student cohorts to foster collaboration and exchange between policy and research. Second, in addition to applying single knowledge translation products (i.e., policy briefs) and one-off events (i.e., stakeholder dialogues), the SLHS could strive towards a more holistic and comprehensive strategy to bring research and policy closer together. Focusing on a few (interdisciplinary) projects by pooling resources could help better meet the effort required for the continuous knowledge exchange, build capacity among SLHS partners and provide supporting structures, e.g., to help researchers establish relationships to policy (see Chapter 6). Third, there are already existing helpful resources to support evidence-to-policy knowledge that could be used to build knowledge translation and exchange capacity among SLHS partners. Future projects may consider drawing on existing resources and investing in guidance, education, and training to strengthen researchers' capacity to engage with policy to support EIPM sustainably. In this regard, initiatives like the SLHS should be viewed as EIPM capacity-building programs, and their development and implementation could benefit even more from the existing evidence on the topic (see Chapter 6).

7.3. Implications for policy and practice

In the following, some selected findings of this thesis are presented concerning possible implications for policy and practice, drawing on the policy briefs' findings on effective interventions to strengthen capacity for EIPM (see Chapter 6).

Healthcare governance is becoming increasingly complex and requires more than ever the incorporation of information, data, and research to find effective and broadly supported solutions to individual health and systems' problems. This work indicates potential in Swiss health policy for increased search and application of existing evidence by cantonal administrations to address social problems and increase public benefit. International and cross-canton comparisons of healthcare data and analyses can guide administrations in steering service provision and select appropriate policy measures. When packaged in clear and simple narratives, evidence can help administrations sensitize stakeholders to the need for reform and legitimize desired or adopted measures. In the context of increasing pressure to economize in health policy, demonstrating the potential for cost savings in reducing inefficiencies and inadequate care can be a powerful argument. In order to increase the use of evidence by cantonal health administrations, the following measures can be considered:

Raise awareness for capacity-building needs

- Administrations should formulate local needs regarding evidence and use them to generate awareness for the relevance of internal capacity building. Targeted measures and staff expansion may be framed to be necessary for addressing overtreatment and avoiding unnecessary costs for the canton.

Shift the capacity focus from the individual to the organizational level

- Embed the importance of evidence for policy and encourage its use in administrations' strategic documents and mission statements.

- Support the creation of a culture that is open for learning and change, e.g., through recruiting research-affine staff or involvement of leadership in disseminating potentially relevant evidence.

- Shift the focus of responsibility for engaging with evidence from the individual to the organizational level by encouraging evidence engagement and supporting staff to do so.

Invest in and advocate for the generation of and access to evidence

- Provide administration staff with access to relevant databases with scientific publications. Assess local needs in this regard and consider that lack of capacity to engage with evidence, limited awareness of potential resources, and restricted time availability can hamper using this evidence.

- Join forces with other cantons and increase pressure to place the need for ambulatory care data access and exchange further up the national-level political agenda.

- Do the same to speed up routine data exchange between federal and cantonal administrations and institutions, and foster the establishment of quality of care outcome data. Team up with stakeholders to build case scenarios of how these data and indicators thereof can be used to optimize health care.

- Envisage new systems to incorporate outcome data in policy planning and adoption through close collaboration with researchers that understand local context and needs.

Reinforce exchange and collaboration among cantonal administrations

- Foster the exchange of evidence and tacit knowledge among cantons beyond language regions and provide time to do so. Compare health services data and best practice cases to reflect where healthcare should head.

- Use the opportunity of new hospital planning projects—particularly cross-canton ones—to integrate evidence-informed aspects in organizing health care and scrutinize the current situation regarding over- and under-provision of services.

Make greater use of the administrations' agency in shaping healthcare

- Exploit administrations' healthcare governance potential within legal and political boundaries, for example, by more consistent elimination of ineffective services.
- Commission economic analyses to demonstrate the cost-saving potential of policy measures.
- Apply existing data on quality of care for hospital planning decisions.

