Leveraging Technology to Revamp Health Insurance

Startups see tech as a balm to treat gaps in the insurance market

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Overview

Rampant rising healthcare costs, coupled with steadily improving technological capabilities, are creating opportunities for startups to build viable models that address gaps in the insurance market. Startups are working to revamp the health insurance market by developing new insurance models to compete with incumbents, creating operational technology to enable incumbent and startup insurers to lower costs, and building marketplaces and benefit management platforms to provide plan comparison tools, clearly explain benefits, and improve price transparency for consumers. The US health insurance industry is dominated by large legacy insurance providers such as Anthem (NYSE: ANTM), Centene (NYSE: CNC), and UnitedHealth (NYSE: UNH). These incumbents face the threat of disruption from new entrants and represent key buyers.

Emerging health insurance startups focus on several opportunities, including more accurately identifying high-risk customers, developing customized plans for self-insured employers, and providing lower-cost plans geared toward low-income demographics. In this note, we focus primarily on the US market and divide the health insurance technology landscape into the following three categories:

Health insurers: Startups that offer traditional health insurance products, often for targeted markets (for example, direct-to-consumer, Medicare Advantage, or employer-sponsored)

Insurance operation tech: Providers of operational and analytical solutions for insurance providers. Services include claims adjudication, billing management systems, patient enrollment, marketing, mailroom correspondence management, and patient eligibility verification solutions. While the Affordable Care Act mitigated the medical insurance underwriting market in the US, underwriting technology remains prevalent internationally.

Marketplaces and benefits management: In addition to providing valuable information hubs for customers, insurance marketplaces represent a key distribution and onboarding channel. Key benefit management functions consist of plan information, appointment scheduling, and prescription pricing information.


Health insurance tech market map
Insurance providers
oscar
Bright HealthCare
Clover Health
(Shuidi)
DevotedHealth
one medical
Collective Health
ESSENCE HEALTHCARE
iorahealth
alan
friday health plans
bind
beam smarter dental care
DIRECT INSURANCE
sidecar health
ottonova
SOLERA
(Community Health Options)
(Maestro Health)
MICROENSURE
bowtie
(Nuanwa Technology)
悟空保 WUKONGBAO
惠保 圆心惠保
(YuanXinHuiBao)
Clever Care HEALTH PLAN
AHM
Brella
Troy MEDICARE
Decent
apostrophe
vitality
HASHED HEALTH
RelianceHMO
Laguna
Angle
LifeRaft
nsurity
mira
SunFire
calyx
Insurance operation tech
wefox
CITYBLOCK
League
remedy partners
(The Coding Source)
HEALTHEDGE
Nayya
HealthBridge
HealthX
kalderos
+Simple
ELIGIBLE
inboxhealth.
madaket
乐约健康
(Leyue Health)
HealthyHealth
(Qumata)
noyo
SAFERIDE
易迪健康
Knowtions Research
abartysHealth
Knowledge Vision
yas.life
EnterMedicare
i3systems
Progexia
hi.
HealtheFilings
medasync

Health insurance tech market map

Marketplace & benefit platforms

Industry drivers

More data improves risk analysis: The growth and increased availability of traditional and nontraditional data sources enable startups to build patient management platforms that provide the risk-takers—including insurers, risk-taking providers, and self-insured employers—with a better understanding of individual healthcare needs. These solutions flag potential health implications and provide personalized medical care guidance.

Increased focus on value-based care (VBC) and shared-risk business models: Rising healthcare costs pressure policymakers and other stakeholders to focus on value-based care and shared-risk business models. These models incentivize preventative care and encourage lower-cost targeted treatments, thus requiring more convergence and data sharing between insurance providers and care providers as they work to optimize treatments, payments, and risk analysis. This trend drives opportunities for insurance startups looking to improve legacy processes and increase data utilization.

Pandemic opens door to virtual care opportunity: Virtual care has emerged from the COVID-19 pandemic as a preferred route to improve care and lower costs. Several insurers have partnered with virtual care providers to offer discounted visits, including legacy provider Cigna (NYSE: CI) acquiring MDLive in April 2021. Due to their information technology (IT) expertise and consumer-oriented mindset, insurtech startups may integrate telehealth capabilities more swiftly than legacy incumbents.

