





## Introduction

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# What are the top 10 digital transformation trends for the healthcare industry in 2022?

- 2.1 Evolution of telemedicine
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- 2.3 Cloud computing
- **2.4** Internet of Things (IoT) & wearable devices
- 2.5 AR and VR
- **2.6** Interoperability
- 2.7 Artificial intelligence
- 2.8 Robotic process automation (RPA)
- 2.9 Blockchain
- **2.10** Predictive analytics



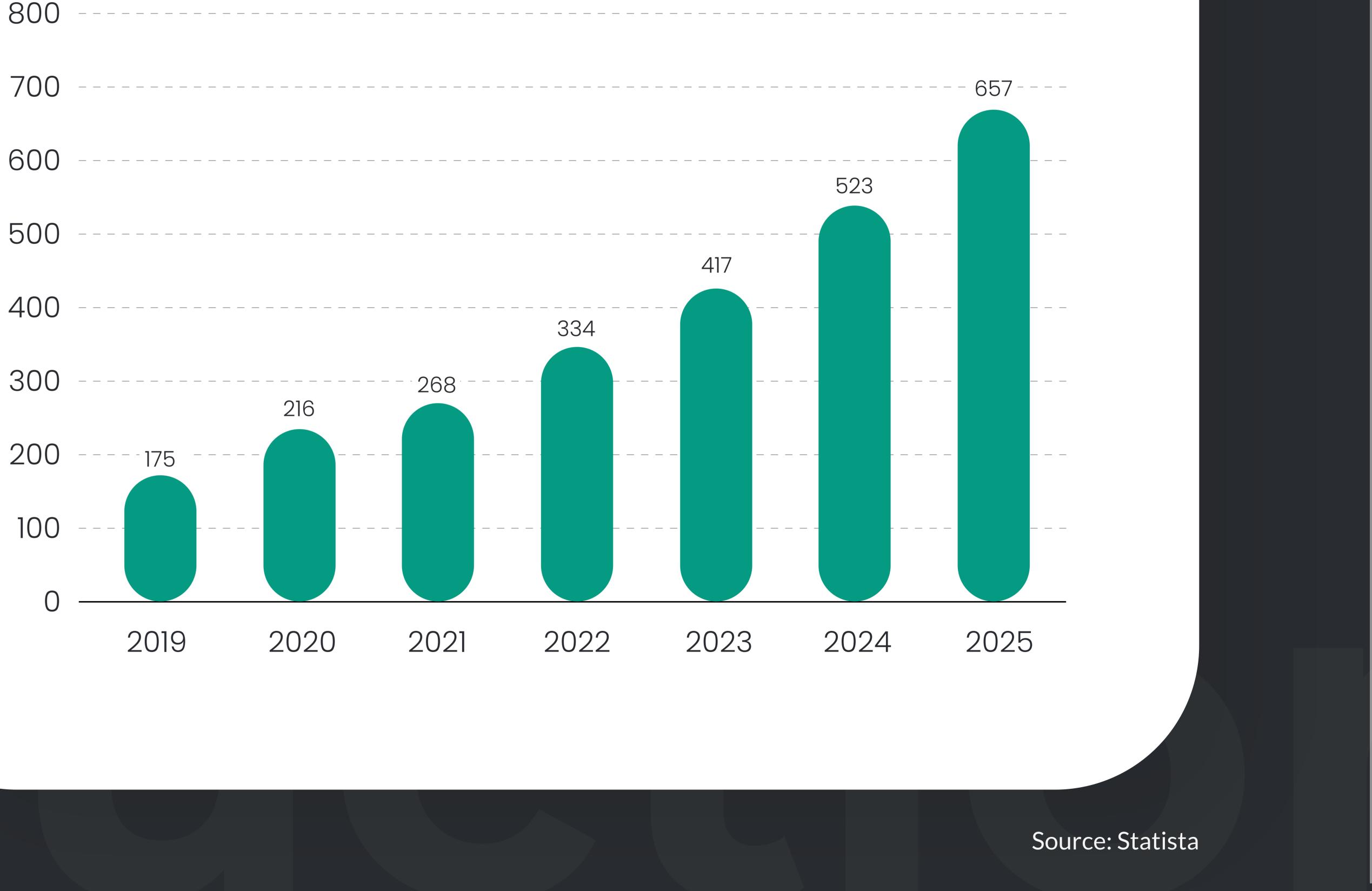
Technology has changed almost every aspect of

