

# JAHRESRÜCKBLICK 2019

2019 was another big year for the digital health market. In this review of the year 2019 we want to provide you with insights of the trends, the start-up and VC funding landscape, as well as the digital strategies for tech giants and private clinics in Germany.

## TRENDS 2019 – 2020

### 1

#### **Telemedicine – virtual clinics and tele-doctors**

Digital communication and data-exchange between patient-to-doctor or doctor-to-doctor

- Telemedicine raised the highest funding amount in digital health worldwide
- The startup KRY entered France and Germany, the biggest markets in Europe partnering with on-line pharmacy DocMorris
- In the US amazon health introduced Amazon Care teleservice to its workers
- We also seen a rise in partnerships between health insurances in Germany and telehealth services
- We anticipate that with the growing awareness of telemedicine, and with the competition in the market, the available services will gain significant market share
- Hand in hand with the usage, the tools would become more developed: different brands will address different health conditions
- The role of the doctor switches to on-demand service provider
- Besides new services, offline clinics will enter this field

### 2

#### **Chatbots as part of the primary care patient journey**

Automated interaction imitating doctor's consultation based on intelligent algorithms

- Babylon health scored \$550M VC funding, highest funding amount in EU
- Ada Health is currently raising a three-digit-funding round
- AI-based symptom checkers will become an integral part of the digital patient journey in two ways:
  1. It will become a self-service entry point next to Dr. Google
  2. It will replace first line of healthcare professionals (e.g. NHS 24/7 hotline)

## 3

**AI-based tool for doctors – from diagnosis to treatment**

Automated medical data analysis using algorithms

- Finally, we saw more and more sophisticated AI-based solutions in the market
- Based on image analysis, SkinVision can identify common skin cancer conditions with 95% accuracy. Merantix, an AI tool that detects breast cancer, got the medical device certification
- AI is transferring from diagnosis to the area of therapy. As for now, a few services can identify whether a tumor would react to immunotherapy
- We expect to see more solutions implemented in the health field, addressing not just cancer but other conditions as well

## 4

**Women's health – from fertility tracking to holistic approach**

Digital tools and apps, designated to issues that are relevant for females

- Woman Health is an untapped market addressing 50% of the population
- The segment showed the highest increase in VC funding amounts (+66% from 2018)
- Finally, we saw more start-ups raising meaningful amounts such as Nurx (\$52M), The Pill Club (\$51M) and Elvie (\$42M)
- The variety of tools span from fertility and cycle tracking, for pregnant women, for sexual awareness and for menopause
- We will see the first generation of woman health start-up grow to mass market, but we will also see classic mistakes of the 1st Gen
- Home testing kits will simplify tracking processes
- This year we saw a growing interest in men's health, with startups like Hims and Ro

## 5

**Health monitoring – way beyond wellness**

Wearables and apps collect data on the users' personal health and exercise

- The wearables market keeps increasing, from 178M units that shipped in 2018, to 305M units in 2019
- Google acquired Fitbit, a deal that marks its entry into the ecosystem
- Traditional players are expanding into the health field: Garmin now offers sleep tracking
- We expect to see a shift from general wellness monitoring to more specific solutions that address different chronic diseases. Vine health will launch its cancer tracking app in the coming month
- Apple is expected to include blood-volume sensors in its earphones in the next year. As a tech leader, we expect other companies to follow the trend of biometric sensors

## 6

**AR and VR – open new ways for medical education and therapy**

Tools that projects digital content into the physical environment, and allows engagement through movement

- Surgery simulators became a reality as the medical teams can train before different procedures (Digital Surgery)
- AR also became part of the surgical procedure. Phillips and Microsoft developed a tool that creates 3D images of the patient and simplify the navigation in the patient's body
- As existing tools would be more affordable, we will see them in more hospitals
- Adoption of AR in patient care will gain awareness and will become more common in the mental health segment.
- Companies like Oxford VR and Mimerse use VR to help patients overcome traumas and phobias

