

# FUTURIST REPORT

PRESENTED BY: **vsp vision.**

WINTER 2023

## FUTURE OF HEALTHCARE DESERT SOLUTIONS

PRODUCED BY: **VSP GLOBAL INNOVATION CENTER**

| **CBINSIGHTS**

VOL  
**5**

# The Future of Access in Healthcare Deserts

*The VSP Global Innovation Center and CB Insights present the Futurist Report series highlighting the ideas and technologies shaping our future.*

Innovations have not only accelerated in the last decade but also scaled broadly across a number of sectors. Banking, entertainment, fashion, food, and more are available at your fingertips and, in some cases, at the top of your lungs... "Hey, Alexa." Yet as access expands and enhances for nearly every major industry, it remains elusive in healthcare.

Nearly one-third of the U.S. population (121 million) lives in a healthcare desert, an area with insufficient access to primary care providers, pharmacies, hospitals, trauma centers, community health centers, or more. As provider shortages and hospital closures increase, that number is also fated to rise.

However, products, services and models, from direct-to-consumer to on-demand, that have been the engine of growth in other industries are beginning to find traction in healthcare.

**Why now?** The pandemic accelerated investments in startups and technologies transforming how patients access care. While at-home diagnostics and virtual care have been around for decades, adoption and acceptance of these modes of care in the face of no care at all has provided an opening to springboard the next generation of access solutions.

We examined four core categories where these innovations are taking shape, showcasing the trends and companies charting the future of access, from self-serve wellness kiosks to ambient, non-invasive remote patient monitoring devices.

Given vision care is a lynchpin to overall health and wellness, the rise of technologies increasing access to eye care is particularly noteworthy. VSP Vision intends to help foster innovation that leads to improved access.

Solving for healthcare deserts unlocks solutions that can be evolved and applied broadly, helping transform the future of care altogether.

# Key Concepts

## Understanding healthcare deserts



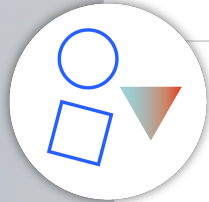
### Healthcare Deserts

Also known as medical deserts or care deserts, healthcare deserts are geographic areas with limited access to care and key health services.



### Health Access

Access to healthcare means the “timely use of personal health services to achieve the best possible health outcomes,” as [defined](#) by The National Academies of Sciences, Engineering, and Medicine.



### Healthcare Desert Types

To qualify as a healthcare desert, an area must lack adequate access or proximity to one, any, or all key services, such as pharmacies, hospitals, hospital beds, trauma centers, and low-cost health centers.



### Healthcare Desert Factors

Socioeconomic factors also restrict people’s access to care. Lack of insurance, poor internet access, low health literacy, and language barriers threaten a person’s health access. In the eye care sector, lower income, lower educational attainment, food insecurity, and neighborhood safety affect access to vision care, [according to the CDC Vision Health Initiative](#).

# Snapshot of healthcare deserts today



80% of counties in the U.S. have at least one type of healthcare desert



60% of these counties have more than 1 type of healthcare desert



40% of counties are pharmacy deserts, impacting an estimated 41M Americans



20% of counties are hospital deserts, impacting an estimated 29M Americans



9% of counties are primary care deserts, impacting an estimated 13M Americans



9% of physicians practice in rural areas, even though 20% of Americans live in them

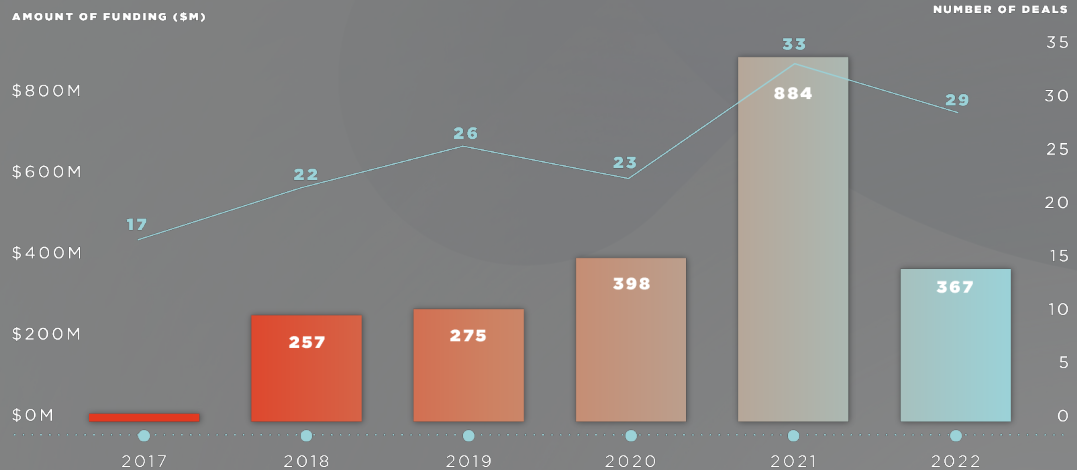
\* Data from [GoodRx](#)

# Venture activity spikes around access solutions

- '21 was a record year of funding for technologies and solutions improving access to care, with \$884M across 33 deals
- Financings spiked 122%, with deal level up 43% year-over-year between '20 and '21
- Average deal size grew 36% from '20, reaching \$28.53M in '21
- On-demand mental health startups (i.e. [Alma](#) w/ \$208M since Jan '21) and at-home diagnostics tech (i.e. [LetsGetChecked](#) w/ \$283M total) led the way in funding
- Funding has slowed in '22, though is still on pace to surpass '19 and other pre-Covid averages