Dismal consumer ratings drive need for improved engagement tech: With an industry average net promoter score (NPS) of 19%,[1] insurers are working to improve customer satisfaction rates—a measure that can also affect Centers for Medicare & Medicaid Services (CMS) reimbursement levels. This effort creates an opportunity for benefit management and consumer engagement technology startups focused on helping insurers improve customer experience flows through upgraded product portals, mobile apps, recommendation assistants, chatbots, and unified digital service centers. Zipari built a consumer experience platform for health insurers. It offers various digital products, including consumer portals, a member mobile app, a recommendation assistant tool, a chatbot, and a unified digital service center to enhance customer satisfaction rates.

The rise of Medicare Advantage (MA) boosts opportunity for marketplace startups: According to McKinsey & Co., "MA is the fastest-growing line of business for many health plans, with enrollment growth of around 8% per year" and expectations to reach roughly 34 million participants by 2023.[2] This creates fertile territory for insurance marketplace providers that help consumers find and enroll in the best possible plans.

1: "What Is a Good NPS Score (2021 Benchmark)," Doter, Sushant Kumar, March 11, 2021.
2: "New Stars Ratings for Medicare Advantage Prioritize Customer Experiences," McKinsey & Co., Stephanie Carlton, et al., October 15, 2020.

Considerations

Price transparency law minimizes common startup insurance provider differentiation tactic: New price transparency laws in the US, which will take effect in January 2022, will require insurers to make public more information regarding copays and prescription prices.[3] All information must be available through online, consumer-usable tools. While this may improve the competitiveness of incumbents relative to startups, by lowering their compliance costs relative to legacy providers, startups are generally ahead of the industry in terms of transparency. These regulations could also increase the opportunity for providers of marketplace and benefit managers to help insurers build and maintain pricing portals.

Data privacy regulations: Increased insurer access to customer data raises questions regarding what data insurers should be allowed to collect and the ways they may use it. To protect individual healthcare, biometric, and genetic data and mitigate price discrimination, the European Union passed the General Data Protection Regulation in May 2018.[4] In the US, healthcare data laws are less stringent. Both the Health Insurance Portability and Accountability Act (HIPAA) and Health Information Technology for Economic and Clinical Health Act (HITECH) outline health data usage and privacy regulations.[5,6] We anticipate stricter regulations in the US—initially by individual states and then by the federal government. In 2018, for example, California enacted the California Consumer Privacy Act (CCPA), which controls the collection, use, and sale of Californians' personal information to businesses and other entities. Insurance companies operating in California must adhere to these regulations, which include disclosure obligations and requirements related to consumer privacy rights. Recent controversy related to Lemonade's (NYSE: LMND) alleged use of artificial intelligence (AI) to detect fraud by monitoring its customers' facial expressions highlights the potential danger of misusing new data technologies.[7]

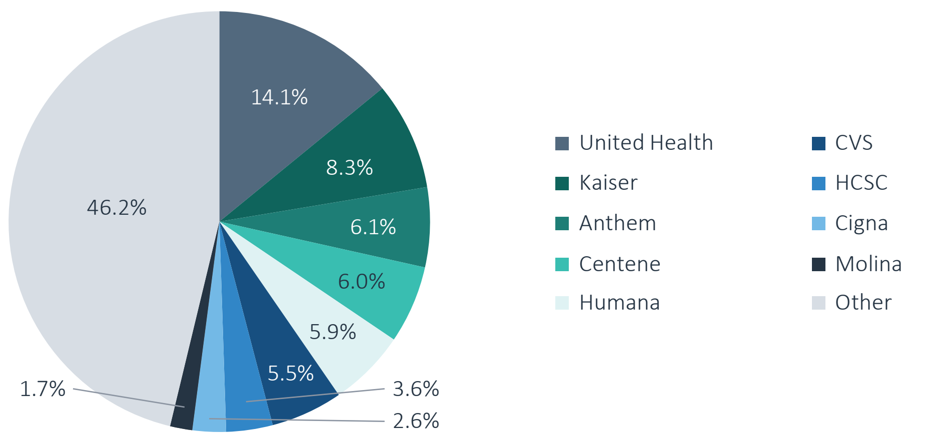
High entry barriers for insurance startups: Health insurance is a complex, price-competitive industry with several barriers to entry. Startups must obtain individual state licenses, develop partnerships with providers and pharmacy benefit managers (PBMs), and have enough capital to fund potential payouts. Furthermore, health insurance is a competitive market. The top five US insurers hold nearly 44% of the market and have several advantages over startups,[8] including vast datasets that support predictive analytics and risk forecasting, sticky clients, strong partnerships with PBMs and health providers, and healthy balance sheets returning ample float revenue, thus enabling these incumbents to remain price competitive despite the high costs.