## 7

**Digital therapeutics (DTx) transforming the standard way of treating disease**

Evidence-based therapeutic interventions driven by software programs to prevent, manage or treat medical disorders

- There are already mature start-ups in this field: Mysugr, Kaia Health and Livongo which are recognized globally
- Flying health have already brought Caterna – the first digital drug to reimbursement which is treating amblyopia through non-invasive brain simulation
- One of the front runners this year was the DTx Free Style Libre, which allows the continuous monitoring of blood glucose; it's being used by 1.5 Mio users worldwide with 73% increase in organic sales during the second quarter of 2019
- More joint ventures developing digital drugs will target the cause of disease instead of treating symptoms
- The market keeps growing as access to data and customer adoptions increase
- Key players have yet to be identified in this field

## 8

**Digital infrastructure**

Digital communication channels, data exchange channels as well as data banks

- For Germany, it was the year of building a much-needed digital infrastructure in healthcare
- New laws and regulations laid the seed for the introduction of the new electronic chip card, the digital patient file as well as the e-prescription
- Over 70% of doctors' practices were connected to the telematic infrastructure
- As the country is late to join the digitalization era in healthcare, the next year is all about starting the real work
- New laws will be passed that detail the implementation of the digital patient file
- We will see the TI-based patient file emerge for every insurance company as well as more e-prescription pilot projects
- Service providers will finally start to share data cross-sector

**Conclusion:** Digital health in Germany spans a wide range of technological, service and health-care trends. Building an infrastructure was one of the most important developments we saw in 2019 in Germany. Comparing this globally, we are still lacking behind. Most of the other trends, particularly the digital patient journey, platforms or DTx are dependent on a functioning infrastructure for data collection and exchange. We expect Germany to make progress within healthcare trends in 2020 but still not as much compared to the US or China.



## What about the US and China? - A look to a land “far far away“

### USA

#### Drones for medical supply

- Drones function well in transporting medication, medical equipment or samples of liquids – as they are light weight and small
- It also improves accessibility to medical services in rural areas
- CVS Pharmacy signed a cooperation with UPS to explore drug delivery to patients home in 2020
- Funding in 2019: Vision-I, Inc - \$20M; PrecisionHawk - \$32M

### USA

#### 3D Printing

- 3D is not a new technology however it has found it's way into healthcare
- Medical teams recreate damaged tissues by printing organs with live cells
- Prosthetics can be custom-made and personalized (Glaze Prosthetics), also production costs are lower (Markforged)

### CHINA

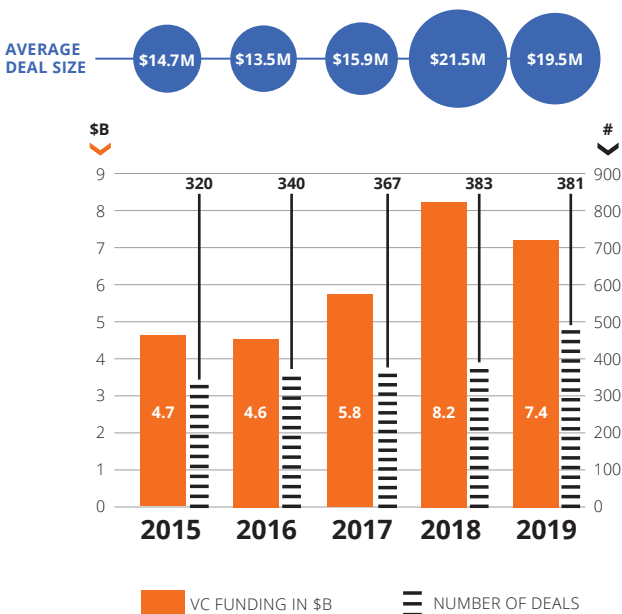
#### Telesurgery using 5G

- The first ever remote surgery using 5G technology took place in China this year
- The surgent controlled a surgical robot from nearly 50km away
- The technology reduces lag-time between input and output to a minimum
- It could give an edge to private hospitals that will offer the service

