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Health insurers: evolving into ecosystem-based service companies

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ABSTRACT

Purpose

This study aims to investigate whether health insurers are transforming from pure payers into ecosystem-based health service companies. The authors discuss the findings' impact on health insurers' business model approach and their sources of competitive advantage.

Design/methodology/approach

The authors conducted a multiple case study of 25 incumbent and rising health insurers from the USA, Europe and Asia-Pacific. The selection of firms was based on databases from Forbes, S&P Global Market Intelligence and Crunchbase. By performing a review of financial reports, app descriptions, corporate websites and media coverage, the authors analyzed health insurers' digital service offerings and underlying strategic approaches for providing those services.

Findings

This study demonstrates that major health insurers are transforming into ecosystem-based health service companies. They expand the traditional insurance value chain by offering value-adding health services along the patient journey. The analysis results are summarized in a table displaying 18 digital service categories along core patient journey phases with corresponding examples of health insurers and underlying strategic approaches.

Originality

The role of digital services and ecosystems has been explored for many industries. This study investigates this subject area with a focus on the health insurance sector, advancing a young field of research. The analysis gives insights into the latest digital service offerings and strategic approaches of an internationally diverse set of incumbents and rising ventures.

Keywords

Health insurance; Digital transformation; Business strategy; Ecosystem; Partnerships; Health technology; Virtual care; Business model; Value creation; Competitive advantage

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INTRODUCTION

Digitalization is driving the consumerization of healthcare as patients take a more active role in managing their own health, acting as consumers.

They expect convenient and fast access to information and quality healthcare services via digital channels such as mobile apps. The COVID-19 crisis has accelerated the demand for mobile health apps across the world. According to the market research company Grand View Research (2022), the global mobile health app market with medical and fitness apps was valued at \$38bn in 2021 and is expected to increase at a compound annual growth rate of 12% from 2022 to 2030.

In view of those developments, traditional healthcare market players are required to leverage digitalization to stay competitive. This includes health insurers that may use their interface position in between stakeholders like patients and providers to offer value-added consumer-centric services. The future positioning is of high relevance for health insurers as the rapid automation of former core payer functions (e.g. claims approval) via robotic process automation questions their differentiating added value for consumers.

At the same time, driven by increasing demand for health services from ageing populations, insurers have to cope with rising healthcare costs. The insured in many countries confront rapidly rising insurance premiums that become a significant burden. Considering the competitive environment, health insurers face new competition from InsurTech and BigTech companies that leverage technology to innovate the insurance industry by drawing on consumer centricity (Stoekli et al., 2018).

While health insurers are ramping up digital offerings in light of these challenging circumstances, the topic of digital services in the health insurance market still represents a young field of research so far. Therefore, this paper addresses the following research question: Are health insurers transforming from pure payers into ecosystem-based health service companies?

The paper is structured as follows. First, we review the current state of research. Second, we outline the research methodology for analyzing health insurers' digital services and underlying strategic approaches. Third, we present the core findings from the analysis, followed by a discussion. Finally, this paper ends with conclusions pointing out contributions, limitations and future research needs.

CURRENT STATE OF RESEARCH

What do we know about current research on the digitalization of the health insurance sector? We screened major scientific databases and will outline the following core topic clusters: Digital technologies, operational implications, strategic implications and approaches to adopt new technologies.

Digital technologies with high relevance for the insurance sector can be grouped as follows. Concerning the field of data acquisition and analysis, the internet of things, big data and artificial intelligence play an important role. Regarding data storage, cloud computing and blockchain are pointed out by researchers. With respect to the field of communication, chatbots, video calls and apps are highlighted, among others (Eckert and Osterrieder, 2020; Eling and Lehmann, 2018).

Regarding operational implications of new technologies on insurers' value chain, Eling and Lehmann (2018) identify three major categories of change. First, the new technologies impact how insurers and clients interact (e.g. chatbots in customer service). Second, business processes are getting more standardized and automated (e.g. automated claim settlement). Third, there are opportunities to modify existing products and develop new ones (e.g. telematics-driven insurance).

Considering the strategic implications of the digital transformation of the insurance industry, Greineder et al. (2020) point out the importance of firms' ability to manage and integrate various partners with complementary service offerings. Stoeckli et al. (2018) analyze the transformational capabilities of InsurTechs, stressing the relevance of forming strategic partnerships and ecosystems (networks of interdependent organizations) to achieve a competitive advantage. Eckert and Osterrieder (2020) state the opportunity for insurers to partner with organizations from other industries to form an ecosystem, giving the example of partnering with tech companies such as wearable providers.

