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# Digital Futures

The future of healthcare A presentation by Phorix

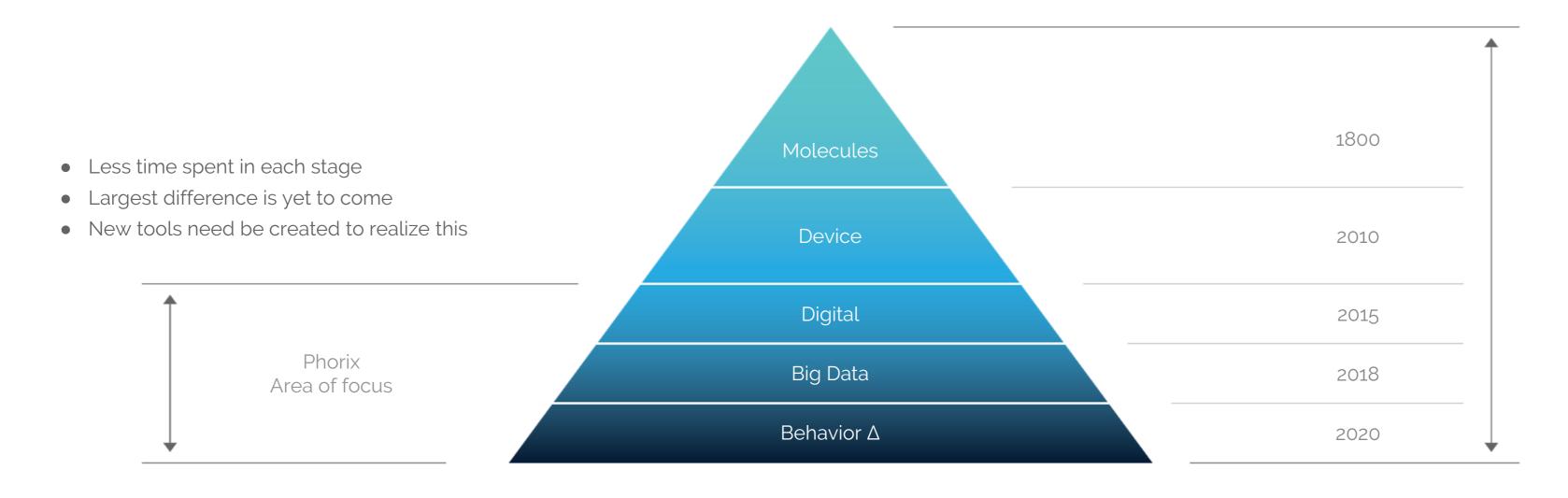
# **Consumer Disruption**

Disruptive business



AR/VR Automation Social Networks Big Data

# **Evolving The Healthcare Model**



# Healthcare Needs Information, Innovation & Technology







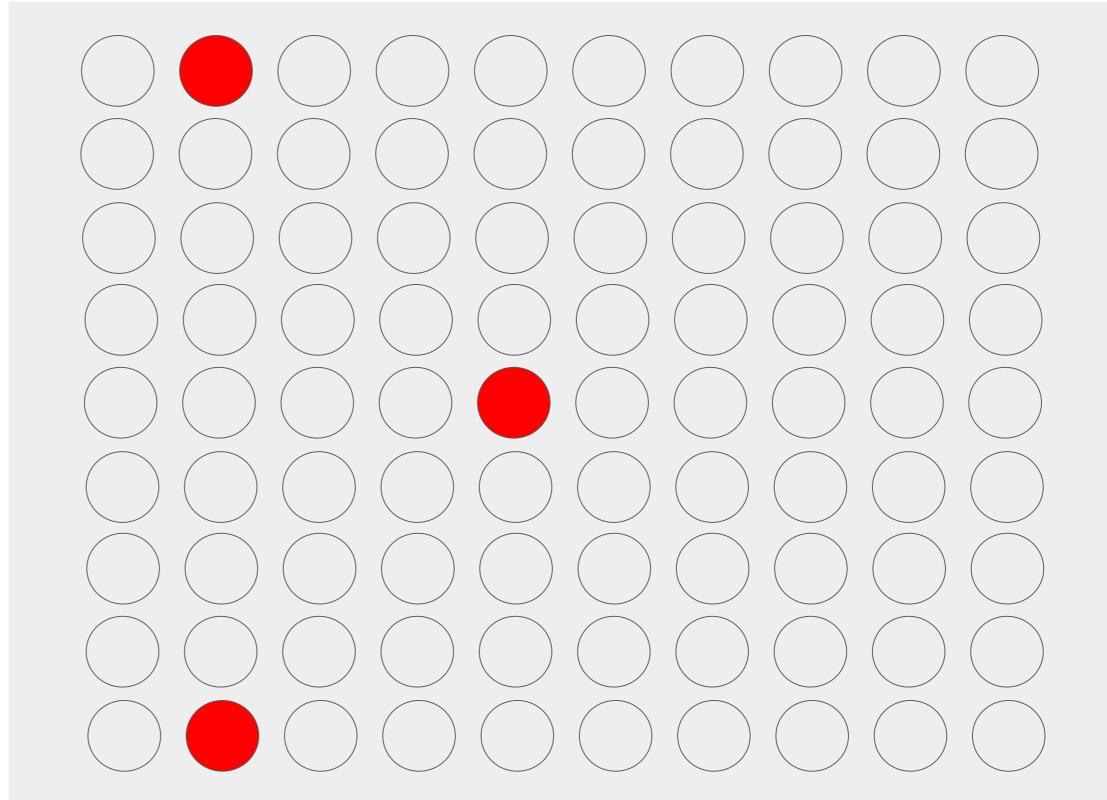


Stage	Research	Development	RealWorld	Commercial
Technology	Big Data	Sensors Machine Learning	Non Clinic Monitoring Robots (surgery/ Delivery/ engagement)	Digital Diagnostics At home monitoring Adherence/ Persistence Motivation Hospitalisation/ Readmission prevention
Outcome	Biomarkers Disease Understanding	Digital Biomarkers Higher sampling/ Objectivity Better analysis of data Potentially faster better quality trials Better understanding of efficacy Automation	Better epidemiology Population screening Prevalence/ incidence RealWorld effect of interventions	Better diagnosis Improved adherence Better QoL