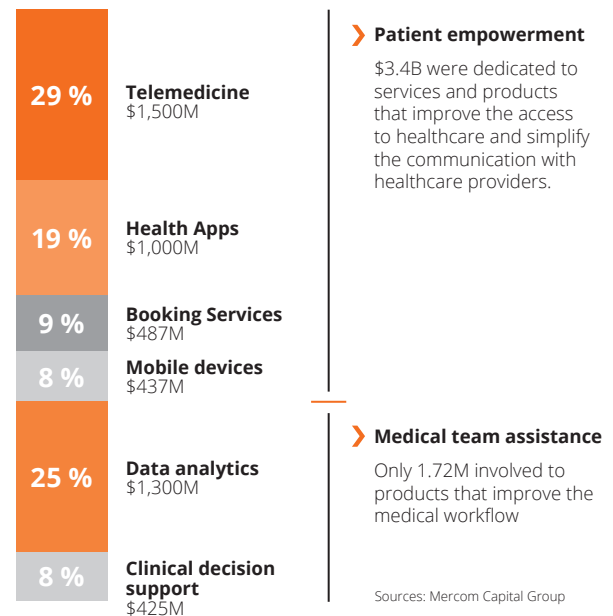
# STARTUPS AND VC FUNDING

- Although the total VC funding in 2019 was lower than in 2018, **the average amount per transaction was slightly higher**. This reflects the maturity of the field.
- Telemedicine was the most funded category, followed by data analytics. **The top funded categories involve the patient journey**, and not the operational side of the healthcare system.
- One booking platform (**Doctolib**) and one telehealth service (**Babylon health**) has entered this year to the unicorn club.
- 9 out of the 12 top funding deals in 2019 are patient centered

## VC FUNDING AMOUNTS AND NUMBER OF DEALS



## TOP FUNDED CATEGORIES BY SEGMENT, 9M 2019



## # UNICORNS IN HEALTHCARE

unicorns - startups that valued at \$1B or more



Sources: CBInsights.  
Data may vary according to different definitions of "digital health", and the updates frequency

## NEWBORNS IN 2019



**DOCTOLIB**  
Born: France, March 2019  
**BOOKING PLATFORM**

Valuation: **\$1.1B**  
Funding: **\$267M**



**BABYLON HEALTH**  
Born: UK, August 2019  
**TELEHEALTH SERVICE**

Valuation: **\$2B**  
Funding: **\$635M**



**CMR SURGICAL** **MED TECH**  
Born: France, September 2019  
**ROBOTIC SURGICAL SYSTEM**

Valuation: **\$1B**  
Funding: **\$635M**



FRONT RUNNERS



**KRY**

TELEHEALTH

Swedish market leader in video tele-doctor services. After entering Norway, UK and France in 2018, it finally launched its German version in Dec 19 for private insured persons. The cooperation with public insurances is planned in 2020.



**Ada Health**

TELEHEALTH

After UK competitor Babylon Health collected \$550M funding in 2019 and announced plans to enter the American market, Ada is set to follow the boom. Ada is currently collecting a three-digit funding round and will expand services in 2020. Also, it launched the first health app in Swahili. Data breach concerns set the company back with the TK cancelling its cooperation. Nevertheless, Ada holds a significant place in the creation of a health platform.

medopad

**Medopad**

DATA AND INFORMATION SYSTEM

Raised \$25M from Bayer in November 2019. This investment will help them to develop their AI patient analytics platform.



"UP AND COMING"



**Minxli**

TELEHEALTH

The telemedicine service has announced its cooperation with the TK starting January 2020. The insurance company will subsidize the service to 7,000 students in Karlsruhe and Heidelberg.