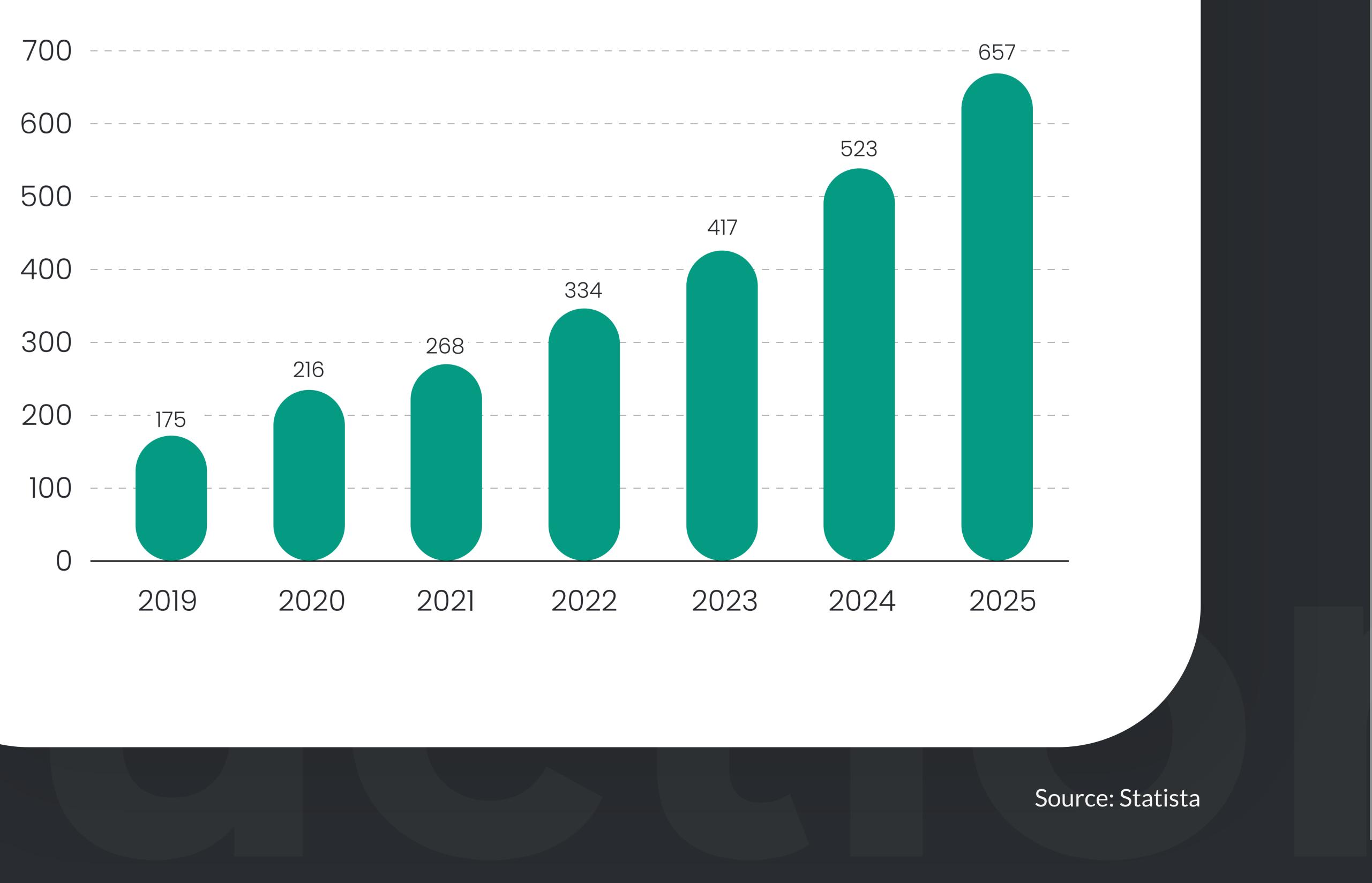
our lives. But in the case of the healthcare industry, it has a long way to go. But in recent times, it has been observed that the need for digital transformation in the healthcare industry has increased manifold. Healthcare CIOs are leveraging digital technologies to innovate industry models.