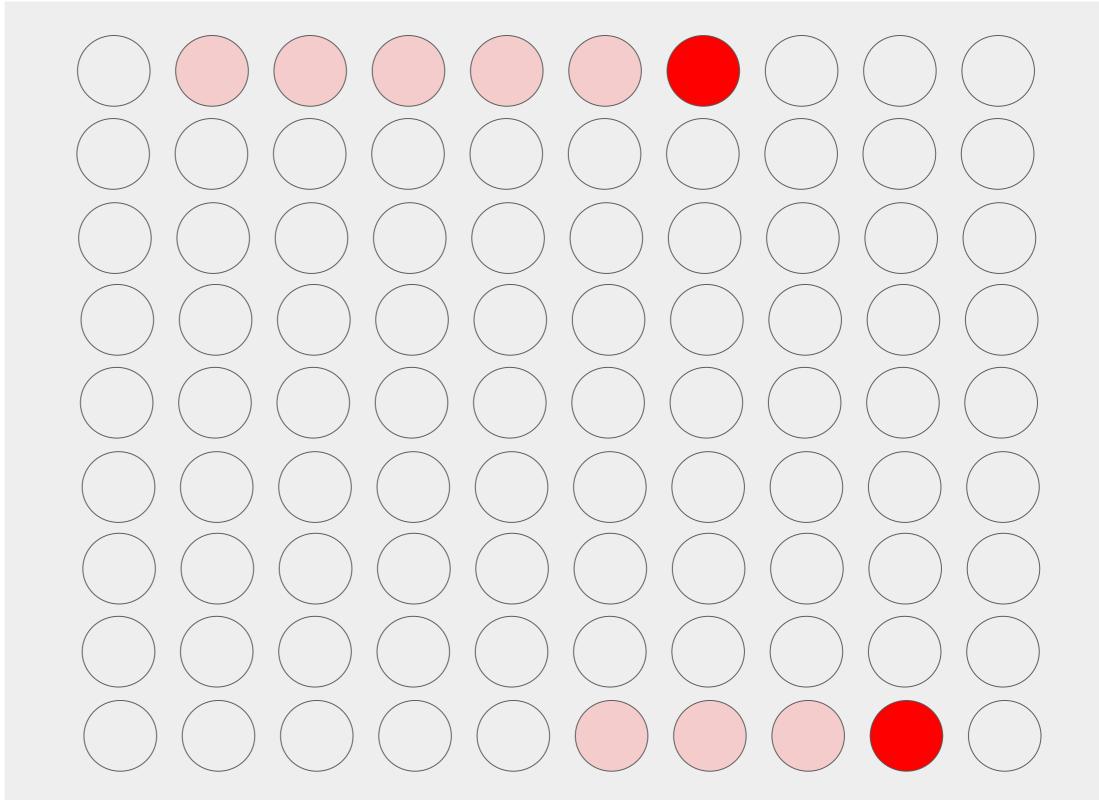
# **Analog Healthcare**

The usual pattern of clinical observation Sporadic



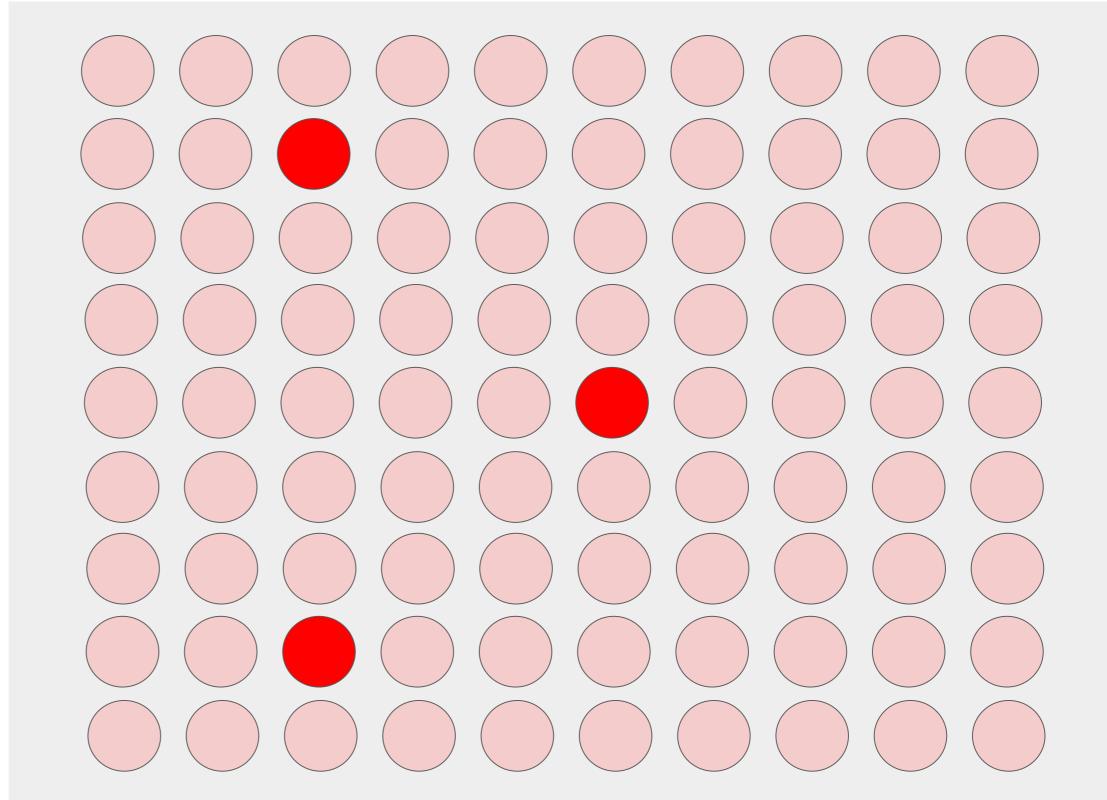
# **Diary Based Recall**

Diaries / PRO often only provide accurate observations for a few day prior to consultation



# **Digital Biomarkers**

Consultations have a full picture of health not just a snapshot





# The Digital Future

**Preventative** 

Data, Digital Tools & Evidence based Pharma/ Non Pharma Interventions

**Predictive** 

Machine Learning will predict events avoiding higher cost interventions

**Prescriptive** 

Interventions will be algorithm driven based on clinical trial and RW data

Personalised

Interventions will be personalised matching individual to population data

**Precision** 

Healthcare will take an "Always-on" approach to monitoring and decisions

### **Choice Architecture**

#### From ever-present to hyper-relevant

Behavioural change for patients becomes possible with digital nudges. Digital devices will become hyper-relevant at times where we have little daily choices to make and help us navigate a better path.

- Medication adherence
- Physical activity
- Neurological activity
- Sleep
- Location
- Stress



## **Health Care Location**

From Doctor's office to Smart Health spaces

The place that healthcare takes place is moving from the hospital and GP surgery to other smart spaces. The connected consumer home is now becoming the connected Healthcare home.