**Amboss**

DATA AND INFORMATION SYSTEM

The company developed a knowledge platform for medical professionals, that helps doctors to make effective clinical decisions, and Med students for exam preparation. During 2019 the company raised €30M and aim at expanding worldwide.



**Inne**

FERTILITY MANAGEMENT

Developed a mini-lab kit for women who want to track their hormones and fertility cycles. It includes a biosensor, a reader and an app. The startup raised €8M at the end of 2019 and will use it to expand its team.



**Kaia Health**

DIGITAL THERAPEUTICS

Digital physical therapy company, that employs AI and machine learning to create home-based exercise plans. Its main focus area is pack pain. The €16.1M they raised in 2019, will help them to expand to the US market.



**Cara Care**

REMOTE MONITORING

A German startup that was listed in CBInsight as one of the promising startups in the healthcare industry. They develop a digital tool for people with digestive problems. Sanofi announced a cooperation with the startup, starting next year.



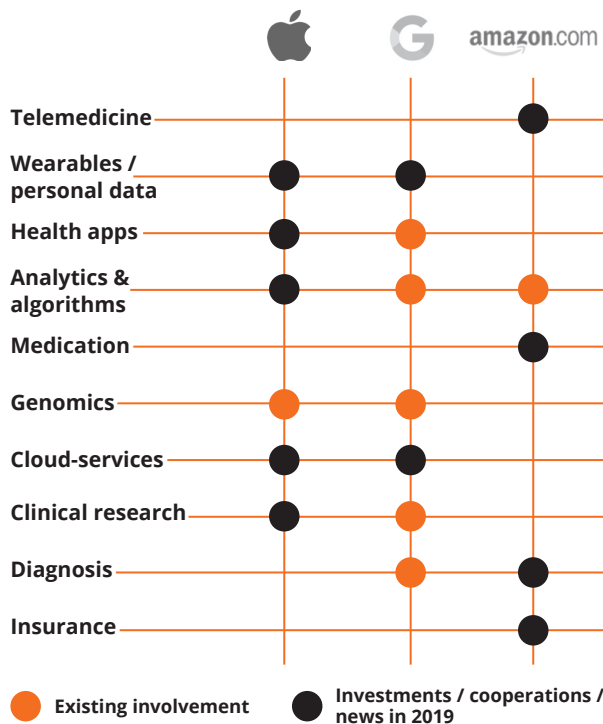
## TOP VC FUNDING DEALS IN 2019

COMPANY	LOCATION	FUNDING AMOUNT	SEGMENT	INTENDED USE OF FUNDS
<b>Babylon health</b>	UK	<b>\$550M</b> Series C	Telehealth	Expand the service in North America, and to the Middle East and China
<b>Tencent Doctorwork</b>	CHN	<b>\$250M</b> Series C	Telehealth	Expand to offline clinics across China
<b>Collective Health</b>	USA	<b>\$205M</b> Series E	Insurance	Expand its partnerships with new medical networks
<b>Capsule</b>	USA	<b>\$200M</b> Series C	Online pharmacy	Plan on expanding across the US
<b>Tempus</b>	USA	<b>\$200M</b> Series F	ML	Expand from cancer into other medical areas
<b>Doctolib</b>	FR	<b>\$170M</b> Series E	Booking platform	Expand its new telehealth services
<b>Health catalyst</b>	USA	<b>\$100M</b> Debt financing + Series C	AI, Operating system	Expand to international markets
<b>AllinMD</b>	CHN	<b>\$100M</b> Series C	Telehealth	Improve the education of its doctors and further develop AI applications
<b>Hims</b>	USA	<b>\$100M</b> Series C	Telehealth	Expand into women's health
<b>DocPlanner</b>	PL	<b>\$90M</b> Series E	Booking platform	rollout f its SaaS offerings in Europe and Latin America
<b>Calm</b>	USA	<b>\$88M</b> Series B	Mental health	expand internationally and invest in more premium content
<b>Ro</b>	USA	<b>\$80M</b> Series B	Online pharmacy	Aim at expanding to other medical fields