Insurers have been fairly slow when it comes to adopting innovative digital technologies. Cappiello (2020) and Pisoni (2021) highlight major approaches of the strategies insurers use. Apart from driving innovation inhouse, incumbent insurers partner with start-ups to provide bundled offerings or directly invest or fully acquire start-ups via inhouse venture capital funds.

METHODOLOGY

We investigated health insurers' digital service offerings and underlying strategic approaches for providing those services by conducting a multiple case study of incumbents and rising ventures from the USA, Europe and Asia-Pacific.

First, we selected the case companies from the following databases:

- 2021 Forbes Global 2000 list of the world's largest public companies ranked based on four equally weighted metrics of assets, market value, sales and profits: For the analysis, we considered insurers from the USA, Europe and Asia-Pacific included in the top 100 companies.

- 2021 S&P ranking of the top 20 US insurance companies, the 2020 S&P ranking of the top 20 European insurance companies, the 2020 S&P ranking of the top 20 Asian-Pacific insurance companies, all ranked by market capitalization: For the analysis, we considered the top 5 insurers out of the top 10 companies of each S&P ranking.
- The 2021 Crunchbase list of rising health insurance ventures, filtered for health insurance as industry; USA, Europe and Asia-Pacific as headquarter location; \$10m to \$10bn as estimated revenue range and greater than or equal to \$1m as money raised for funding as indicators for a proven business model: For the analysis, we considered ventures that market insurance products under their own brand, while we excluded ventures operating solely as marketplace brokers.

Across all databases, we excluded insurers from the analysis if a lack of health insurance products was clearly evident from the outset (e.g. focus only on property and casualty insurance). Based on the stated databases, we included the following insurers displayed in Table 1 in the multiple case study analysis.

Second, to investigate insurers' vision and strategic positioning, we reviewed their annual financial reports for 2020 as well as the latest available financial reports from 2021. We limited the analysis to the recent past to focus on the digital transformation that has been significantly accelerated by the COVID-19 crisis from 2020 onwards. The analysis focused on the financial report sections addressing "management's discussion" and corporate strategy. Third, to analyze insurers' digital services, we performed a review of functionality descriptions of provided apps at the Google Play Store. Fourth, to also consider non-app-based digital services, we screened insurers' corporate websites. Finally, we performed an analysis of insurers' strategic approaches for providing the digital services (e.g. partnerships) by reviewing their financial reports, corporate websites and media coverage.

FINDINGS

Strategic Positioning

The review of insurers' financial reports for exploring their vision and strategic positioning demonstrates that numerous incumbents envision a transformation from a pure payer to a partner role. AXA, for instance, points out that with "its 'Payer-to-Partner' vision, the Group significantly progressed in its transformation to prepare for the future by [...] paving the way for 'beyond insurance' services (telemedicine) [...]" (AXA, 2021, Annual report 2020, p. 7). This suggests that insurers expand their business model beyond the traditional insurance value chain. They seem to pursue an "ecosystem-based strategic transformation" (Ping An, 2021, Annual report 2020, p. 4) to provide both traditional insurance products as well as complementary health services. Prudential, for example, highlights that "Asian consumers desire access to healthcare value-added services, such as virtual GP" (Prudential, 2021, Annual report 2020, p. 8). Consequently, it is of increasing importance that a health insurer "interacts with and serves individuals throughout their health journey rather than at a single touchpoint" (Anthem, 2021a, Annual report 2020, web version). To do so, insurers may leverage "ecosystem partnership engagements" (Prudential, 2021, Annual report 2020, p. 98) for driving digitally enabled health services such as telemedicine and self-help tools. Digital tools allow insurers to offer more personalized solutions connecting the

insured “to the right care, at the right time” (Anthem, 2021b, Annual report 2020, web version). In light of disruptive market entrants such as InsurTechs, incumbent insurers stress the importance of developing innovative value-added services to remain competitive. Rising health insurance ventures such as Oscar Health build their business model from the outset around technology platforms to “innovate like a technology company and not a traditional insurer” (Oscar, 2021, Quarterly report Q3 2021, p. 33), focusing on consumer engagement driven by personalized insights and virtual care offerings.