According to a Deloitte <u>survey</u>, 92% of the respondents said the top desired result from digital transformation is an improved patient experience. Eventually, the healthcare system has gone through a lot of makeovers. Digital transformation has helped the healthcare industry to improve the patient care experience, bring optimization, and empower staff at the same time. Healthcare technology investment is skyrocketing, with a forecast of about <u>\$660 billion by 2025.</u>

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# **Projected Global Digial Health Market Size** from 2019 to 2025 (in billion U.S. Dollars)







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# What are the Top 10 **Digital Transformation** Trends for the Healthcare Industry

Here is a list of top 10 digital health trends set to dominate the healthcare industry in 2022.

# EVOLUTION OF TELEMEDICINE

Many healthcare providers preferred to use telemedicine to schedule visits during the pandemic. The reasons were its simplicity and flexibility. Telemedicine helps patients living in rural areas or who work outside of standard hospital hours to communicate with physicians via their laptops or phones.

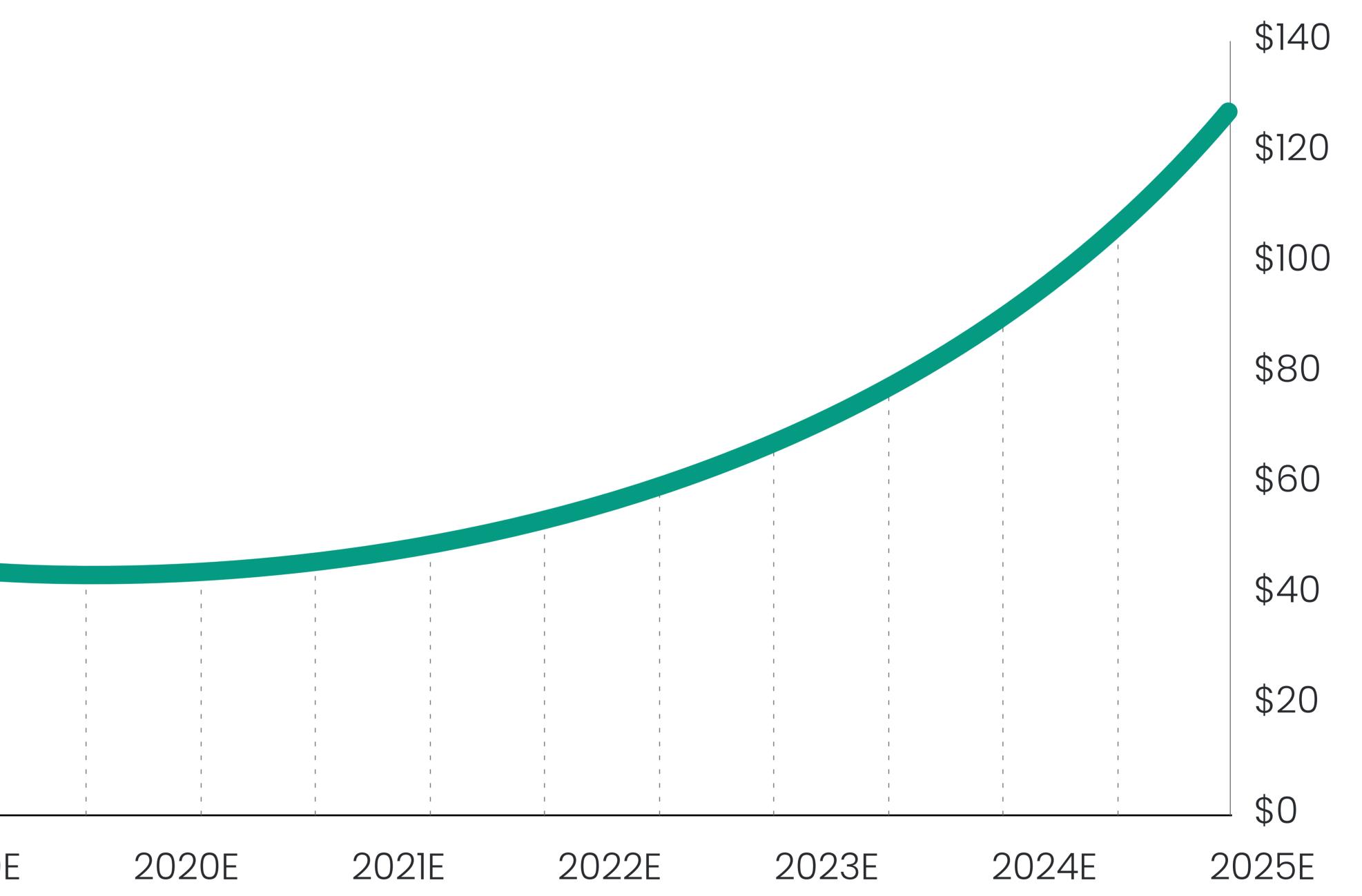
According to a <u>report</u>, the global telehealth market is projected to grow from \$90.74 billion in 2021 to \$636.38 billion in 2028 at a CAGR of 32.1% in the forecast period.

