

# From blood to bytes, why pharma is going digital

*Treating a person, not a disease*

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# Right treatment to the right patient

Roche is a global pioneer in pharmaceuticals and diagnostics focused on advancing science to improve people's lives.

The combined strengths of pharmaceuticals and diagnostics under one roof have made Roche the leader in personalized healthcare – a strategy that aims to fit the right treatment to each patient in the best way possible.



## The future of healthcare will be...

- People driven
- Preventive
- Personalized
- Digital and...
- Integrated into daily life



# Healthcare systems face huge challenges and undergo tremendous change

**Growing population** with increasing **life expectancy**



**Continuously** rising healthcare **costs**



Increase in **healthcare admin**, yet little digitalized



HCPs confronted with more and more complexity (e.g. fewer **treatment time** per patient)



**Urbanization** puts **pressure** on healthcare systems



Rapid **increase** **treatment** complexity



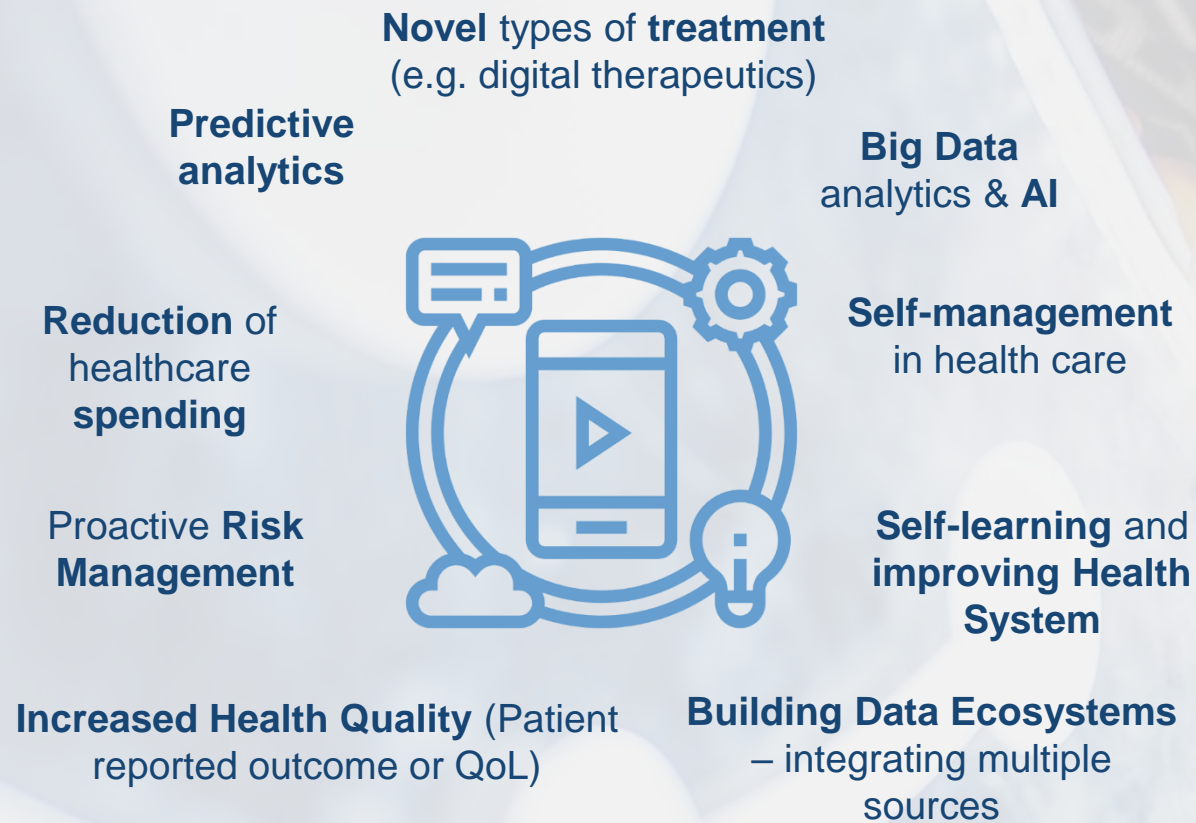
**New players** enter the healthcare market as **traditional** models break up



While the main question still remains the same:

