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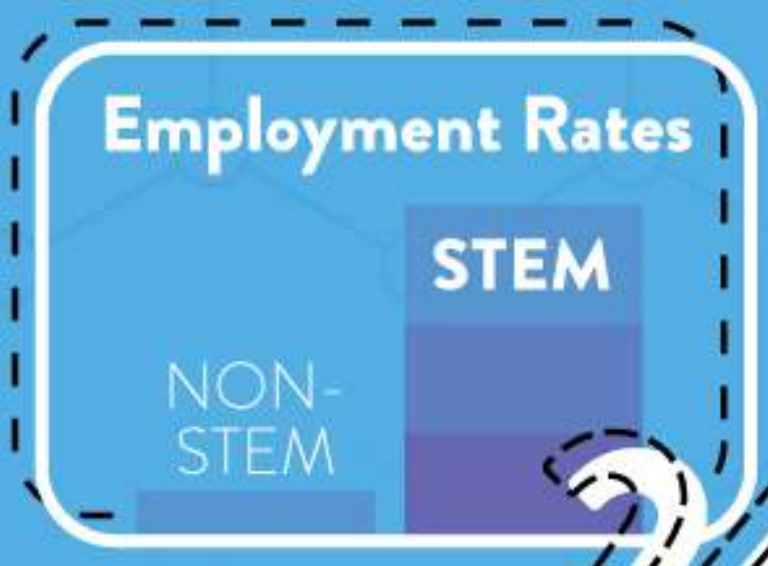
# STEM

## is Shaping the Future of Healthcare

**Science, Technology, Engineering and Math are building a healthier world by improving diagnostics, treatment delivery, care coordination, data management and access to medical information. The applications are limitless. A foundation in S.T.E.M. will give you the tools you need to be part of this new world.**

### Employment Rates




Employment in STEM occupations grew much faster than employment in non-STEM occupations over the last decade (24.4 percent versus 4.0 percent, respectively).

**24.4%** vs 4%

**29% MORE!**

STEM workers command higher wages, earning 29 percent more than their non-STEM counterparts in 2015. This pay premium has increased since our previous report, which found a STEM wage advantage of 26 percent in 2010.

STEM occupations are projected to grow by 8.9 percent from 2014 to 2024, compared to 6.4 percent growth for non-STEM occupations.

**8.9%** vs 6.4%

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## Telemedicine

Telemedicine opens new horizons for healthcare delivered by telephone, video calls, texts, email, patient portals, and social media.


## Diagnostics & Data Management

**Technology is changing the way providers and patients track and share health data.**

Health providers use **remote diagnostics** to check patients' vital signs & view symptoms.


## Electronic Health Records (EHRs)

Electronic Health Records bring all a patient's information together in a sharable format.

## Artificial Intelligence (AI)

AI-powered medical devices use sensors to collect and synthesize data about vital signs, body chemistry & biological functions.

## Internet of Medical Things (IoMT)

A connected infrastructure of medical devices and software apps that communicate with healthcare IT systems. Benefits include:

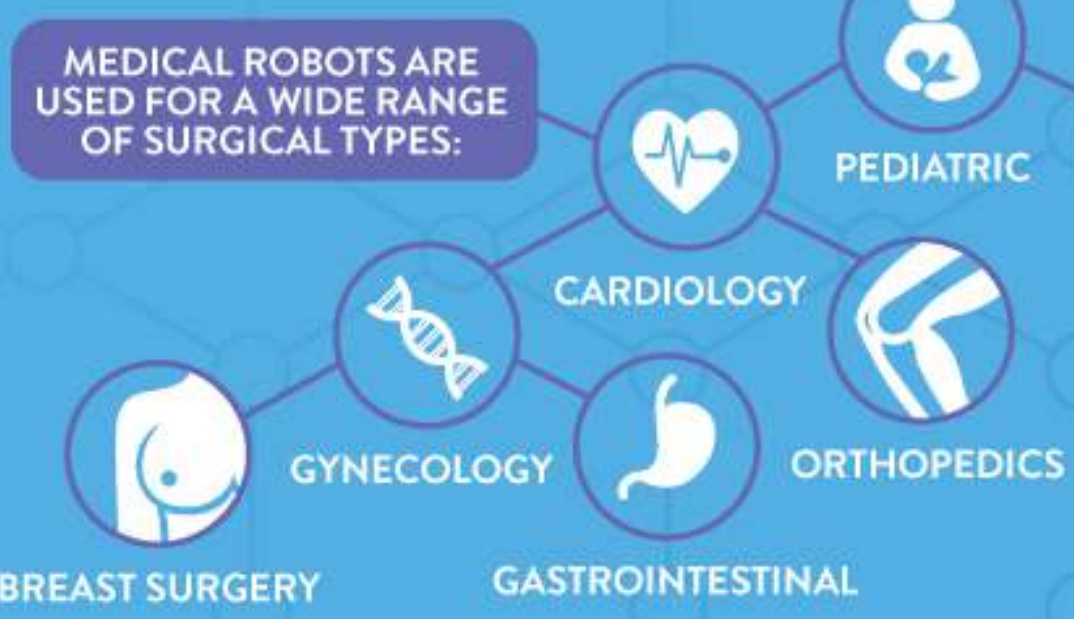
- Reporting, based on activity of body systems (versus patients' reports)
- Helping medical professionals understand chronic diseases
- Greater precision and fewer undesired side effects