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2019E

# **Forecast: Global Telemedicine Market**

(Billions in dollars)







Source: Global Market Insights

# DATA THERAPEUTICS

Digital Therapeutics Alliance (DTA) <u>defines</u> Digital therapeutics (DTx) as products that "deliver evidencebased therapeutic interventions to patients that are driven by high-quality software programs to prevent, manage, or treat a medical disorder or disease."

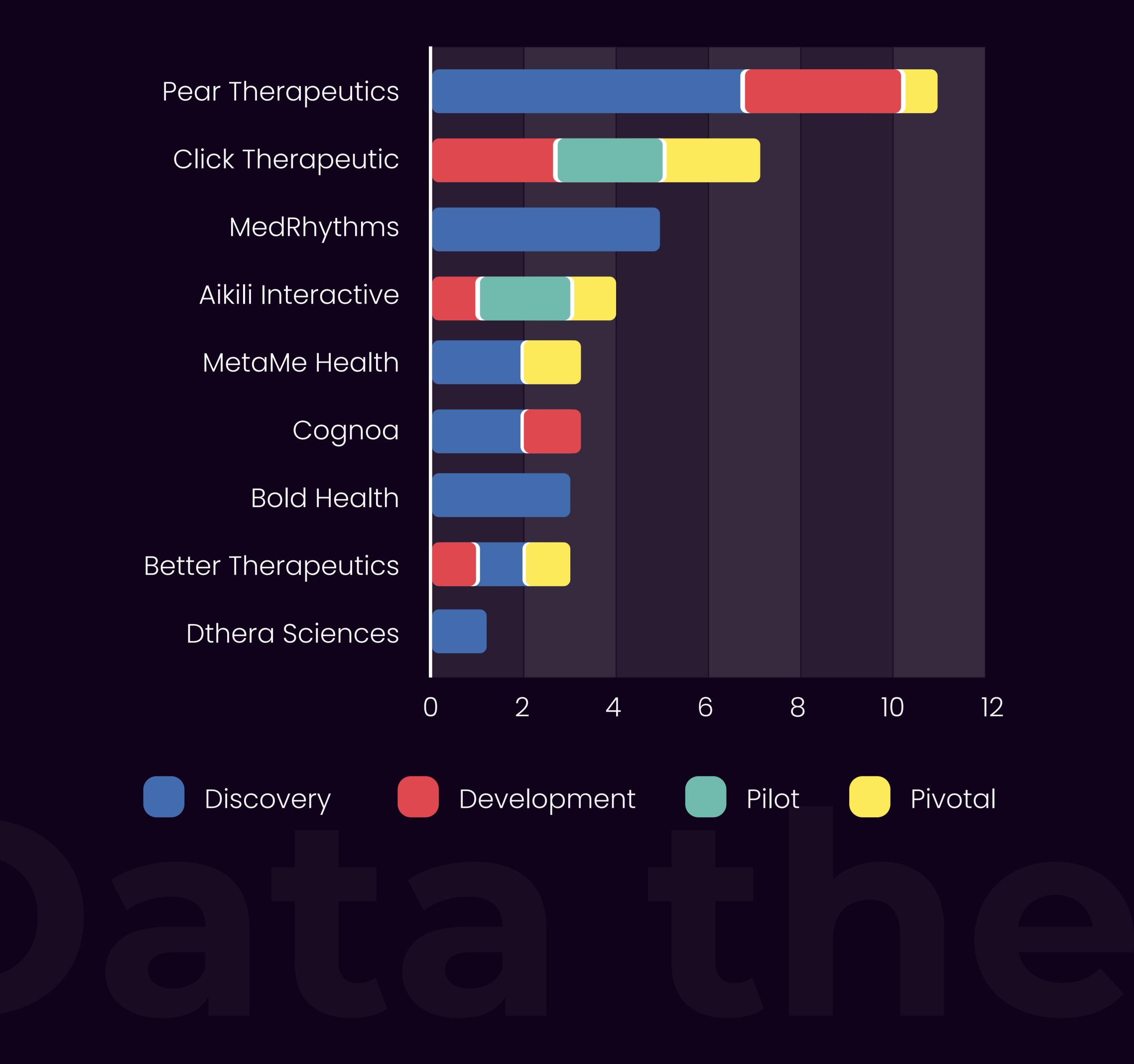
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# According to DTA, data therapeutics deliver results by:

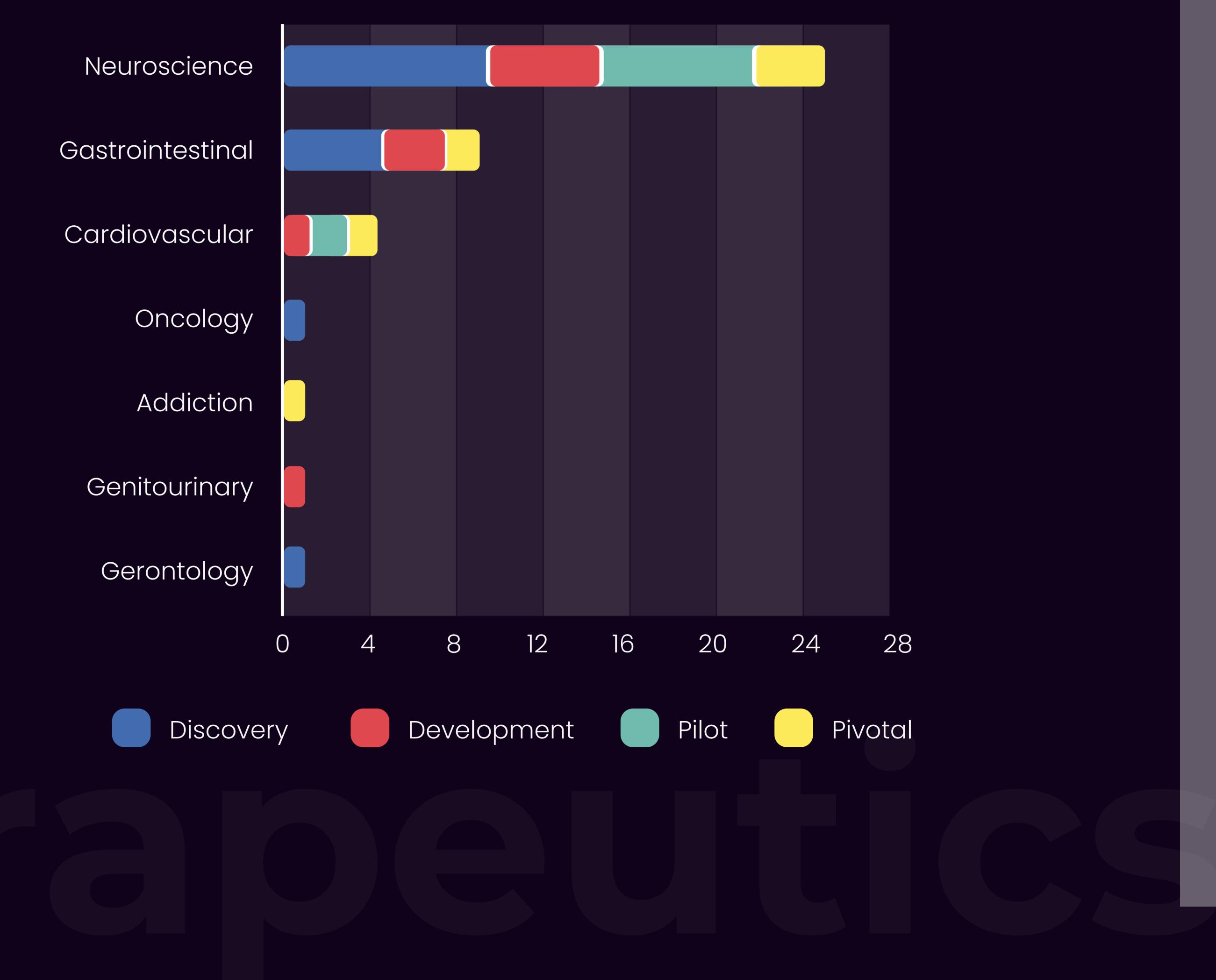
- Increasing patient access to safe and effective therapies
- Extending clinicians' ability to care for patients
- Offering payors scalable and cost-effective interventions