## Venture Funding for Healthcare Desert Solutions

From Jan 01, 2017 – Oct 21, 2022 as of Oct 21, 2022



Source: CB Insights

Data from [CB Insights](#)

# Navigating the Report

To envision the future of healthcare access, we look beyond the current state to indicators of shifts that impact the space



## Insights

A key data point, indicator, development, or trend pathing the future of the category



## Startup Spotlights

Collections of startups that influence and embody the direction of the category and how it is or will be harnessed to transform access



## 'Consider This'

For innovators who may be able to leverage a particular solution or category, each section wraps with a consideration on how to activate key takeaways

# Four categories define the future of access



## Patient To Care

Integrated systems lower the barriers to access in-practice care



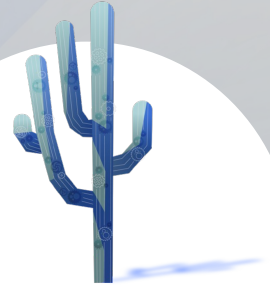
## Care To Patient

Rise of direct-to-consumer tools powers access to care across time and space



## In-Store Innovations

Hardware transforms retailers into the sandbox for future care centers



## Software

Software super-charges onramps to care within deserts

# PATIENT TO CARE

Integrated systems lower the barriers to access in-practice care







# Patient to Care Insights

## Non-emergency Medical Transportation (NEMT) and Logistics Software



With **\$3B** of annual Medicaid spending going to non-emergency medical transports, NEMT startups are developing solutions to streamline scheduling, price modeling, and fleet management, helping build and evolve a category designed to scale access to care.

Image Source: [Kaizen Health](#)

## Patient in, Doctor Out (*In-office remote exams*)

In a '21 survey conducted by [The Harris Poll](#), 80% of U.S. patients said that they will "always prefer" in-person physician visits to telemedicine.

To help bridge consumer preference with realistic provider shortages in rural and urban environments, startups are developing solutions to connect remote doctors to in-practice patients, with venture capital following suit.

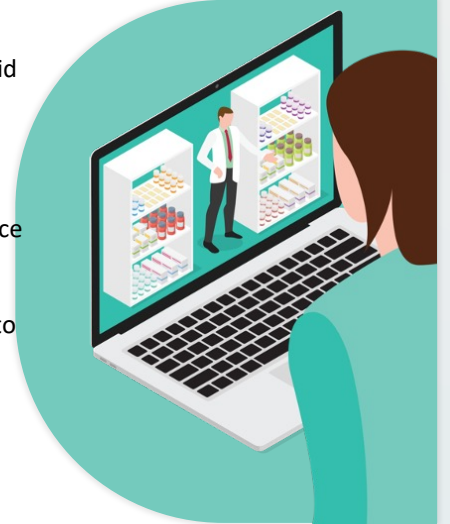


Image Source: [Physician 360](#)

# Spotlighting key players in the ecosystem

## NEMTs and other Logistics Solutions

Uber Health



AcuityLink



lyft healthcare



roundtrip



tobi

## Patient in, Doctor Out (In-office remote exam)





# Access to care scales through integrated transportation alternatives



**Total funding amount: \$10M**

- Participated in Amazon's Digital Healthcare Accelerator
- Streamlines non-emergency medical transportation (NEMT) coordination through a logistics hub
- Partners with organizations across the healthcare value chain: healthcare systems, pharmacies, payors, in-home healthcare providers, senior living facilities, and local public health departments



**Total funding amount: \$2M**

- Offers NEMT fleet management software with features like price modeling, a booking portal, auto-scheduling, billing, and bookkeeping
- Improves fleet efficiency with automated route optimization
- Lets organizations scale their NEMT fleet without adding more dispatchers

*\*NEMT: Non-emergency medical transportation*



**Valuation at IPO (Lyft): \$24B**

- Builds on the existing Lyft platform and a nationwide network of >2M drivers
- Partners with 9 out of 10 of the U.S.' largest health systems and 9 out of 10 of the largest NEMT brokers, as well as organizations like AARP
- Cost-effective; organizations that use Lyft Healthcare reduce NEMT costs by 32%, according to the company



# ‘Patient In, Doctor Out’ models deliver in-clinic care even when the doctor is miles away

Patient In, Doctor Out platforms enable care centers to address provider shortages in healthcare deserts by facilitating digital interactions in a clinical environment. These startups allow for remote doctors to connect to in-facility patients in real-time, allowing for virtual care to be complemented, guided, and augmented by in-place technicians, pharmacists, nurses, or more. In addition, these platforms expand consultation or second opinion options that exist outside of limited local provider resources.



## Physician 360™

- Provides community pharmacists with suite of physical and digital tools to expand care, such as offering rapid testing
- Connects pharmacies to its doctor network, enabling them to provide remote consultation services to customers in-store
- Works with >1,000 community pharmacies
- In September, raised an undisclosed amount of funding from Morgan Stanley Multicultural Innovation Lab



## meddo health

**Total funding amount: \$6M**

- Has >350 one-stop clinics that bring together doctor consultations, labs, pharmacies, and other outpatient services. [Aims to have >1,000 clinics in 2023](#)
- Lets patients book appointments and lab tests online
- Has served >10 million patients and works with a network of >1,000 doctors



# Select technologies enable refractions, help remote optometrists see in-practice patients

In 2017, the Centers for Disease Control and Prevention (CDC) reported that [93 million](#) American adults (*1/3<sup>rd</sup> of the U.S. population*) had a high risk of serious vision loss — but only half of them had seen an eye doctor in the past 12 months. Video conferencing, when done in-practice, helps increase availability in healthcare deserts by leveraging remote optometrists.