## Payer-Provider Analytics

This software helps healthcare organizations find the most appropriate specialists for patients, based on data including:


## Medical Robotics

Advances in medical robotics are allowing surgeons to create smaller incisions, cause less pain and blood loss, and improve healing time.

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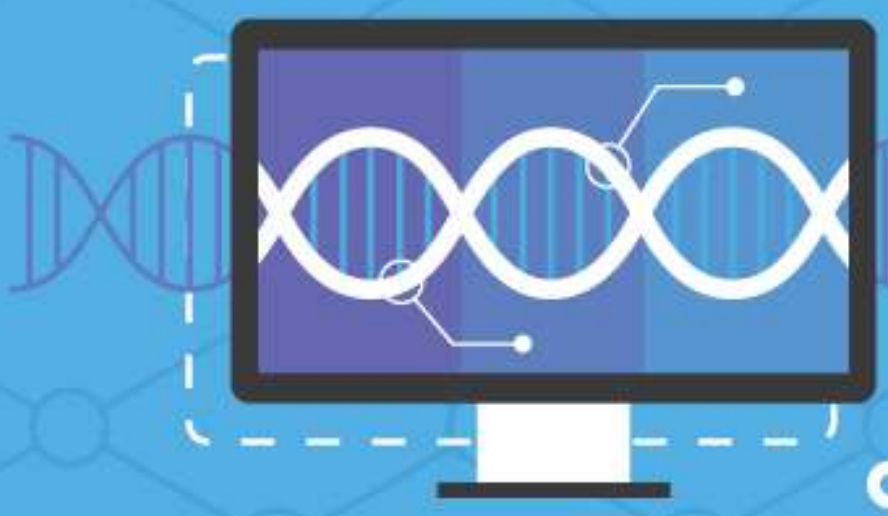


## Personalized Medicine

**Individualized diagnosis & treatment helps improve health outcomes.**

**Biomarker Discovery Programs** capture genetic information from cells and search for genetic patterns that help doctors:

- Predict occurance of disease
- Improve diagnostic precision
- Prescribe individual treatments

**Microbiome Programs** explore the genetic code of the body's microorganisms, to prevent and diagnose infections and diseases.

**Pharmacogenomics Program** investigates how gene variations affect patients' response to medications, to:

- Predict how well drugs will work
- Guide dosage
- Improve patient safety

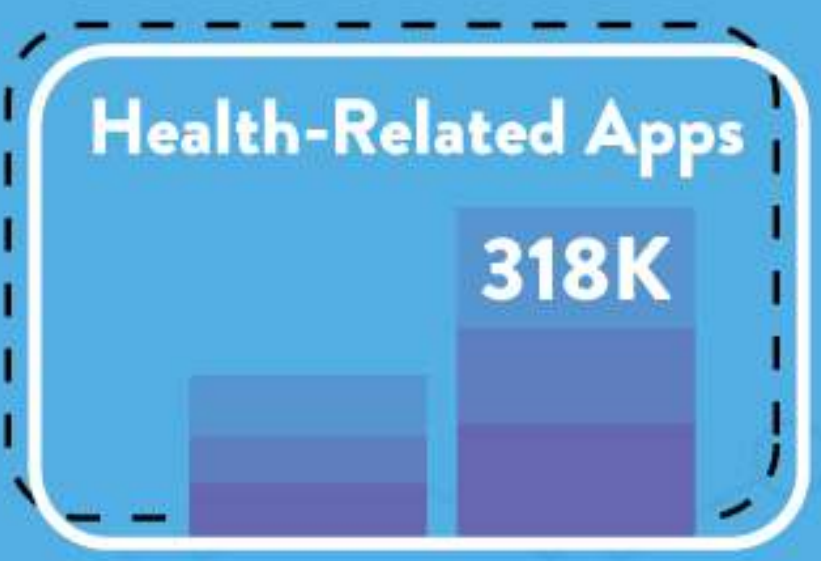
**Clinomics Programs** quickly translate research discoveries into genomic tests for diagnosing and treating patients.