Service Offerings

Validating the statements from the insurers’ financial reports, a review of their app offerings as well as of non-app-based digital services led to the identification of two types of digital service streams: administrative insurance services as well as health services. This finding demonstrates that health insurers are indeed expanding their business model beyond traditional administrative services into the health services space.

The identified administrative services are not a differentiating factor but a market standard across health insurers. Clients can use insurers’ apps to manage personal data, view insurance certificate, review insurance plans, contact customer support, submit claims and track processing status, check insurance plan balance and review claims history.

As a core output of this study, we summarize the analysis results on insurers’ health service offerings, as shown in Figure 1.

On one side, the Figure displays core digital services structured along patient journey phases. For each of the 18 identified digital service categories, we provide examples of health insurers offering those services. We briefly outline the journey phases and exemplary digital services:

- Prevention, understanding one’s health condition and leading a healthy lifestyle. Patients kick off their health journey by using the health insurer app to conduct a questionnaire-based health and well-being assessment (activity, nutrition, sleep). Assessment-based recommendations help to foster a healthier lifestyle, for instance by joining guided online programs on fitness and nutrition. When completing health activities, patients are credited with reward program points
- Screening and diagnosis, recognizing symptoms. In case of unfamiliar symptoms, patients access their chatbot-based symptom checker to explore their health condition and get guidance on what to do next. If a doctor consultation is recommended, patients use their app to quickly have a consultation online, often possible 24/7. If required, patients also schedule an appointment for a follow-up onsite consultation via the app.
- Treatment, receiving proper medication or medical care. To receive medication, patients choose a pharmacy via the app and order home delivery. They look up their ordered medication and learn about side effects, use a medication incompatibility checker and receive reminders to take their medication.
- Monitoring, controlling one’s health condition over time. Patients use wearables to track their health biometrics (e.g. cholesterol, blood pressure) and measure their progress. They conduct periodic online doctor

consultations for continuous medical monitoring and receive reminders on their app for required medical screenings.

- Along the entire patient journey, patients have the possibility to access their medical data (e.g. medication, laboratory test results).

On the other side, Figure 1 displays insurers' core strategic approaches for providing the health services. Via the analysis, we identified the three categories of inhouse app development, partnerships and strategic investments/acquisitions. This means that health insurers provide own apps to facilitate client interaction, they form partnerships to collaborate closely with innovative ventures as well as acquire company shares of innovators to get better control.

For each of those strategic approaches, we discovered sectors of relevant third-party firms.

These include:

- Healthtech wearable manufacturers (e.g., fitness trackers, smartwatches) – providing app interfaces so that patients can track their health biometrics.
- Healthtech software players offering artificial intelligence-driven services such as symptom checkers.
- Virtual wellness & care providers providing guided online programs (e.g., fitness, nutrition) or online doctor consultations.
- On-site care providers allowing health insurers to list them in search directories and include them in online appointment booking systems.
- Medication delivery players providing online ordering services and home delivery of medication.
- Retailers giving patients the possibility to redeem accumulated reward program points.

When we identify one or more strategic approaches for providing a digital service, we provide selected examples of companies in Figure 1.

DISCUSSION

Strategic transformation

The comprehensive set of identified health services offered by leading insurers from the USA, Europe and Asia-Pacific reveals that health insurers are indeed transforming from pure payers into health service companies for the insured. Firms are leaving their formerly mostly reactive payer role and are becoming more proactive partners, supporting the insured to get optimal care along the patient journey, as illustrated in Figure 2.

By offering innovative services such as app-based health assessments with customized recommendations for healthier lifestyles, insurers place an increased focus on prevention and personalization to provide added value. By offering guided online health programs, biometrics tracking via wearables as well as reward programs, insurers drive consumer engagement and build closer connections with them. By providing app-based symptom checkers, online consultations, online appointment booking for on-site care as well as home delivery of

medication, insurers offer a connected, easy-to-use consumer experience with high convenience along the patient journey.

When we look at strategic approaches, the various examples of third-party partnerships demonstrate that health insurers do develop ecosystems for offering a diverse set of services. They focus on partnerships in the fields of healthtech software and virtual wellness and care to offer innovative services. In doing so, they leverage their central role matching supply and demand for various health services. Presumably to gain strategic control and develop more inhouse expertise, insurers also pursue strategic investments and acquisitions of innovative ventures, with a focus on healthtech software players.

A strategic transformation from a pure payer to a trusted partner role may allow health insurers to reinforce their societal importance given the challenges of rising insurance premiums and new competitors.