3: "Consumers," CMS.gov, accessed on May 20, 2021.
4: "What is GDPR, the EU's New Data Protection Law?" GDPR.eu, accessed on May 20, 2021.
5: "HITECH Act Enforcement Interim Final Rule," HHS.gov, accessed on May 20, 2021.
6: "Health Insurance Portability and Accountability Act of 1996 (HIPAA)," CDC.gov, accessed on May 20, 2021.
7: "Lemonade Weathers a Raging Storm," Seeking Alpha, June 2, 2021.
8: "Largest Health Insurance Companies of 2021," ValuePenguin, Sterling Price, May 24, 2021.

Market size

We estimate the total market size for health insurance tech will be worth $3.2 trillion in 2028. Growing at a CAGR of 5.5% between 2021 and 2028, health insurance providers will account for $3.0 trillion of the total 2028 market size.[9] In the US, health insurers commanded $757.4 billion in premiums in 2019.[10] The market opportunity for health insurance operation technology providers and marketplace and benefit managers is much smaller, with $124.0 billion in 2028, but is growing at a CAGR of 12%. Health insurance startups must steal market share from incumbents to succeed. However, incumbents have ample red tape inhibiting their ability to adopt new technologies, which provides space for startups to differentiate and engage in price competition.

Accident and health insurance industry property/casualty, life/health, and health insurers 2020 market share by total premiums



Source: NAIC | **Geography:** US and Canada

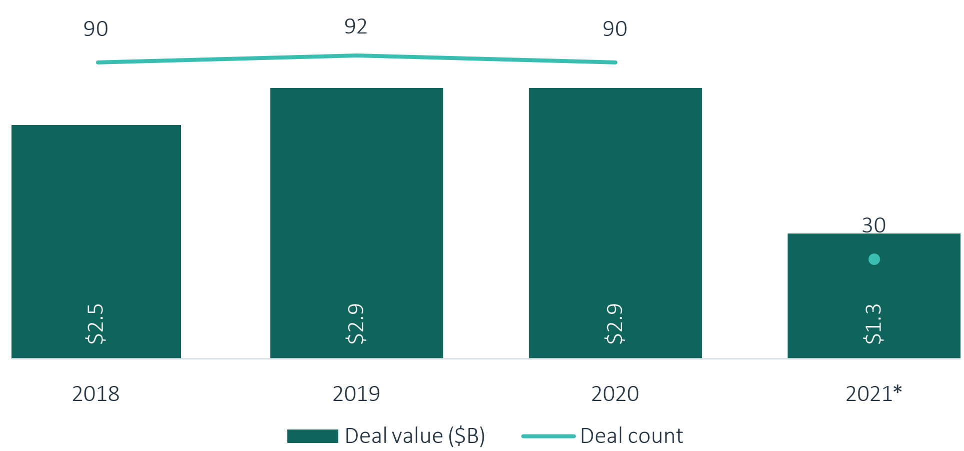
9: "Health Insurance Market Size 2021 | Is Set to Reach USD 3,038.6 Billion by 2028 with 5.5% CAGR," Yahoo! Finance, Fortune Business Insights, May 16, 2021.
10: "Facts + Statistics: Industry Overview," Insurance Information Institute, 2021, accessed on May 20, 2021.