# **Machine Learning and Al**

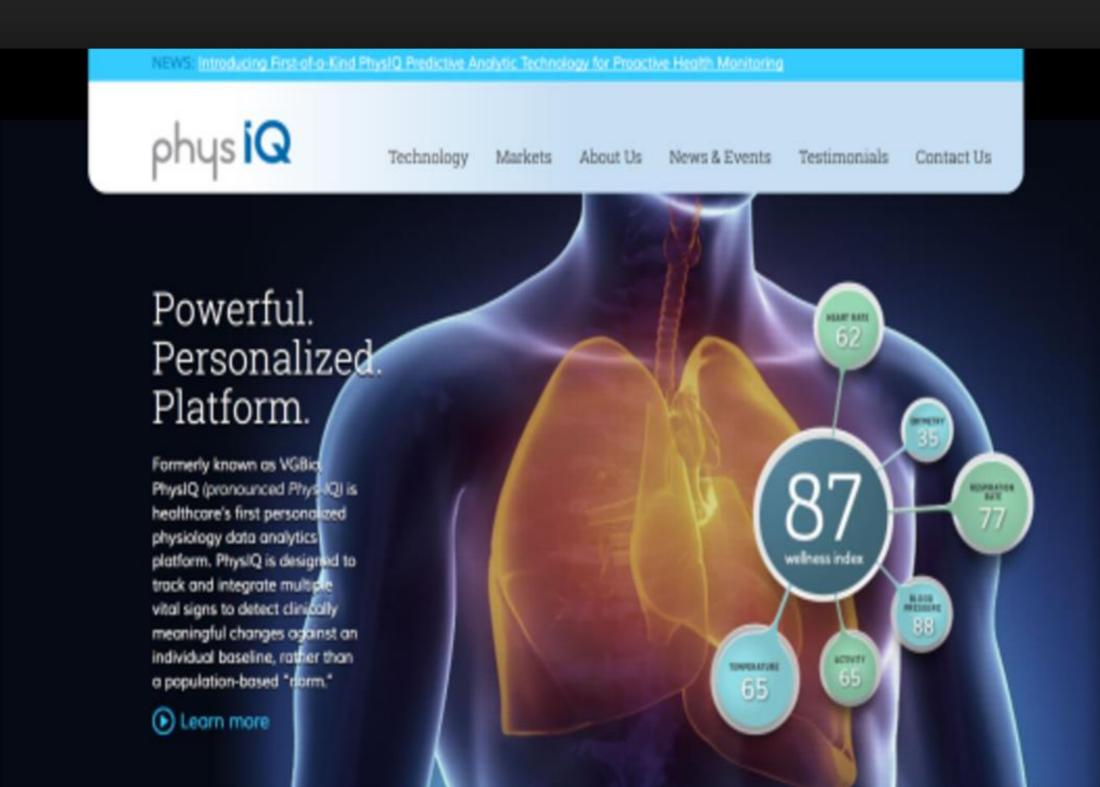
#### **Use Cases**

- Imagining
- Decision making
- Predictive analytics
- Medical Assistants

Companies

Zebra Medical

PhysIQ



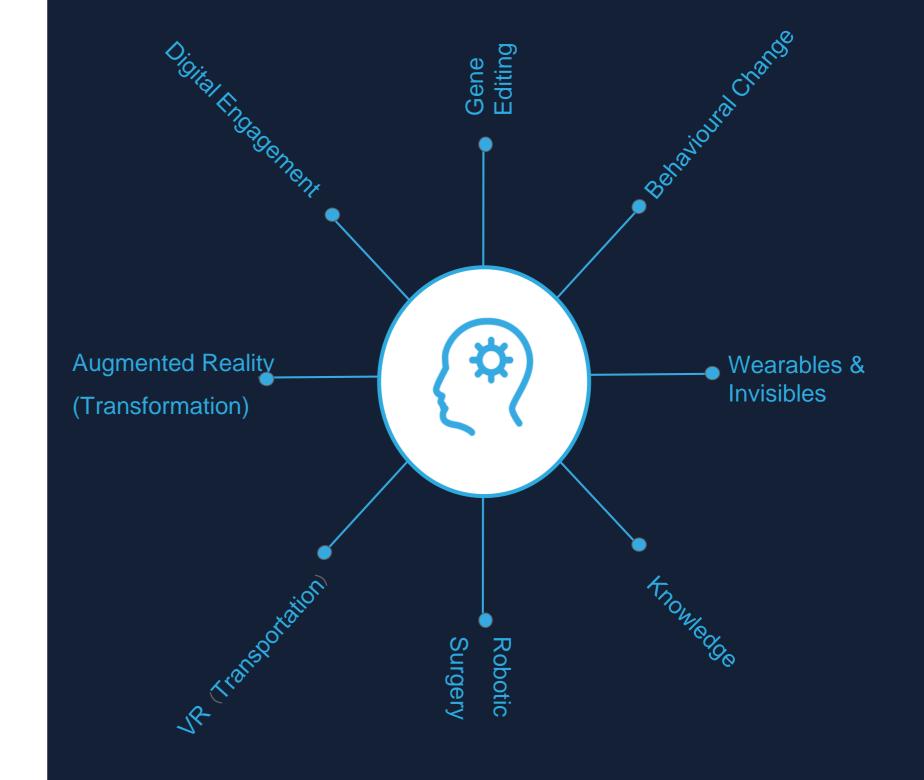
# Virtual Reality / Augmented Reality Healthcare



# **Summary Pharma 3.0**

There are 8 themes That will change healthcare as technology intersects with biology.

- Behavioural Change
- Wearables and Invisibles
- Robotic Surgery
- VR (Transportation)
- AR (Transformation)
- Gene Editing
- Digital Engagement
- Knowledge





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