Impact on Business Model

Embedding the findings' impact on health insurers' business models into a theoretical context, the business model canvas of Osterwalder and Pigneur (2010) provides a well-structured basis. Concerning the canvas' building block of "value proposition," there is a shift away from simply getting the claims jobs done to offering value-added health services. In terms of "customer relationship," insurers take on a partner role for clients by acting as an intermediary for health services and infomediary for health data (via electronic health record).

To perform those roles and get access to the required capabilities and innovative services, the building block of key partnerships is gaining importance. As Hein et al. (2019) point out, value creation has shifted from processes inside a company to a "value co-creation process with an ecosystem of actors" (Hein et al., 2019, p. 516). As today's consumers are demanding more integrated complex solutions, the approach of leveraging an ecosystem of specialized partners is gaining relevance (Williamson and de Meyer, 2012).

Shifting Source of Competitive Advantage

In light of the rising importance of ecosystems, an insurer's ability to build ecosystems becomes a critical source of competitive advantage. From a theoretical perspective, this means that health insurers' source of competitive advantage should not focus on internal resources (Wernerfelt, 1984), but also take into account the relational view, which complements the resource-based view by proposing that a company's critical resources may "span firm boundaries and may be embedded in interfirm resources and routines" (Dyer and Singh, 1998, p. 660).

Accordingly, from a practical point of view, to remain competitive, health insurance managers will have to focus more on interfirm value creation by managing complementary resources, knowledge-sharing routines and governance structures (Dyer et al., 2018). This requires a shift from a value chain perspective with a micro view of internal activities to an ecosystem perspective with a macro view collaborating with external actors for value creation (Kapoor, 2018). In this context, a challenge will be the management of simultaneous competition and cooperation (Moore, 1993) between incumbents and new venture actors in health insurance ecosystems. However, if this is managed successfully, ecosystem relationships may result in a sustained competitive

advantage, reinforced by potential first mover advantages (Dyer and Singh, 1998) when partnering with complementary resources that are rare and difficult to imitate.

CONCLUSIONS

This study makes important contributions to the young research field of digital services and ecosystems in the health insurance sector. The investigation of a diverse set of 25 incumbent and rising health insurance ventures from the USA, Europe and Asia-Pacific gives insights into insurers' digital service offerings and underlying strategic approaches. The analysis demonstrates that major health insurers are transforming from pure payers into ecosystem-based health service companies. By forming third-party partnerships with healthtech software and virtual care players, they offer value-added health services, supporting the insured in getting optimal care. Business practitioners will have to put increased focus on inter-firm value creation via ecosystems with complementary third parties to stay competitive in the future. At the same time, policymakers may have to review regulatory frameworks enabling health insurers to exploit potentials from digital services for enhancing care efficiency and quality for the insured.

The analysis was limited to 25 case firms based on selected databases and a regional focus on the USA, Europe and Asia-Pacific. The investigation was mostly based on information published by the companies themselves in the form of financial reports, app descriptions and content from corporate websites. The exploration of strategic approaches for providing digital services was based on a qualitative analysis.

Going forward, future researchers should focus on in-depth single case studies of larger-scale health insurers being digital pioneers to get more detailed insights into their strategic rationale and operations. It would be important to explore in detail how an insurer builds up a health service ecosystem (choosing partners based on technological and strategic alignment), sets up the ecosystem architecture (openness for third parties) and invests in the required operational backbone (enterprise systems).

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Financial reports of case study firms were accessed via investor relations sections of corporate websites.