Strengthen the role of institutions and programs that seek to enhance EIPM

- Expand OBSAN's scope of work as well as its funding. Strengthen the role of OBSAN in data policy and efforts to provide data access and provision.
- Make administrations aware and part of existing initiatives and programs to strengthen the research-policy relationship (e.g., SLHS). Aim to institutionalize relationships to research, e.g., through a regular exchange.
- Support cantons by providing overviews of existing evidence sources and make them user-friendly and accessible (e.g., on websites of the federal administration).
- Support existing institutions or build new ones that help translate international evidence and transfer policy innovations to the local context.
- Support policy actors and stakeholders in the production of evidence summaries and health system guidelines. A particular focus should be placed on work that provides a normative orientation for the future design of health systems (e.g., *what is good health care?)* and considers local factors for the development, adoption, or implementation of respective policies in the local context.

7.4. Opportunities for future research

The studies presented in this thesis have highlighted several gaps in the research landscape and opportunities for further investigation. These should be explored for a deepened understanding and effective promotion of the various EIPM facets.

Focus on more direct investigations of EIPM

We have shown that an expansion of the qualitative methodological repertoire is indicated. Future research should focus on more direct investigations of EIPM, e.g., using ethnography to examine the role of evidence in real-life situations, such as decision-making processes or daily activities in government administration. Other approaches, such as participatory action research, may themselves serve the implicit goals of EIPM strengthening, e.g., raising awareness among policymakers of opportunities and possibilities of using evidence, influencing values and culture, building relationships and capacity, and shaping policies informed by evidence (Patten et al., 2006; Sparre, 2020).

Synthesize existing qualitative research findings

This thesis has shown that existing research has already addressed various topics and foci of EIPM (e.g., geographic or thematic). Therefore, the existing body of literature offers the potential for syntheses of findings, e.g., through qualitative meta-syntheses. Recent literature has further developed such synthesis methods and provided increasing guidance on conducting these (France et al., 2019; Noyes, Booth, Cargo, et al., 2018). Qualitative evidence syntheses offer the chance to build on robust findings on EIPM that are generalizable beyond individual study settings and can support the validation of existing theories and the development of new ones. Specific questions that need clarification for such syntheses are numerous. For example, future research could shed light on how the political-administrative relationship defines the relevance of evidence in policy and or elaborate on the theoretical underpinning of symbolic evidence use.

Validate capacity findings, refine the assessment tool, and broaden the focus

The studies presented here have investigated the capacity of health administrations at the local policy level in Switzerland. Five things, in particular, are relevant concerning future research efforts in this context. First, issues arise due to the methodological limitations of the study presented in this thesis. Because of the selection and size of the sample for capacity assessment, future studies should assess administrations' capacity with larger samples and across specific work areas in health administrations to validate existing data. It is necessary to determine whether the statements of the secretaries-general are representative of the corresponding administrative units. Research efforts in this regard will require further development of the instrument, as certain shortcomings have been revealed, especially concerning the methodology and operationalization. Second, the finding of similar overall capacity levels regardless of administration size has to be followed up in greater detail. Thirdly, the relationship between the administration and research needs to be characterized more precisely because the closeness of the relationship and exchange between the administration and research organizations, respectively experts, seems to differ depending on their type. Fourth, an extension of the conceptualization of capacity, here limited to tools and systems, to other dimensions, such as organizational culture, leadership and management, and the institutional context, would provide a more holistic picture of how supportive the environment is for evidence use. Associating capacity values with evidence-use outcome measures is a field that would further benefit understanding the practical relevance of the capacity concept. Fifth, this research focused on health administrations in German-speaking Switzerland. Future research should thus attempt to expand findings into the French-speaking regions.

Further opportunities for research

Other topics are worthwhile investigating in further research:

- We found that the OBSAN has proven essential in generating and proving evidence for cantonal health administrations. However, the role of health observatories in informing health policy seems to be an underresearched area that would benefit from further inquiry.

- As outlined in this thesis, the knowledge on EIPM in Switzerland is mainly based on research on evaluations and related factors. For future work to build on existing theoretical and empirical findings in the field of evaluation research, it is important to examine more closely where, when, and how the treatment of specific forms of evidence (such as evaluations or academic literature) differs or is the same.

❖ Research and policy may be further aligned and the dichotomy of evidence generators and users dissolved with innovative research approaches and policy support strategies. Research on EIPM would particularly benefit from co-production with policymakers and a research agenda informed by policy needs.

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