Data therapeutics help in the cases of obesity, ADHD (attention deficit hyperactivity disorder), type 2 diabetes, anxiety, depression, congestive heart failure, and many more.



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# Number of Indications & Stage in Development by Company & Therapeutic Area



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For us, evidence is key for our digital therapeutics. In a similar way to how we develop and test a medicine, a digital therapeutic will be designed using evidencebased interventions and trialled to prove that it can make a difference to a person's health, and it will require a prescription from the doctor.

Matt Bonam, Head of Digital Health,
BioPharmaceuticals R&D, AstraZeneca.



### CLOUD COMPUTING

Gone are those days, when there used to be a 'file room' for storing data. With cloud computing, hospitals don't need to store data on computers. That means they won't have to spend on servers, hardware, and IT infrastructure to store and secure data. This way, cloud computing helps to reduce operational costs to a great extent.

A recent <u>report</u> revealed that the global healthcare cloud computing market is forecast to grow by \$33.49 billion by 2025. But what exactly is cloud computing in the healthcare sector?

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Well, cloud computing in healthcare refers to the process of installing remote servers accessed over the internet to store, manage, and analyse healthcarerelated data.

Cloud providers secure their clients' data with comprehensive data loss measures and techniques. Thereby, it helps the healthcare providers to minimise their in-house IT responsibilities.

Patients can access their test reports 24/7 as health institutes are storing patient medical records in the cloud.





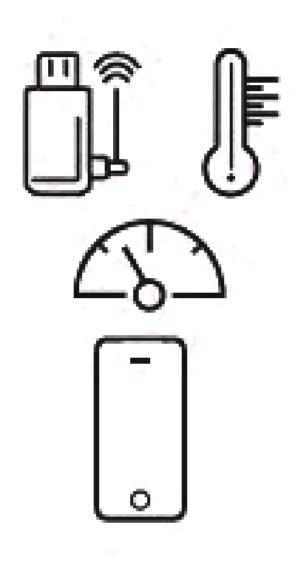
# INTERNET OF THINGS (IOT) AND WEARABLE DEVICES

Remote monitoring in the healthcare industry is now feasible, thanks to the Internet of Things (IoT)-enabled equipment. It is <u>expected to reach</u> <u>\$176.82 billion</u> by 2026. Remote monitoring helps to reduce the duration of hospital stay and avoid readmissions as much as possible. Thereby, it helps in reducing healthcare costs without compromising treatment outcomes.

loT sensors can detect any abnormalities in a patient's body like a drop in oxygen saturation, blood pressure, heart rate, blood sugar levels, etc.

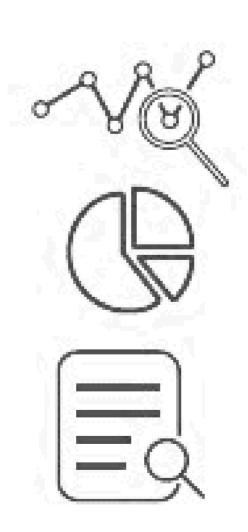
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### DEVICES



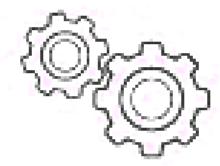


### **DATA ANALYSIS**



### DATA **AGGREGATION & PRE-PROCESSING**







### **DATA STORAGE**





loT sensors can detect any abnormalities in a patient's body like a drop in oxygen saturation, blood pressure, heart rate, blood sugar levels, etc.

Based on that, it can alert the healthcare providers and family members for emergencies. Doctors can assess the data on IoT devices to change their treatment plan if needed and reach expected outcomes.