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Core Digital Services			Core Strategic Approaches for Providing Digital Services (incl. Selected Examples)							
No.	Digital Service Category	Insurers Providing Service (Selected Examples)	Inhouse Development (of Apps)	Partnerships				Strategic Investments / Acquisitions		
			Healthtech Wearables	Healthtech Software	Virtual Wellness & Care	On-site Care	Medication Delivery	Retail	Healthtech Software	Virtual Wellness & Care
Prevention	1	Conduct health and well-being assessment (e.g., activity, nutrition, sleep, mental well-being)	Cigna, Humana, Allianz, Prudential, AIA	Prudential (Asia) - Babylon Inc.; AIA - Discovery Ltd. (AIA Vitality Joint Venture)					Allianz (Germany) - Vivy GmbH (100% ownership, as of 31.12.2020)	
	2	Receive personalized recommendations for a healthy lifestyle	Anthem, Cigna, Allianz, Zurich, Prudential	Prudential (Asia) - Babylon Inc.					Allianz (Germany) - Vivy GmbH - HealthLogix & Healthroute (100% acquisition announced in 2020, integration into Zurich's LiveWell business)	
	3	Sync via interfaces with wearables to track health biometrics (e.g., steps, blood pressure, sleep info) and measure progress	Anthem, Cigna, Humana, Oscar Health, Allianz, Zurich, Prudential, AIA, Acko	Humana - Apple Health, Samsung Health...; Oscar Health - Apple Health, Google Health...; Prudential (Asia) - Fitbit, Garmin...; AIA Vitality - Fitbit, Garmin, Polar, ...						
	4	Participate in guided online programs (e.g., nutrition, anti-stress) for a healthy lifestyle	UnitedHealth, Anthem, Cigna, Gravi, Allianz, AXA, Prudential		UnitedHealth - Peloton Interactive Inc., ...; Anthem - WW International (Weight Watchers), ...; Gravi - Wellbeats Inc., ...; Allianz (Germany) - mySugr GmbH, ...					
	5	Receive rewards for a healthy lifestyle (e.g., number of daily steps) to buy e.g., fitness wearables or e-gift cards	Humana, Zurich, AIA, Acko					Humana - Amazon, Macy's, iTunes, ...; AIA Vitality - Starbucks, Grab, ...		
	6	Receive reminders or recommendations for preventive screenings / services	Humana, Allianz						Allianz (Germany) - Vivy GmbH	
Screening & Diagnosis	7	Use (artificial intelligence-driven) symptom checker and get recommendation for next steps (e.g., make doctor appointment)	Anthem, Humana, Allianz, AXA, Prudential	Humana - Buoy Health Inc.; AXA (Asia) - Sensely Inc.; Prudential (Asia) - Babylon Inc.					Humana - Buoy Health Inc. (series C round investment in 2020)	
	8	Use filter-based search to find doctor (e.g., search by location, name or type of care)	UnitedHealth, Anthem, Humana, Oscar Health, Clover Health, Allianz, AXA, Prudential, Alan, Medi Assist		UnitedHealth, Humana, Oscar Health, AXA (Germany), Prudential (Asia) - Provider networks					
	9	Schedule appointment and conduct online consultation	UnitedHealth, Anthem, Cigna, Humana, Oscar Health, Clover Health, Friday Health Plans, Gravi, AXA, Prudential, Alan, Ping An Insurance, AIA, Acko		UnitedHealth - Teladoc Health Inc., Amwell, Doctor on Demand Inc.; Friday Health Plans - Teladoc Health Inc.; AXA (Germany) - MD Medicus Holding GmbH; Alan - Livi (by Kyr International); AIA (China) - WeDoctor					Cigna - MDLive Inc. (100% ownership since 2021); AIA (China) - WeDoctor (minority equity investment in 2018)
	10	Schedule appointment for on site consultation	Oscar Health, AXA, Ping An Insurance, AIA		Oscar Health, AXA (Germany) - Provider networks					
	11	Save favourite doctors	UnitedHealth, Oscar Health, Sidecar Health, AXA							
Treatment	12	Get digital prescription for medication and search for on-site or online pharmacy to redeem prescription / get Over-the-Counter (OTC) medication with home delivery	Humana, Oscar Health, Ping An Insurance, Acko				Oscar Health - Capsule Corporation, CVS Caremark; Ping An - 'Ping An Good Doctor' (~100 000 partner pharmacies); AIA (China) - WeDoctor (~15 000 partner pharmacies)			Ping An - 'Ping An Good Doctor' (ca. 38% stakeholder-ship, as of 08.12.2021); AIA (China) - WeDoctor (minority equity investment)
	13	Look up medication and learn about side effects, use medication incompatibility checker and receive reminders to take medication	Allianz, AXA		AXA (Germany) - MGS Meine-Gesundheit-Services GmbH (Joint Venture with CompuGroup Medical and other private insurers)				Allianz (Germany) - Vivy GmbH; AXA (Germany) - MGS Meine-Gesundheit-Services GmbH (Joint Venture stakeholder-ship since 2015)	
	14	Use of digital health applications on prescription	Allianz, AXA							
	15	Sync via interfaces with wearables to track health biometrics (e.g., cholesterol, blood pressure) and measure progress	Anthem, Cigna, Humana, Oscar Health, Allianz, Zurich, Prudential, AIA, Acko	Humana - Apple Health, Samsung Health...; Oscar Health - Apple Health, Google Health...; Prudential (Asia) - Fitbit, Garmin...; AIA Vitality - Fitbit, Garmin, Polar, ...						
Monitoring	16	Schedule appointment and conduct online consultation	UnitedHealth, Anthem, Cigna, Humana, Oscar Health, Clover Health, Friday Health Plans, Gravi, AXA, Prudential, Alan, Ping An Insurance, AIA, Acko		UnitedHealth - Teladoc Health Inc., Amwell, Doctor on Demand Inc.; Friday Health Plans - Teladoc Health Inc.; AXA (Germany) - MD Medicus Holding GmbH; Alan - Livi (by Kyr International); AIA (China) - WeDoctor					Cigna - MDLive Inc.; AIA (China) - WeDoctor
	17	Receive reminders or recommendations for doctor consultations or screenings	Humana, Allianz						Allianz (Germany) - Vivy GmbH	
Along Entire Journey	18	Access electronic health record	Anthem, Allianz, AXA		AXA (Germany) - MGS Meine-Gesundheit-Services GmbH				Allianz (Germany) - Vivy GmbH; AXA (Germany) - MGS Meine-Gesundheit-Services GmbH	