Sources: Silicon Canals, EU startups, Mercom Capital Group, statista, Becker's, CBInsights

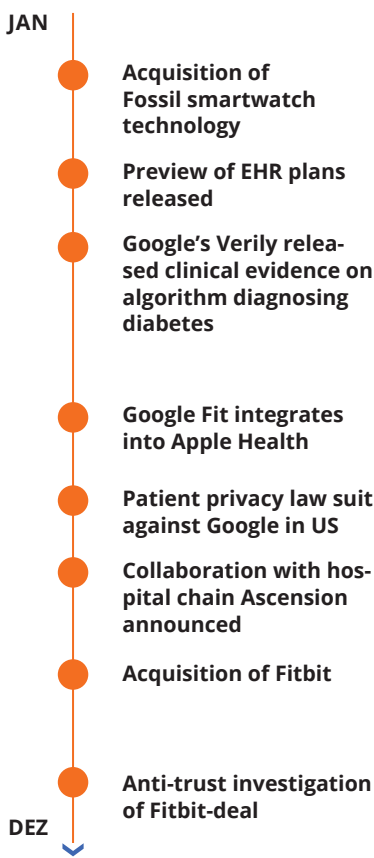
# THIS YEAR BIG TECH GIANTS CONTINUE TO DIVE INTO DIFFERENT AREAS OF HEALTHCARE

## OVERVIEW TECH GIANTS INVOLVEMENT IN HEALTHCARE



- **Google** acquired Fitbit and is now competing next to **Apple** in the race to dominate the wearables market
- **Amazon** became the leading provider of E2E primary care services by launching "Amazon Care" - a virtual clinic covering the whole patient journey
- Big tech giants are invading all sectors of the healthcare market, gathering data through various touchpoints but also implementing AI software solutions
- Their global market space and various customer touch points puts them at a huge advantage compared to health companies

## GOOGLE



### Attacking Wearables Market

- Google acquired Fossil's **smart watch technology** for \$40M
- Google acquired fitness tracking company Fitbit for \$2.1B
- Google plans to
- The **Fitbit**-acquisition has been delayed the Federal Government as there is anti-trust questions beings raised

### Establishing Hospital Provider Position

- Google announced a **partnership with Ascension**, a chain of 2,600 hospitals across the US
- The secret „**Nightingale**“ project started in 2018 and aims to **collect personal health data** throughout the hospital journey
- Google's Nightingale System then analyzes the data to suggest treatment plans, test or point out unusual deviation in care
- Patient privacy concerns were made but the program is HI-PAA-compliant

- Google aggressively entered the wearables market, a category where Apple has been seeing its strongest growth
- Google acquired not just technology but for the most personal health data from active Fitbit users
- Apple and Google are now set to dominate the fitness wearable market.

- Google has quietly started to collect and crunch tens of millions of health and medical data
- This enables them to not only improve processes within the hospital but emerge as an AI-based medical advisor to doctors



# AMAZON

JAN

● Alexa connects to selected medical providers (eg. Livongo)

● "Amazon Pharmacy" Services offered to Prime members

● Wrist band development to detect emotions via voice

● Amazon signed contract with NHS to receive health data  
● Launch „Amazon Care“ for Seattle employees

● Acquisition of Health Navigator

● Launch of AWS "Transcribe Medical" for physicians

DEZ

## "Amazon Care" "Amazon Pharmacy"

- After acquiring **Pillpack** in 2018, Amazon now rebranded their **online pharmacy** to "Amazon Pharmacy"
- Launch of "Amazon Care" platform as pilot project for their Seattle employees, providing **E2E digital primary care**, services including tele-doctors, e-prescription and drug delivery
- Acquisition of **Health Navigator**, a software telemedicine startup with the aim to improve "Amazon Care"