**How can people get & stay healthy?**

# Digital Health offers huge potential to address these challenges...





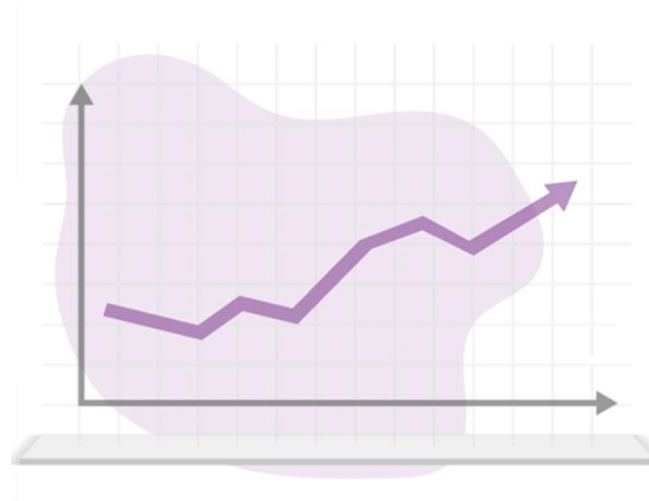
## Precision medicine & digital biomarkers

- Every patient is unique and should be treated thereafter
- Digital tools, such as smartphones or wearables, can now continually measure and collect health information – or “**digital biomarkers**” – from patients
- Assuring that the **right patient** get the **right treatment** at the **right time**

# Why are digital biomarkers important



**Support earlier, more accurate diagnosis**



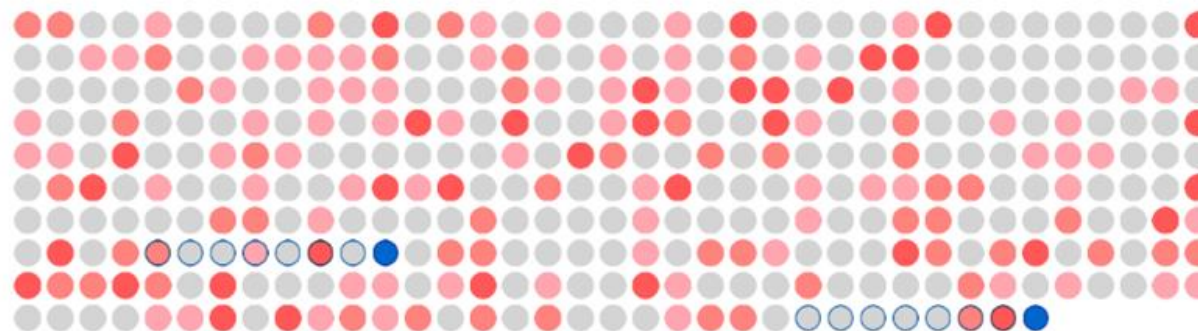
**Monitor the progression of the disease**