For example, <u>IBM and Pfizer jointly launched the</u> "BlueSky" project to collect data and examine patients' responses to Parkinson's disease. For that, sensors are fitted in a patient's house everywhere. By doing so, the doctors can analyse the patient's condition and medical responsiveness.

Apart from healthcare providers, insurance companies can reap the benefits of IoT for their underwriting and claims operations.

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Wearable devices like smartwatches, fitness bands have helped a lot to make healthcare more accessible. People can use these devices so that their care providers can analyse the data and chalk out the treatment plan. Also, it can help many people to keep a tab on their lifestyles and take precautionary health measures.



### AR AND VR

Augmented Reality (AR) and Virtual Reality (VR) will be one of the trending technologies in healthcare in 2022. A <u>report</u> says that augmented reality and virtual reality in the healthcare market will be worth \$9.5 billion by 2028.

Both these technologies allow researchers to investigate 3D replicas of human organs and tissues in simulation labs. Besides, clinical studies are being conducted to test drugs on simulated organs to anticipate how a real person will react to the therapy. This way, it can reduce the animal testing of drugs and care for a better planet.

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Surgeons can take the help of AR to investigate the anatomy of their patients. They can use an AR headset to enter their MRI and CT scan results. Then, before going into surgery, they can overlay the specific patient anatomy on top of their body.

### INTEROPERABILITY

Interoperability refers to the hassle-free interchange of data between organisations and systems. It is critical for the healthcare business because it has the potential to generate critical digital change.

According to a Markets And Markets report, the global market of healthcare interoperability solutions is expected to jump to \$4.2 billion in 2024 from \$2.3 billion in 2019.

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# The benefits of interoperability in healthcare are:

- Access to the patient's medical records is simple and quick.
- Better care coordination
- Higher performance of healthcare providers
- Enhanced patient experience

According to Healthcare Information and Management Systems Society (HIMSS), interoperability for healthcare has four different levels:

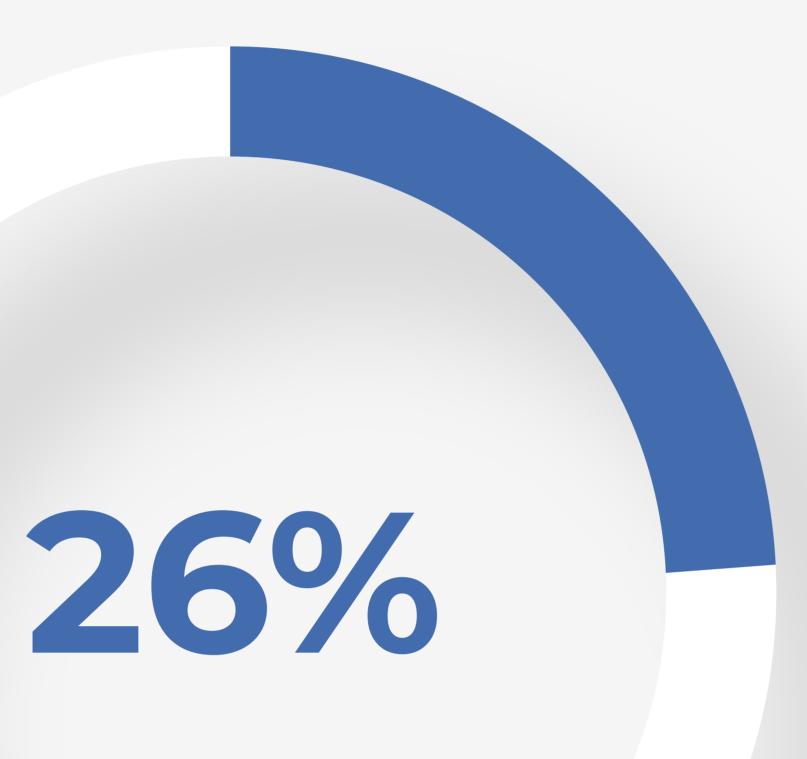
### Levels of Interoperability Reached by the HIMSS Study Respondents

Allows data exchange from one IT system to be received by another but does not require ability to interpret data

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### Foundational

### Strutural





Ensures data exchange between IT systems can be interpreted at the data field level

### Semantic

Provides interoperability at the highest level, enabling the ability of 2 or more systems to exchange and use information

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Source: healthcareitnews.com

### ARTIFICIAL INTELLIGENCE

Artificial Intelligence (AI) uses complex algorithms to mimic human decisionmaking. Al may assist doctors and medical professionals in providing more accurate diagnosis and treatment plans by using patient data and other information. Also, by analysing large data to produce enhanced preventative care suggestions for patients, AI may help make healthcare more predictive and proactive.