- Develops remotely operated optometric equipment that captures HD videos of the anterior chambers of the patient's eyes for analysis by optometrists
- [Partnered](#) with Shopko Optical and Illinois College of Optometry (ICO). Using DigitalOptometrics' software, ICO professors remotely examine patients at Wisconsin Shopko Optical centers with students observing the process



- Allows practitioners to connect to their office from home or other remote location and conduct comprehensive eye exams in real-time
- Topcon's [RDx platform](#) allows eye care professionals to be present at more than one location and offer extended or more flexible office hours



- A digital platform for doctor-remote eye exams, enabling doctors to deliver high quality eye care services (including subjective refraction) from anywhere, anytime
- Enables a variety of eye care services from advanced diagnostic imaging and consultation to refraction and comprehensive exams

All three solutions are certified partners with Eyefinity, VSP Vision's practice management and EHR platform, enabling practices to leverage these tools for Patient In, Dr. Out offerings



# Consider This

Activating select takeaways from 'Patient to Care' solutions to scale access

**Non-emergency  
Medical  
Transportation  
(NEMT) and  
Logistics  
Software**

**Focus on introducing simplicity and flexibility to a complex process that already has many players in the space.**

Organizations need software that makes it easier and cheaper to find and deploy NEMT fleets that can easily embed into existing health systems. Advances from the logistics software space, such as AI-enabled fleet management technology, introduce efficiencies and cost savings.

**Patient in,  
Doctor Out**

**Partner with establishments that are embedded in the community — pharmacies, stores, and small clinics.**

It's not just about video conferencing. Focus on enablement — the equipment, facilities, and local partners that make it possible for underserved communities to access care and second opinions from remote physicians and specialists in clinical settings.

# CARE TO PATIENT

Rise of direct-to-consumer tools powers access to care across time and space





# Care to Patient Insights

## Hybrid care systems

As digital health funding [cools](#) following Covid-induced peaks, startups developing hybrid solutions – platforms allowing providers to offer care both on and off-site – have seen an uptick in usage, demand, and funding.



Image Source: [Homeward Health](#)

## At-home diagnostics

While at-home diagnostics have been around for decades, Covid expanded consumer awareness around the convenience and breadth of at-home testing. Combine this newfound familiarity with [rapid demand](#) and the at-home diagnostics category has quickly evolved and expanded, charting a potential new solution for delivering care to patients in healthcare deserts.

## Portable tools and devices

According to [recent census data](#), there has been a massive spike in movement out of big metro areas. This population disbursement mirrors a rise in the global portable medical device market, which is estimated to hit both \$80.6B by 2030 and grow at 8.5% CAGR\* between '22 and '33.



Image Source: [PlenOptika](#)

## NEMT to patient

While initially developed to bring patients to care, the NEMT\*\* category has evolved, with new solutions letting patients book physicians for house calls and others bringing facilities closer to the patient through mobile clinics and labs-on-wheels. This expansion has helped ignite a new category of healthcare desert solutions.



# Spotlighting key players in the ecosystem

## Hybrid Care Systems



## Portable Tools and Devices



## At-Home Diagnostics



## NEMT to Patient



# Hybrid platforms increase touchpoints for patients with geographic barriers



**homeward.**<sup>SM</sup>

Total funding amount: \$70M

- A new value-based care provider re-architecting rural health and care
- Employs multidisciplinary care teams, available in-home, virtually, and on the ground via mobile care units
- Uses remote monitoring tech to better connect patients to high-quality, affordable, and comprehensive care
- Currently supports Medicare-eligible beneficiaries

 **SalvoHealth**

Total funding amount: \$10.5M

- Clinical advisory board includes renowned doctors, physicians, and researchers
- Provides gastroenterology care with 24/7 virtual access to a physician, behavioral health coach, and care navigator
- Provides remote consultation, at-home diagnostic testing, and personalized care plan

**SANFORD**<sup>TM</sup>  
HEALTH

- A \$350M virtual care program focuses on rural and underserved communities
- Has a network of virtual clinics and satellite clinics in healthcare deserts
- Currently building a [60,000-sq-ft](#) Virtual Care Center that will act as a command center to coordinate digital and physical services
- Integrates with the existing Sanford Health system that has [47](#) medical centers and 2,800 physicians



# Portable devices keep quality high while transcending physical boundaries



Total funding amount: \$117.49M

- Developed an AI-assisted handheld ultrasound tool to enable physicians to perform highly accurate heart, lung, and abdominal assessments at the patient's bedside
- Its patented AI platform, Kosmos, performs edge computing to support physicians with critical decisions at the point of care

## PARAGONIX



- Funded by the Massachusetts Life Sciences Center
- Developed a patented, temperature-controlled cardiac transport system that preserves donated hearts while in transit between operating rooms
- In a clinical study, transplant recipients of donor hearts preserved in Paragonix's system had 8.7% higher rates of 1-year post-transplant survival compared to those who received hearts that were stored with ice
- Received FDA clearance for lung transportation system