VC activity

Insurtech startups have seen steady investment since 2018. In 2020, we tracked $2.9 billion invested across 90 deals. So far in 2021, we have tracked $1.3 billion invested across 30 deals. Insurance providers are driving the majority of industry deal flow. In the industry's largest deal thus far in 2021, insurance operation tech provider Cityblock Health raised a $352.0 million Series C. Cityblock serves as an intermediary solution between individuals and insurers to address gaps in healthcare. To generate revenue, it splits cost savings generated through better care with the insurer. Also in 2021, Collective Health raised a $280.0 million Series F to scale its integrated solution that allows self-funded employers to administer health plans, control costs, and take care of employee health.

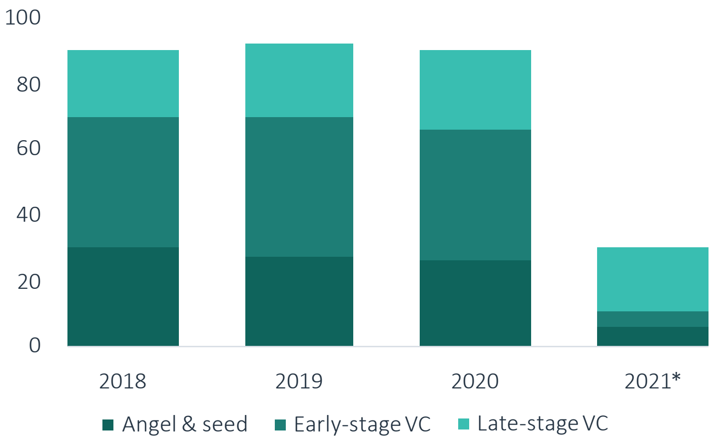
We have tracked four exits this year, which already outpaces 2019 exit activity. Oscar (NYSE: OSCR), Clover Health (NYSE: CLOV), and Shuidi (NYSE: WDH) went public, and MoneyTrack acquired Progexia via financial sponsor AG2R La Mondiale through a leveraged buyout (LBO). Both Oscar and Clover focus on boosting margins through providing VBC. Oscar provides insurance for employers, self-insured individuals and families, and older adults on MA, while Clover exclusively targets older adults on MA. Enterprise value and revenue will likely decrease for both companies in the coming years, as investors believe revenue will grow rapidly in the short term but then plateau. Slow health insurance market growth supports this hypothesis. Progexia enables insurers to collect third-party payments and better understand member costs and needs, which allows insurers to prioritize optimal preventative actions.

Health insurance tech VC deal activity



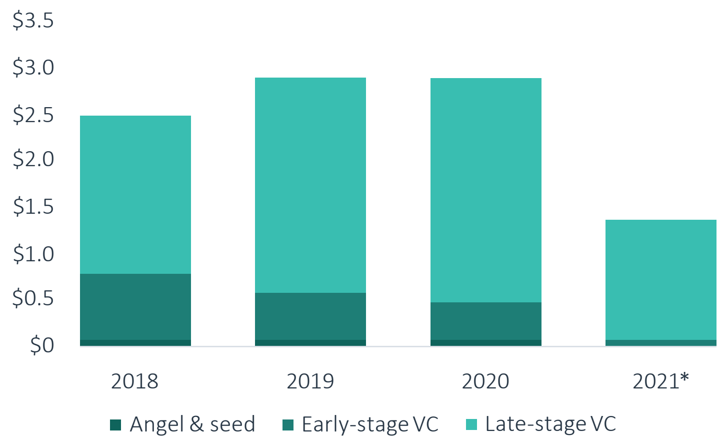
Source: PitchBook | **Geography:** Global
*As of May 5, 2021