## Mobile applications

**Mobile apps are changing the way people think about their health and wellness.**

There were over **318,000** Health related mobile apps for consumers in 2017, nearly double the number available in 2015.

Most mobile apps are for general wellness, but health condition management apps are increasing at a faster rate.



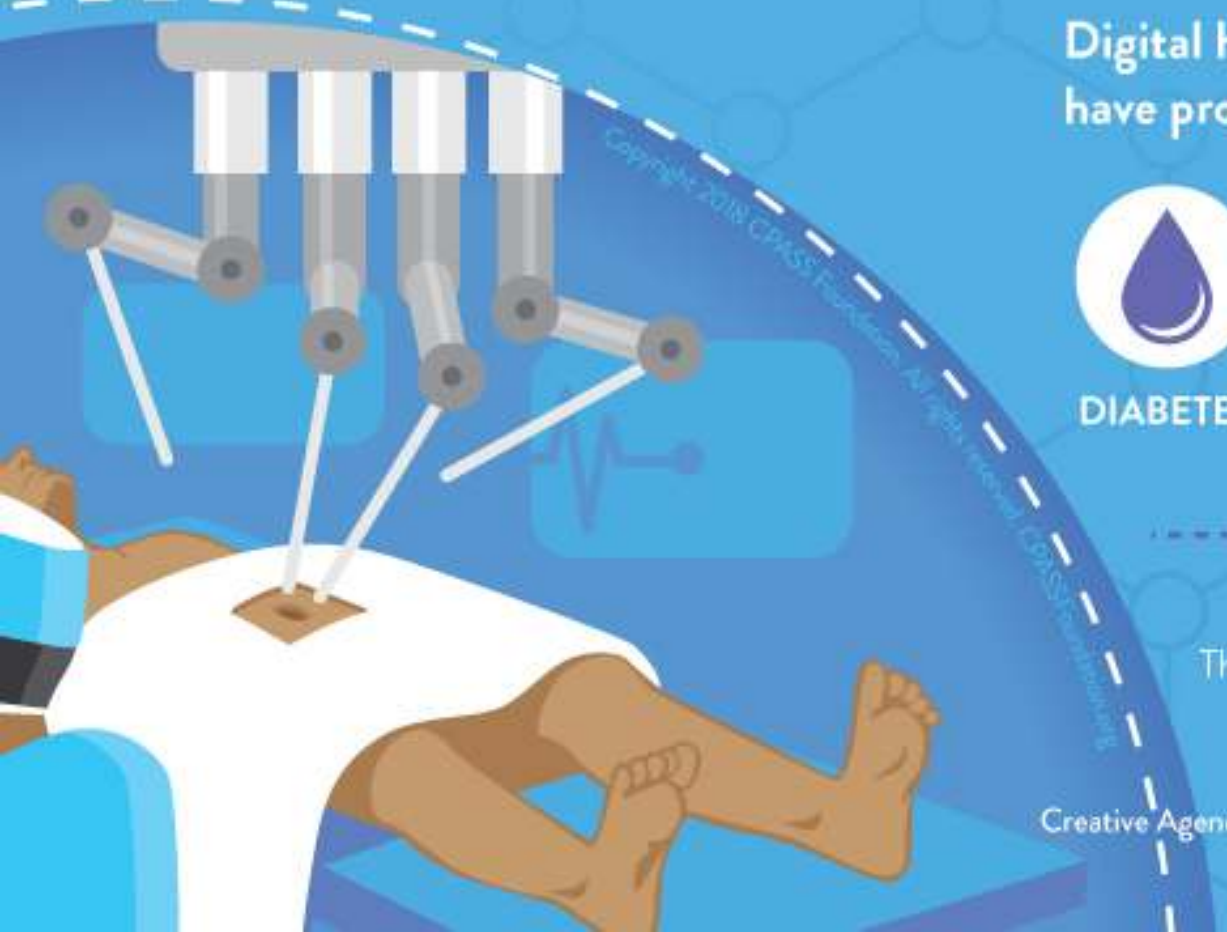

**200 PER DAY**

More than **240** wearable devices were available worldwide in 2017.

In 2017, they represented 40 percent of all health-related apps.


**Digital health apps have proven results in:**

DIABETES · ASTHMA · CARDIAC REHAB





**SOURCES:**
The Growing Value of Digital Health, U.S. Dept. of Commerce, www.wraltechwire.com

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