- A specimen collection startups making the process more accessible, flexible
- Participated in accelerator programs by the Texas Medical Center (TMCx) and Johnson & Johnson Innovation (JLabs)
- Built world's first and only Automated Sample Prep system, automatically enriching bacterial samples the moment they are collected
- Its weatherproof system keeps specimens alive for 14 days without the need for cold storage



# Portable eye screening technology increases access to eye care in remote, rural settings



- Developed QuickSee, a handheld autorefractor that lets operators perform clinically-accurate vision tests anywhere, including non-clinical settings as well as outdoors
- In use in chain and independent clinics, optical retail, community outreach programs, and more
- 4M patients in the US and >45 countries have been examined
- Included in range of health expansion applications, from NGO initiatives to NASA-sponsored space health research
- QuickSee is an FDA Class I, 510(k) exempt medical device



Total funding amount: \$7.15M

- Used by [almost 3K](#) eye care providers in 133 countries
- EyeNetra devices globally have collectively yielded \$273M in exam revenues
- Portable refraction kit comprising binoculars and an attached smartphone with EyeNetra apps
- Patients look through the binoculars and experience game-like, virtual reality interactions as the kit takes vision measurements
- EyeNetra is an FDA Class I, 510(k) exempt medical device



Total funding amount: \$22.7M

- Partners with pediatric health systems like Nemours Children's Health and Sutter Health
- Sends the pediatrician an iPhone with pre-loaded apps for photoscreening (1-6 years old) and vision acuity (4 years old and above)
- Its cloud-based software integrates with most electronic health record systems and comes with machine learning capabilities
- GoCheck Kids is an FDA-cleared, Class IIe medical device



# At-home diagnostics bring testing to the doorstep



Total funding amount:  
\$9.4M

- Y Combinator alum ([Winter 2019 batch](#))
- Sends parents a home-testing kit for collecting vitals and performing ear, nose, and throat exams
- Parents can consult pediatricians online 24/7 and get prescriptions

everly health



Total funding amount: \$255.5M

- Has 3 brands: [Everlywell](#), an eCommerce platform for at-home lab testing kits; [Everly Health Solutions](#), a virtual diagnostics care platform; and [Natalist](#), an online store for fertility, pregnancy
- Serves [20M](#) people annually
- Proof of concept with VSP Vision launches in '23 to ship [A1C](#) tests to select members at-risk for diabetes



Total funding amount: \$14.1M

- Provides finger-prick blood tests that can be done at home
- Measures biomarkers related to specific health aspects, such as energy, mood, or sleep
- Provides a physician's report, health tracking, health insights, and personalized advice through an app

V I O M E



Total funding amount:  
\$205.9M

- Sends the customer a kit for collecting samples; analyzes customers' gut microbiome using mRNA technology and AI
- Through an app, provides health scores, full body insights, and personalized recommendations
- Mails supplements to each customer based on their needs



# Non-emergency medical transportation (NEMT) brings the hospital to the home



Total funding amount: \$891.3M

- A primary care startup focused on underserved communities with a \$5.7B valuation
- Amongst suite of services, offers on-demand at-home care services, bringing providers to members' doorsteps
- Members have access to care for hospital-quality concerns in the comfort of their home.
- Partners with insurance companies to avoid co-pays
- At-home care is offered 24/7
- Currently available in 6 states - CT, IN, MA, NY, NC, OH - and Washington, D.C.



Total funding amount: \$2.6M

- Lets users book doctors for house calls and order medicine online for home delivery
- Connects >17K active app users in Nigeria to a network of >5K doctors
- Has 50K subscribers on its wait list
- \$75K monthly recurring revenue
- “The CribMD experience brings preventive, primary, and urgent care to a patient’s doorstep. We empower our medical teams to develop deep patient relationships through unhurried visits, comprehensive care, and immersion in the patient’s home environment.” - CEO Ifeanyi Ossai



# Consider This

Activating select takeaways from 'Care to Patient' solutions to scale access

## Hybrid care systems

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Focus on interoperability, integration, and collaboration.

Provide solutions that streamline the entire patient experience. Allow integrations with administrative software and design your solution as a complement to in-person care.

## At-home diagnostics

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Combine the convenience of direct-to-consumer brands with the quality of conventional care.

Think product and service: complement products with personalized guidance from care providers. For example, VSP Vision is launching a proof of concept with Everly to ship A1C tests to select members at-risk for diabetes.

## Portable tools and devices

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Integrate IoT into portable solutions to enhance data collection, visibility, and analysis.

Portable devices can be augmented with big data analytics and AI to enhance the quality of exams, insights, and decision-making in the field. For example, Plenoptika's hand-held autorefractor can be connected via bluetooth to a phone to easily extract and analyze exam data.

## NEMT to patient

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Discover where patients are and bring the clinic to them.

Transport doctors and exam facilities not just to patients' homes, but to places where care is necessary or convenient, such as offices, disaster areas, and neighborhood spaces.

# IN-STORE INNOVATIONS

Hardware transforms retailers into the sandbox for future care centers







# In-Store Innovations Insights

## Health and Wellness Kiosks

Just as people go to ATMs to transact with their bank, patients can now go to health kiosks for information, testing, remote consultation, and diagnostics. This level of convenience, especially for those in healthcare deserts, has helped spur the \$1.1B category's recent growth.

Today, the global medical kiosk market is estimated to experience a 14.8% CAGR\* from '22 to '30.