## Alexa as medical voice Assistant

- In the US, **Alexa** is now HIPAA-compliant and scored cooperation's with selected health companies (e.g. Livongo, Atrium, etc.) to make their **health data accessible** via Alexa
- In the UK, Amazon scored a deal with the NHS to receive health data on symptoms, causes and definitions of conditions
- With this **Alexa** will be able to **diagnose common symptoms** such as cold and flu



- Amazon has established the **first full E2E primary care service platform** camouflaged as a test project for their employees
- The company aims to start small and improve services in a "safe environment"
- If successful Amazon is expected to expand globally and become a leading health platform for primary health services

- Amazon is bringing health services to the patients living room through Alexa
- Thereby **expanding** their coverage of the **patient journey** and providing an **AI-based symptom checker**
- Through world-wide cooperation's Alexa is busy gathering health data with the goal to become the next medical advisor after Dr. Google

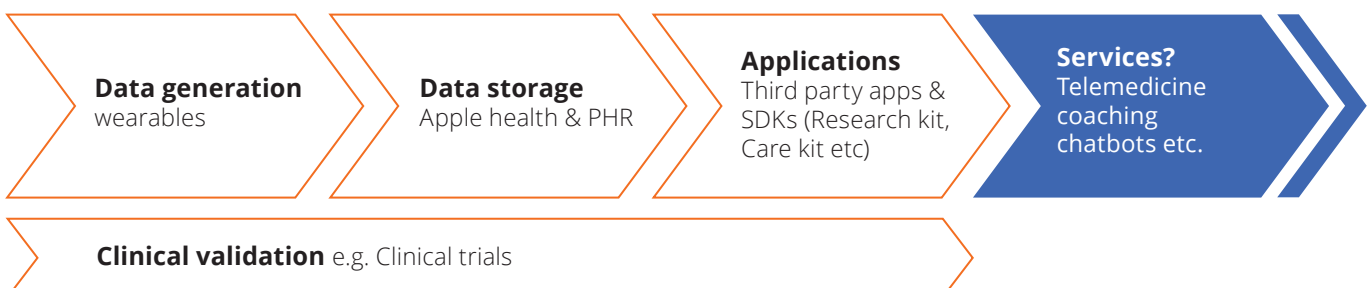
# APPLE

## Apple has all the ingredients for....

...stepping into the health platform game around tele-medicine, coaching and other health services. Why?

- Don't underestimate Apple, just because Amazon and Google are eating up the news
- Apple has the most established position across several segments: wearables, phones, health apps, data storage, analytics – the list goes on
- With the launch of the Series 4 Apple Watch every user could perform an ECG on their wrist
- Apple is doing great in data collection, not just through their own applications but also from third-party provider
- The next step here is data validation: Apple has launched a new research app, where patient can join clinical trials in collaboration with leading healthcare institutions
- For example performing studies in women's health, movement, heart health and sound

## Where is Apple going next?



# DIGITAL STRATEGY OF PRIVATE CLINICS IN GERMANY

In 2019 we observed two high level strategies for hospitals:

## 1 Patient-Centric Platforms:

### Build patient portals, including telemedicine services

Create digital touchpoints with patients before, within and after hospital stay in order to establish digital patient journey

## 2 Process Optimization:

### Build digital infrastructure as well as improve workflow and core hospital processes

Update internal IT-systems, data bank structure and process management tools to modern standards; Areas of application are for example: digital documentation, dictation tools, communication between medical teams, etc.

### Approach: Acquisition of / Collaboration with digital health start-ups

All of the private clinics mentioned are acquiring or partnering with digital health start-ups who bring in technological and patient-centric know-how. This year we see a strong focus on telemedicine services.

## OVERVIEW - TOP 4 PRIVATE PLAYERS



### Rhön-Klinikum

Rhön-Klinikum entered the telemedicine market in 2019 with its Swiss cooperation partner Medgate. They are aiming to provide telemedicine services not just around the hospital journey but Germany-wide as a tele-doctor platform.