**Measure response to treatment**

# *365 days living with a disease*

**Every dot on this graph represents a day in the life of a patient**



●  
Day in the life of a patient with weak  
symptoms

●  
Day with a visit to the clinic/physician

●  
Day with stronger symptoms

○  
Patients' recall period for symptoms

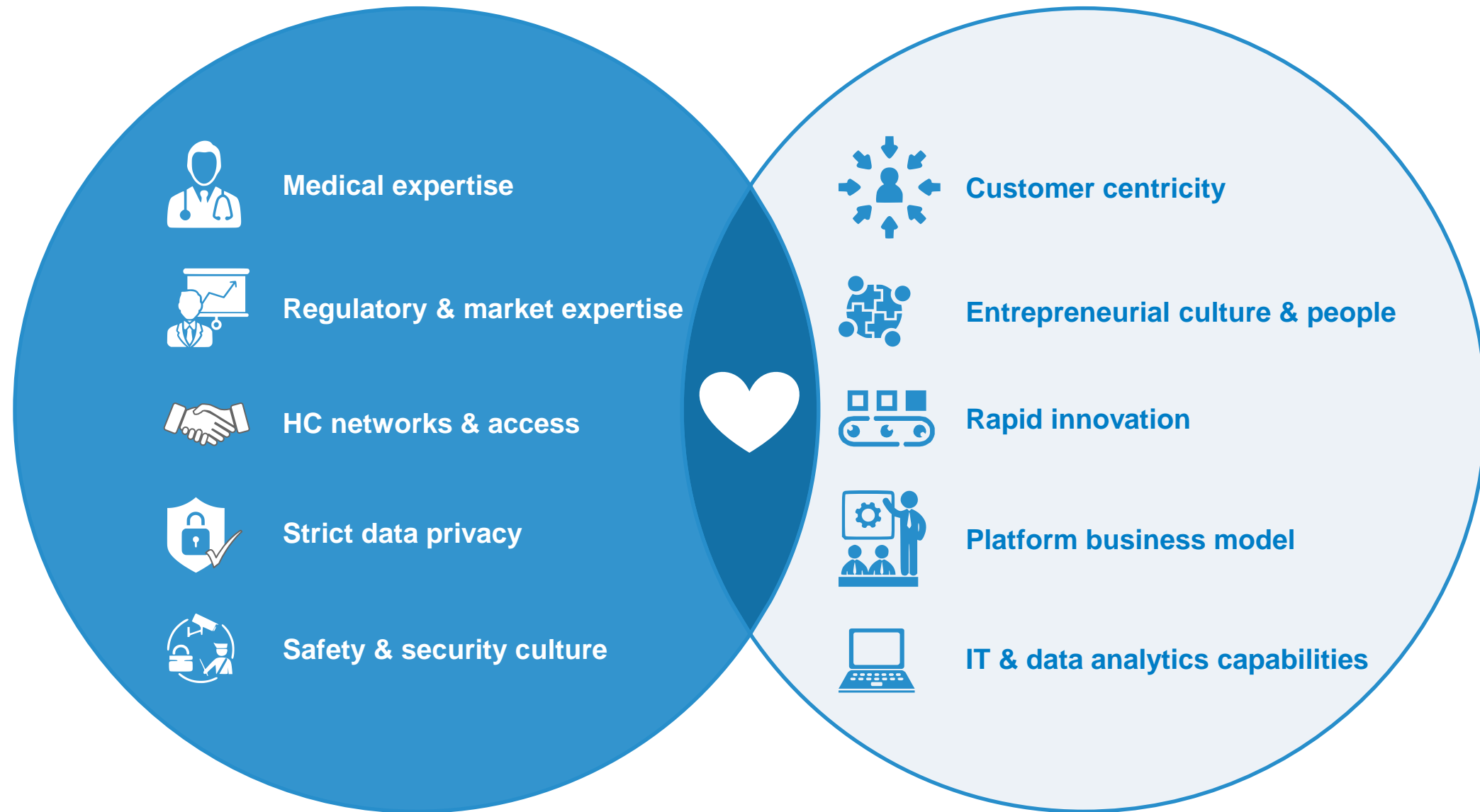
People living with a condition may only see a physician once or twice a year and may not entirely remember how they have felt on a specific day. Digital biomarkers help to provide a more comprehensive picture of how you feel on a day-to-day basis.

## Around the pill strategy

- *Add value to our molecules in the market through increasing the experience*
- The “**around the pill**” strategy. Elevate healthcare and the patient experience by, in addition to developing a drug, **attach a digital technology** to it.
- The way forward will mean **selling a total experience**, not just a product.
  - Digital health will play a key role in making this a value-adding complement to the Roche offering to patients and the healthcare system.
- Example; patients with SMA not only have access to Roche drug, but also a game to help them with the physiotherapy, creating a **gamified experience** for children to manage their condition.



# To create tomorrow solutions we need a mix of traditional & digital capabilities



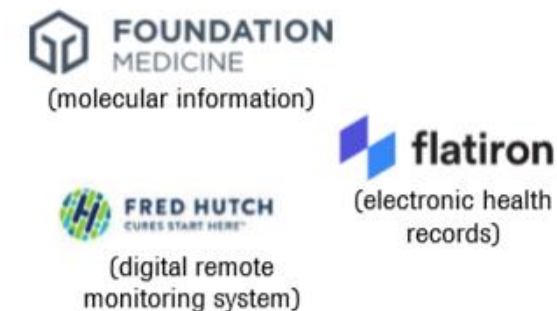
# Roche & partnerships

Early phase

Late phase

Technologies & Therapies

Digital solutions & precision medicine



78 new partnership deals during 2019  
focusing on

Right treatment to the right patient at the right time

## Three digital focus areas where we wish to collaborate...



**Healthcare data management.** Tackle the issue of fragmented healthcare data and **develop digital solutions to collect healthcare data** from multiple sources and derive valuable insights for evidence-based healthcare decision making.

*How can we ensure a common, more precise, and timely diagnosis of chronic diseases to deliver better health outcomes?*

This is the main question of the second challenge targeted at **digital solutions enabling screening and early diagnostics.**

Lastly, **digital therapeutics and disease management.** Finding solutions for patients and healthcare providers to better **manage chronic diseases and conditions** in a transparent and personalized way.

# Thank you!

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***Doing now what patients  
need next***