Image Source: [@onmedstation](#)

CAGR\*: Compound annual growth rate

## Retail Integration and Strategic Insights

Over the past decade, retailers have begun filling gaps that traditional clinics could not, bringing clinics and health and wellness products to rural areas.

This strategy makes financial sense for big-box stores. By serving rural communities, retailers widen their geographic reach and penetrate markets their competitors have not saturated. And by offering health services, retailers bring foot traffic to their stores and meet the surging demand for health products. In 2021, health and wellness items drove 63% of dollar growth in the CPG market and 76% of sales growth in grocery stores, according to product intelligence platform SPINS.

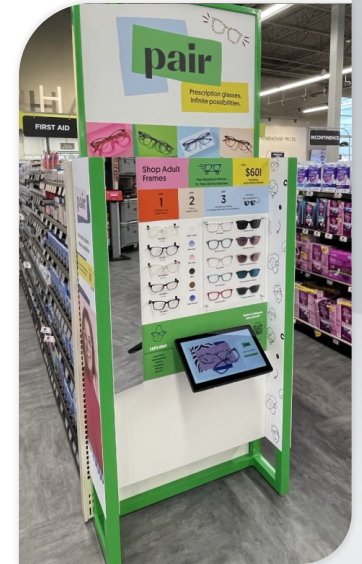


Image Source: [Hy-Vee](#)

# Spotlighting key players in the ecosystem

## Kiosk Solutions



## Retail Integrations





# Self-service health assessments fill in the gap in both rural and urban communities



Total funding: \$92.8M

- Acquired by [Babylon Health](#) on January 5th, 2022
- Partners with [LifeBridge Health](#) to deploy kiosks in retail locations
- Provides digital therapeutics via its platform through a partnership with [Happify Health](#)
- Deployed [nearly 10,000](#) kiosks across the U.S.
- 403M tests have been taken on Higi's platform



- A self-contained telemedicine station that connects patients to remote physicians and can also capture key biometrics and vitals
- All stations available 24/7 and do not require an appointment
- Through a dispensary locker, patients can also receive over-the-counter and most prescription medications at the time of visit.
- [Partnered](#) with Texas A&M to launch stations in rural Texas counties



- Part of the UCLA Magnify Incubator
- Tabletop scanner measures key blood and tissue biomarkers by scanning a person's wrist using Magnetic Resonance Spectroscopy (MRS) technology
- Combines MRS measurements with existing molecular data and predictive algorithms to provide health insights and personalized recommendations



# Kiosks build on patient vitals with eye care



- An on-site technician guides the customer through a no-touch vision screening test
- Kiosk can detect glaucoma, diabetic retinopathy, macular degeneration, and cataracts, as well as systemic diseases like carotid artery disease
- The checkup may be followed by a teleconsult and a referral to a GlobeChek doctor
- Testing also includes distance and near visual acuity, wavefront autorefraction, corneal topography, and more



- [5-minute digital eye tests](#) in kiosks placed in shopping malls, supermarkets, and pharmacies in Europe
- Virtual try-on: A camera in the kiosk captures a person's full-face image. The kiosk software analyzes the person's features and recommends frames
- Hybrid shopping experience: Customers choose eyewear through the kiosk and get it delivered in 10 days
- Kiosks do not currently perform refraction



- Y Combinator alum ([Winter 2019 batch](#))
- Partners with [Ibis Vision](#), a provider of tele-optometry solutions, to provide refraction-based eye tests through its kiosks
- Deploys kiosks in 150K locations across [106 cities](#) in India, typically in high-footfall spaces like train stations and malls

# Embedded clinics expand beyond pharmacies into grocery and retail

Big-box stores and pharmacies with a vast rural presence have opened clinics that provide urgent care, primary care, and other services like blood testing and vaccination. Retail clinics typically have longer hours than traditional ones, accept walk-in patients, and provide transparent pricing.



Dollar General wants to [turn its stores into health destinations](#) that will offer services like eye care and prescription pickup. It has partnered with [DocGo On-Demand](#) to launch in-store mobile clinics that offer preventative care, urgent care, and chronic condition management.



CVS has [936 HealthHubs](#) — stores that combine a MinuteClinic, a CVS pharmacy, and a large selection of CVS Health-branded products. Almost 10% of these hubs are in Texas, a state where [one-fifth of counties](#) have one or fewer doctors.



Walgreens Boots Alliance bought a [63% stake](#) in VillageMD, a primary care provider. VillageMD will open at least 600 Village Medical primary-care practices in Walgreens locations across >30 U.S. markets by 2025.



Walmart's health centers have [started implementing the Epic EHR system](#), which is used by >2,000 hospitals and 45,000 clinics across the U.S. The system allows compliant data-sharing so that different care providers can see necessary details like a patient's medical history.

# Retail as the frontline for Health Access Solutions

## Store-within-a-store

The store-within-a-store (SWAS) model allows businesses to lease retail space within large stores, such as department stores.



- [Ulta Beauty aims to have 800 SWAS spaces](#) within Target stores over time. The partnership brings Ulta Beauty's mainly Gen Z customer base into Target stores and lets the prestige beauty business grow its footprint without building standalone shops.

## Kiosks and Pop-Ups

Branded kiosks are self-serve machines and digital displays that are deployed for marketing and sales purposes.



- Pair Eyewear placed [self-serve kiosks](#) in Hy-Vee supermarkets in Iowa and Wisconsin. Customers get a hybrid shopping experience: They can try on eyewear frames and place orders online through the kiosk. Within a week, their eyewear is delivered to their homes.