Health insurance tech VC deals (#) by stage



Source: PitchBook | **Geography:** Global
*As of May 5, 2021

Health insurance tech VC deals ($B) by stage



Source: PitchBook | **Geography:** Global
*As of May 5, 2021

Top health insurance tech VC deals ($M) of 2021*

Company	Close date	Deal size ($M)	Deal type	Industry sector	Country
Cityblock Health	March 29, 2021	$352.0	Late-stage VC	Healthcare	US
Collective Health	May 3, 2021	$280.0	Late-stage VC	IT	US
Alan	April 19, 2021	$219.4	Late-stage VC	Financial services	France
Sidecar Health	January 26, 2021	$125.0	Late-stage VC	Financial services	US
Advise Insurance Agency	March 10, 2021	$100.0	Late-stage VC	B2C	US
policybazaar	March 17, 2021	$75.0	Late-stage VC	B2C	India
Eden Health	February 18, 2021	$60.0	Late-stage VC	Healthcare	US
Gravie	March 17, 2021	$28.0	Late-stage VC	Financial services	US
Level	April 16, 2021	$27.0	Early-stage VC	Financial services	US
Inbox Health	April 6, 2021	$15.0	Late-stage VC	Healthcare	US

Source: PitchBook | **Geography:** Global
*As of May 5, 2021

Health insurance tech VC exits ($M) of 2021*

Company	Close date	Exit size ($M)	Deal type	Industry sector	Country
Oscar	March 3, 2021	$6,503.3	IPO	Financial services	US
Clover Health	January 7, 2021	$828.0	Reverse merger	Healthcare	US
Shuidi	May 7, 2021	N/A	IPO	Financial services	China
Progexia	March 26, 2021	N/A	Buyout/LBO	IT	France

Source: PitchBook | **Geography:** Global
*As of May 5, 2021

Key performance indicators

HEALTH INSURERS	ALL
• Net premiums written • Medical care ratio • Average treatment charge • Claims denial rate • Underwriting expenses • Number of customers • Medical loss ration (MLR) • First contact resolution rate (member services) • Provider contracting cycle time	• Churn rate • New business premiums • Revenue growth • Monthly recurring revenue • Viability ratio (LTV/CAC) • Value of data mined • Market penetration proportion • Net promotion score • Gross margin • Addressable market • Patents • Number of partnerships

Business models

Health insurers: Traditionally, insurers generate revenue from premiums charged for medical insurance policies. Premiums are used to fund operations and pay claims from the customer-incurred medical costs outlined under the terms of coverage. Providers may also earn float revenue, or returns from invested cash.

Insurance operation technology: Providers in this space are primarily software platform or integration—via application programming interfaces (APIs) or software development kits (SDKs)—vendors that generate revenues from time-based license arrangements and maintenance and support fees. Fees may vary based on client size and usage rates. Some may also offer analytics, training, implementation, strategic advisory, outsourcing, and improvement services. We note a few companies providing VBC solutions engaging in shared-risk contracts with insurers. These companies provide their solutions at a low cost but take a percentage of savings generated through their products.

Distribution and benefit managers: Many distribution-focused companies are registered lead generators, brokers, or agents and are intermediaries between insurers and consumers. They receive commissions from insurers for each policy sold or renewed. Benefit managers contract with insurers and employers, generating revenues via software licenses or software as a service (SaaS). They may also earn commissions from providers when consumers schedule appointments through their platforms.

Opportunities

Identifying highest at-risk members: Effectively identifying and engaging high-risk members is critical to lowering healthcare costs. Prospr Health recruits high-risk members through direct communication and employer wellness programs. It then provides health coaching to lower projected annual medical costs.

Payment processing technology: The rise of high-deductible health plans (HDHP) has widened the knowledge gap for patients as they struggle to understand their liability and lowered payment collection rates. Providers use uncollected patient rates to justify rate increases in payer negotiations.[11] This drives opportunities for technologies that can help insurers improve patient collection rates and explain bills more clearly. Sidecar Health provides members with payment cards to pay doctors up front, which enables the company to gain access to low cash rates during provider negotiations. OODA Health offers patients a payer-branded statement that consolidates all provider bills and explanations of benefits (EOBs) associated with each encounter. In May 2021, Cedar announced plans to acquire OODA for $425.0 million.[12]

Marketplaces and benefit management platform: As new insurance providers emerge, MA becomes more common. And as digital adoption among consumers rises, the opportunity for online marketplaces also increases. Further, in 2023, all US insurers will be required to provide price transparency through an online, consumer-friendly tool. Marketplace and benefit managers are well positioned to help insurers build and upkeep pricing portals.