## Strategy 2 | Process Optimization

### Existing Initiatives:

- Usage of Mindbreeze data platform, which is a tool that supports medical staff
- Implementation of web-based electronic patient file in 2016 (as first private clinic)
- Opening of lighthouse campus "Bad Neustadt" (12/2018) as prototype for the future patient-centric hospital; one system connects different sectors, high speed internet infrastructure and video management system allows tele-conferences and data sharing directly in the OR
- "Rhoen Innovations", the clinics innovation investment arm, focuses on early stage start-ups in the field of hospital innovation, outpatient services and network medicine

### 2019 News:

- Joint-Venture with Medgate, to provide telemedicine services for dermatology staff
- Minority investment in Tiplu, a semantic text analysis software for automation of documentation and coding processes; Rhön also integrated the software named Tiplu Mono



## Helios

Helios entered the telemedicine market with a joint venture with Canadian provider Dialogue. Their long-term strategy aims to develop an E2E health platform that guides (triages) to patient from symptom-checker to tele-consulting or hospital visit. The first version is expected to go online in spring 2020.

### Strategy 1 Patient-Centric Platforms & Strategy 2 Process Optimization

#### Existing Initiatives:

- „Helios Patientenportal“ (launched 2017) accompanies patient before, during and after hospital stay, offer online appointment booking, digital documentation & notification system
- Self-service terminals for e.g. printing sick notes, test results, etc.
- Video consulting for follow-ups
- Inhouse tech team: development of “Safer System” AI that supports treatment decisions for different kinds of atrial fibrillation
- Bed management system that supports logistic of transporting patients (beds) inside the hospital, for example from patients’ room to the OR before a surgery
- “Helios Gesundheit Hub” accelerator program partner with digital health start-ups: e.g. Ada Health, Smart Reporting, Happymed, Kaiku

#### 2019 News:

- Joint Venture with Canadian telemedicine start-up Dialogue: developing digital platform offering patient-doctor online consultations – The service for patients will be available starting early next year
- Introduction of a “Wartezeiten-Monitor” in the ER that informs patients on their case status, as well as integration of ER waiting times on website



## Asklepios

Asklepios has sharpened its digital strategy in 2019, adding a vision 2024 and investing in platform technologies improving internal processes as well as for the benefit of the patient. The acquisition of Minddistrikt they also entered the race for telemedicine but with a focus on mental health.

### Strategy 1 Patient-Centric Platforms & Strategy 2 Process Optimization

#### Existing Initiatives:

- “Samedi” online appointment booking and self-service check in (>40 clinics already in 2018)
- Electronic patient file “M-KIS” available in Hamburg clinic
- “360.c medical”: Communication platform for oncology physicians

#### 2019 News:

- Announcement of vision “Digital HealthyNear”: Aim to become a digital healthcare company by 2024 and invest €1B in clinics with €500M into digital solutions
- “Care-Bridge”: Inhouse digital discharge management networks all of the different stakeholders involved in discharge plan
- Acquisition of Minddistrikt – online platform for treatment of psychiatric disorders
- Features of platform include self-help modules, video calls with psychotherapists or diaries patients can write in



## Schön Klinik

Schön Klinik also jumped in the mental health telemedicine race with the acquisition of Auora and its application Moodpath. In 2020 they will merge its existing Venture MindDoc with the new acquisition and unite all services in one telemedicine platform.

### Strategy 1 | Patient-Centric Platforms

#### Existing Initiatives:

- Aim to develop leading e-mental health platform that covers the entire treatment course of the patient (from first signs of mental illness to therapy by video consultation)
- "MindDoc": Offers online therapy to patients with psychotherapists
- Mental health platform developed in house- available to patients since 2016

#### 2019 News:

- Acquisition of leading mental health start-up Auora and its depression diagnosis app Moodpath
- Moodpath to be integrated into existing MinDoc application for detection and documentation of depression, as well as unaccompanied self-help

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