## Digital Brand Partnerships

Digital partnerships enable traditional brands to reach digitally inclined audiences and introduce digital brands to markets where they have little or no physical presence.



- Obé, a startup that offers virtual on-demand fitness classes, partnered with HBO Max to launch classes with themes based on TV shows like Sex and the City and Sesame Street. In a separate co-branding campaign, Obé instructors donned athletic gear by Athleta in virtual gym classes.



# Consider This

Activating select takeaways from 'In-Store Innovations' to scale access

## Health and Wellness Kiosks

Integrate the Internet of Things (IoT) and AI with kiosks to provide both general and specialized healthcare.

Let organizations add or remove features to their kiosks depending on their markets' needs. This can mean adding more health measurement devices or AI-enabled software that provides personalized recommendations. Pulse Active Stations, for example, partnered with vision tech company Ibis Vision to bring eye testing capabilities into its kiosks.

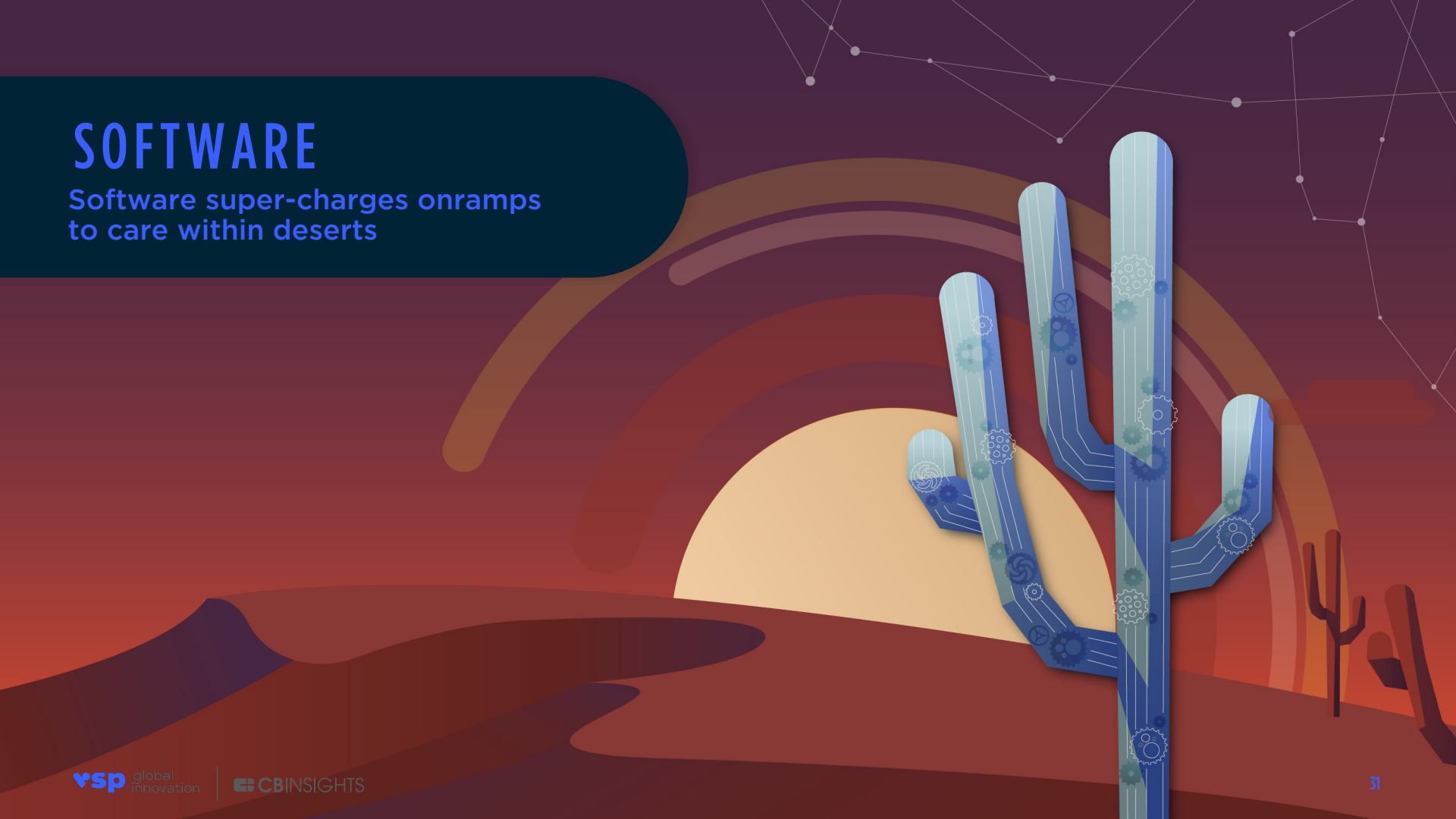
## Retail Integrations and Strategic Insights

Get creative when adopting retail strategies to fill the needs of healthcare deserts.

With their proximity to customers in healthcare deserts and vast local reach in communities, retailers can be rich grounds for testing and rolling out health access solutions. Health access startups can also leverage the economies of scale that big-box retailers provide.

# SOFTWARE

Software super-charges onramps to care within deserts







# Software Insights

## Enterprise Partnerships

According to CB Insights' Business Relationships [data](#), providers are extending their virtual care capabilities post-pandemic, partnering with digital health startups to scale offerings. These relationships are crystalizing beyond the pilot phase, underscoring how provider preferences have evolved in recent years towards virtual solutions.