Risk-sharing enablement platforms: Several startups are building solutions to create shared-risk platforms between payers and providers. Effective value-based contracts range from simple quality metrics to full capitation. HealthEdge's enterprise SaaS solution suite, HealthRules, enables health plans to swiftly configure and launch new contract VBC arrangements and benefit plans.

Financial inclusion startups: Incumbent health insurers often overlook individuals who can neither receive insurance through their employer nor afford a plan. We've observed an increasing number of startups targeting historically underinsured individuals. Mira offers health insurance to individuals for $25 per month billed with a one-year commitment. Subscribers can gain access to preventative care and urgent care partner providers for $50 and $99, respectively, get lab tests for between $49 and $99, and receive up to 80% off prescriptions.[13] Unlike traditional health insurance companies, Mira neither underwrites nor assumes any risk. Instead, it partners with providers that are willing to provide low-cost treatments in exchange for upfront payment. We believe Mira is well suited for individuals on HDHPs but may be a poor option for individuals without any other coverage as it does not cover large medical expenses such as hospital stays and surgeries.

11: "Why Patient Payments are a System Issue," OODA Health, August 2019.
12: "Cedar Announces Agreement to Acquire OODA Health to Revolutionize the Consumer Financial Experience in Healthcare," OODA Health, May 13, 2021.
13: "Our Mission," Mira, accessed on May 20, 2021.

Outlook

More-connected stack between payers and providers: Rising health costs encourage insurers to proactively manage patient health, thus leading insurers to invest in VBC technology. To ensure investments are fully utilized, insurers are sharing risk with providers. Insurance provider Bright Health uses an "under one roof" model: It partners with just one health system in each market in which it operates. Bright Health claims that this care model produces superior outcomes for customers and lowers healthcare costs overall. Centivo, an insurer for self-funded employers, partners with primary care providers and compensates them with an enhanced fee schedule and incentives based on patient access and experience, as well as through referral and prescribing patterns.

Patient payment providers: The rise of high-deductible health plans has resulted in patients paying a larger proportion of medical bills. Providers are now more motivated to collect this patient portion. Insurer Eligible offers a claims lifecycle management platform that allows hospitals and patients to initiate claims and distribute settlements to multiple parties. For more information, please refer to our analyst note "Creating a Consumer-Centric Patient Payment Ecosystem."

Pain-point targeted technology: Incumbent insurers often are slow to transform or lack the capital necessary to adopt a full suite of value-based care solutions. Instead, they seek solutions with low upfront outlays that will quickly deliver visible results such as increased member engagement and lower costs. We believe companies do not need a full suite of solutions to partner with risk-takers. Rather, they must offer pain-point targeted technology that enables risk-takers to capitalize on early wins. For example, pulseData uses artificial intelligence & machine learning (AI & ML) to understand patient data and predict outcomes for chronic kidney disease and end-stage renal disease. By targeting kidney care, which accounts for roughly 20% of CMS spending,[14] pulseData can potentially provide quick wins to customers. Risk-takers will use these savings to further invest in VBC technology.

In healthcare, implementing new technology can be a timely process; insurers must both train providers to use the software and implement it with various patient management and electronic health record (EHR) systems. Therefore, risk-takers will likely prefer partnering with the same technology providers. Long term, providers that were first to secure partnerships will likely perform well if they expand product offerings to keep up with new entrants.

Increased reliance on monitoring devices and wellness providers: More and more, insurers are leveraging monitoring devices to understand real-time and longer-trend consumer wellness data and develop initiatives to support healthier members. In September 2019, Humana, a health insurer, announced a partnership with Fitbit. And in 2014, Oscar provided each of its members with a free Misfit Flash, a fitness and sleep monitor. Beam Dental uses Internet of Things (IoT) technology to personalize insurance plans based on individuals' teeth-brushing data. Its smart toothbrush tracks customer tooth-care activity, and it claims to offer rates up to 25% lower than its competitors.[15]

14: "CMS Announces Chronic Kidney Disease Care Model for Medicare Beneficiaries," Healthcare Finance, Jeff Lagasse, September 18, 2020.
15: "Meet a Startup Building an Insurance Business Around a Connected Toothbrush," *Fortune*, Stacey Higginbotham, June 26, 2015.