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# In short, AI can help the healthcare industry in ample ways like:

- Medical diagnostics
- Drug discovery
- Clinical Trials
- Pain management
- Improvement of patient outcomes



# **ROBOTIC PROCESS AUTOMATION (RPA)**

There are many applications in which Robotic Process Automation (RPA) can help healthcare organizations increase operational efficiency, lower costs & limit the possibility of human error when processing information including:



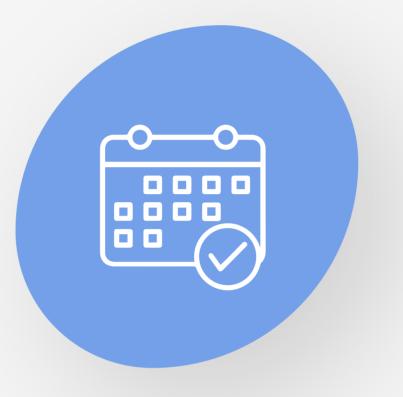
Physician credentials



**Enrollment and** patient eligibility

RPA is complementary to existing systems and processes, enabling healthcare organizations to address gaps in **existing processes** where work is still being done manually

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Appointment scheduling

Claims

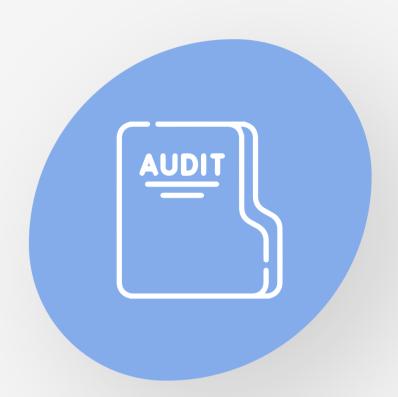
administration & management



### Clinical documentation



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### Audit procedures

## **Medicare billing** and compliance

Source: Maruti tech labs

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- Automate claims processing.
- Improve the patient experience by providing more consistent treatment.
- Implement the best practises by reducing human error and maintaining output consistency.

# RPA can handle high-volume, repetitive work in the healthcare business, freeing up human resources for higher-value jobs. So, RPA can play a major role in healthcare in 2022 and coming years. Here are a few reasons behind it:

• Improve the quality of data, tasks, and reporting in healthcare settings.

Increase the speed of mundane tasks.



### **BLOCKCHAIN**

Blockchain keeps track of how information is exchanged and accessed on its peer-to-peer network by keeping a digital ledger of linked blocks of data. Data on the blockchain cannot be modified or removed, and each transaction is recorded chronologically.

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# In the healthcare industry, blockchain can be very useful in:

- Data management for electronic medical records (EMRs)
- Data management for personal health records
- Management of genomics at the point of care
- Supply chain transparency
- Data management for electronic health records

### PREDICTIVE ANALYTICS

Healthcare analytics is the process of collecting and analysing current and past industry data to forecast trends, increase outreach, and even better manage disease transmission. According to a <u>report</u>, data analytics in healthcare is expected to increase at an annual growth rate of 7.5% from 2020 to 2027.

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# But why is data analytics so important in healthcare? Let's have a look at the reasons!

- Predictive analytics for patients have complicated medical
  - histories and a variety of ailments.
- Providing accurate data-driven projections in real-time so that healthcare providers may adapt more swiftly to changing market conditions.
- By automating low-impact data management operations, healthcare companies may improve data cooperation and creativity to turn analytics-ready data into business-ready information.

### CONCLUSION

Digital transformation is a continuous process, and new trends in the healthcare business emerge every day. To keep up with an increasingly digital sector, health practitioners will need to be trained and educated in new technology.

Hopefully, the emerging technologies in healthcare will pave the way for treatment, management, and prevention of diseases and save more lives in the coming years!

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