## Remote Patient Monitoring

The [patient-to-primary-care-physician ratio](#) in rural areas is only 39.8 physicians per 100,000 people, compared to 53.3 physicians per 100,000 in urban areas. Recent advancements in Remote Patient Monitoring, such as a transition from wearables to non-invasive, ambient monitoring devices, can offer an always-on care model for healthcare desert patients.

## Specialty Focus

In recent years, software solutions have responded to the various kinds of healthcare deserts, with platforms popping up that address and serve a singular type, such as a pharmacy deserts or behavioral health deserts.



Image Source: [@capsulecares](#)

## Workforce Solutions

The U.S. is estimated to be 3.2 million workers short of critical healthcare personnel by 2026, [according to Mercer](#). Healthcare deserts, which already face extremely low doctor-to-patient ratios, are feeling the impact of this shortage more acutely. As a result, these shortages have triggered a rise in funding towards software solutions that optimize workforces and take an on-demand approach to staffing

# Spotlighting key players in the ecosystem

## Workforce Optimization and Staffing

CareRev element5

CertifyOS

HR HEXARAD  
RADIOLOGY

Phreesia

OpenLoop

notable vivian

Vytalize

## Remote Patient Monitoring

Aural Analytics

optimize.health

CMi HEALTH Bernoulli

CADENCE casana

Athelas

INTRANERVE  
NEUROSCIENCE

KangarooHealth  
THE NEXT LEAP IN HEALTHCARE INNOVATION

nonnatech AiCure

## Behavioral Health Desert Solutions

AbleTo amaha  
YOUR MENTAL HEALTH PARTNER

BeatO

Dialogue

Little Otter

MINDSTRONG

sondermind®  
Therapy Works.

ginger talkspace

wysa

## Pharmacy Desert Solutions

9am.health

CAPSULE

GoodRx

alto HouseRx

23andMe® | lemonsaid  
Health

NURX. Truepill

# Pilots between legacy players and startups born out of pandemic-necessity persist



- [Genesis Health](#): A nonprofit health system that serves 17 counties across Iowa and Illinois
- [Bright.md](#): An AI-driven, asynchronous telehealth platform reducing clinical work
- [In August 2020](#), Genesis Health deployed Bright.md's SmartExam platform to deliver telehealth services to its patients. The platform also provided triage, clinical decision support, and automation.



- [HonorHealth](#): A nonprofit healthcare system with 6 hospitals across Arizona
- [Twistle](#): An AI-driven digital platform for remotely monitoring patients. Acquired by Health Catalyst in '21
- [In 2020](#), HonorHealth worked with Twistle to remotely monitor the health of patients with Covid-19; they later expanded the partnership to use Twistle to engage patients for vaccinations, obstetrical deliveries, and surgical procedures<sup>11</sup>



- [Esse Health](#): An independent physician group
- [Noteworth](#): An interoperable virtual care platform that lets providers deliver remote care and monitoring
- [In early 2020](#), Esse Health worked with Noteworth to streamline condition management and adopt telehealth; Esse Health also rolled out a diabetes prevention program using Noteworth's platform



# Last mile delivery startups are seeing success in tackling Pharmacy Deserts

With pharmacy access solutions, even patients in healthcare deserts can buy prescription medicine and over-the-counter healthcare products without leaving their homes. Companies in this segment integrate eCommerce practices: providing online shops, price comparison across pharmacies, discounts, and order fulfillment. Pharmacy desert solutions also typically integrate with other forms of virtual care, such as virtual consultation with physicians and pharmacists.



Total funding amount: \$570M

- Provides free, same-day delivery of prescriptions
- Coordinates with pharmacies and doctors to get a customer's prescriptions, and manages refills
- Accepts insurance to avoid out-of-pocket costs
- Lets customers chat with pharmacists through instant messaging



Total raised in IPO: \$1.1B

- Allows people to compare drug prices by pharmacy and find discounts
- Provides coupons that customers can bring to their pharmacy
- Accepted by >75K pharmacies across the U.S.
- Offers telehealth services and a membership plan



Total raised in IPO: \$256.06M

- White-label pharmacy eCommerce platform
- Provides nationwide fulfillment service
- Integrates with existing customer and healthcare IT management systems
- Has diagnostics and telehealth solutions for pharmacies
- Ships 20K prescriptions daily



# Asynchronous, automated solutions meet surging demand for behavioral healthcare

During the Covid-19 pandemic, the federal government [relaxed restrictions on telebehavioral health](#), with insurers and employers adding these services to health plans and employee benefits, resulting in both a spike in usage and in venture capital in the category. While teletherapy, which is currently the leading use of telehealth, isn't new, AI-powered platforms offering asynchronous, automated solutions are helping meet this surging demand, shaping the future of the category.