Fig. 1: Digital services and strategic approaches.

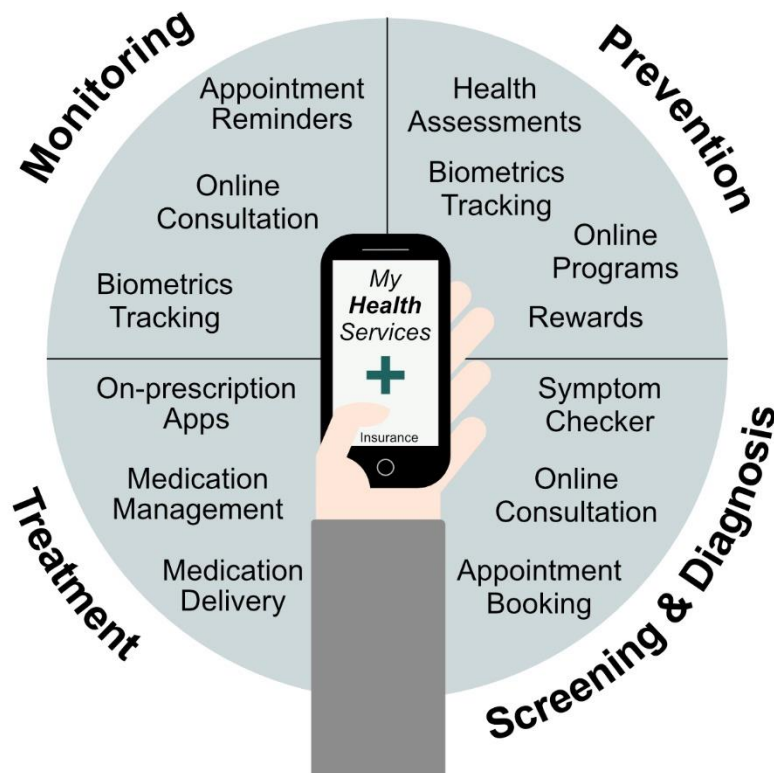


Fig. 2: Illustration of major health service offerings from insurers along patient journey.

Tab. 1: Insurers (n = 25) included in the multiple case study.

<i>Country</i>	<i>Region</i>	<i>Category</i>	<i>Company</i>
USA	USA	Incumbents	UnitedHealth Group Inc. Anthem Inc. Cigna Corp. Humana Inc. MetLife Inc.
		Rising ventures	Oscar Health Inc. Clover Health Investments Corp. Friday Health Plans Inc. Sidecar Health Insurance Solutions LLC. Bind Benefits Inc. Gravie Agency LLC.
Germany	Europe	Incumbents	Allianz SE
Switzerland			Zurich Insurance Group AG
France			AXA SA
UK			Prudential PLC
Germany			Munich Re Co.
Italy			Generali S.p.A.
France		Rising venture	Alan SA
Mainland China	Asia-Pacific	Incumbents	Ping An Insurance (Group) Co. of China Ltd.
Hong Kong			AIA Group Ltd.
Mainland China			China Life Insurance Co. Ltd. China Pacific Insurance (Group) Co. Ltd. New China Life Insurance Co. Ltd.
India		Rising ventures	Acko General Insurance Ltd. Medi Assist Healthcare Services Ltd.