Total funding amount: \$29.4M

- Guarantees user anonymity; named as 1 of “only 2 trustworthy apps” in a [study](#) of the privacy and security processes of 32 mental health and prayer apps by Mozilla Foundation
- Highly rated (4.8/5) app with [>3M](#) users
- Combines AI-guided listening with support from mental healthcare experts



Total funding amount: \$17.7M

- India-based app with >1M users
- Provides comprehensive diabetes care and behavioral management with remote monitoring, personalized insights, clinician coaching, AI-based reminders, and health plans
- Reports 51.9% reduction in hypoglycemia incidents among its customers after counseling with a BeatO health coach



# Remote patient monitoring allows for ambient, always-on care for patients



**Total funding: \$6.4M**

- Aural Analytics uses speech to detect subtle but clinically meaningful changes in brain health
- The platform is completely agnostic to disease, device, location, and language and powers applications throughout the world
- In October, obtained FDA registration to improve the standard of care and lead the way for speech analytics in clinical settings

## casana



**Total funding: \$46.2M**

- Casana has built an innovative health monitoring device that connects to the bottom of a toilet seat lid to effortlessly, passively capture health parameters
- The Heart Seat sends data to the designated care team's dashboard, designed in collaboration with Casan's clinical partners
- Clinically relevant measurements that are captured, include heart rate, blood pressure, and blood oxygenation



# Software increases provider bandwidth in the face of labor shortage challenges

Software optimizes thinly stretched healthcare staff by automating booking and other routine processes, streamlining clinical workflows, and using AI to assist with patient-facing duties. Meanwhile, job platforms that skip staffing agencies have also become popular, as they let healthcare facilities and professionals find each other with just a few clicks of an app.



Total funding amount: \$50.12M

- Healthcare staffing platform that lets clinical talent find work without going through staffing agencies
- Partners with insurance providers, meal delivery apps, professional development apps, and other companies to provide perks to member job-seekers on its platform



Total funding amount: \$112.6M

- Software-as-a-service (SaaS) platform for automating parts of the patient intake process
- Is integrated with multiple electronic health record and practice management systems, allowing for the seamless transfer of data
- Augments healthcare staff with automation tools



Total funding amount: \$60M

- Job marketplace for healthcare professionals to find permanent roles, per-diem shifts, local contracts, and travel positions
- Also works with staffing agencies
- Has [>800,000](#) healthcare talent in its pool



# Consider This

Activating select takeaways from ‘Software’ to scale access

## Partnerships

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Partnerships with established enterprises can validate a tech solution’s efficacy for large-scale deployment, while also providing access to much larger data sets and user segments.

Seek out partnerships that let you demonstrate how your solution is both scalable and customizable to meet unique needs, while also exposing you to more varied data.

## Specialty Focus

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In pharmacy deserts, leverage pharmacy partnerships and a wide range of enablement solutions (e.g., fulfillment services and white-label platforms).

Competition is increasing as startups make it easy to set up an online pharmacy. Consider homing in on a niche, like women’s healthcare or serving rural communities.

## Remote Patient Monitoring

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Explore options to non-invasively monitor patients with significant gaps between visits.

Allows for providers to have always-on insights into a patient’s health in between visits through ambient remote monitoring.

## Workforce Solutions

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Create solutions that fit into existing workflows and systems.

Make it easy for busy healthcare teams and physicians to adopt your solution in their everyday routines and practice.



# Developing a point of view on the future

Because healthcare deserts come in many forms, **so too will their solutions**. Some innovations will address hospital deserts and bring urgent care to the living room, while others will help maternal care deserts, scaling education and resources for new mothers.

While a one-size-fits-all approach is both unlikely and unrealistic, technologies and models will evolve to address these singular pain points. Together, **through a portfolio approach**, these solutions will be combined and harnessed to alleviate geographically distinct issues and help accelerate access, in whatever shape it's needed.

For example, in eye care deserts, NEMTs, strategic in-store partnerships, portable tools like handheld autorefractors, Patient In, Dr. Out platforms that bring remote optometrists into practices or pharmacies, and even self-serve kiosks could all be leveraged

to increase access to eye care and eye care professionals. However, innovation is just one factor.

As we look at indicators for what the future holds, it's important to note that technological, economic, cultural, and regulatory factors **will all have to be aligned**, ensuring that these innovations aren't just available, but that they're affordable, environmentally sound, widely adopted, and clinically approved.

*"Technology innovation is enabling service innovation that can finally overcome barriers to high quality care in underserved communities, a problem that's becoming especially urgent in eye care deserts. If the healthcare and investment sectors commit more resources to innovators bringing new technologies to market, there is great potential to grow markets as well as to help more people, cost-effectively."*

Shivang Dave, CEO, PlenOptika



# OUR CALL TO INNOVATORS

The trends highlighted in this report show how the future of healthcare desert solutions is transforming the way we deliver care, particularly to rural areas and to people with socioeconomic barriers to care. We believe these innovations will make healthcare more accessible, equitable, and affordable in the long run.

At VSP Vision, we are constantly reimagining the way eye care and eyewear are delivered to the world. To fulfill this promise, the VSP Global Innovation Center (GIC) is actively seeking new startups and technologies to collaborate with on forward-looking innovations, especially around access. Interested in connecting? Let's talk.

GET IN TOUCH WITH US AT  
[globalinnovationcenter@vsp.com](mailto:globalinnovationcenter@vsp.com)

# ABOUT THE PRODUCERS



## About VSP Global Innovation Center

At VSP Vision, our purpose is to empower human potential through sight. As the first and only national not-for-profit vision benefits company, VSP has been the leader in health-focused vision care, providing affordable access to eye care and eyewear for more than 80 million members through a network of more than 39,000 doctors.

The VSP Global Innovation Center (GIC) is VSP's lens into the future.

Through emerging technologies, new business exploration, and strategic connections within the innovation ecosystem, the GIC is a hub for reimagining the way eye care and eyewear are delivered to the world.

To learn more, please visit [www.vspglobal.com/innovation](http://www.vspglobal.com/innovation)



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