

Verdien av egengenerert helsesdata

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Patient Generated Data is not new, but has taken on a much bigger role in this new era of data abundance and ubiquitous connectivity. The range of data that is included is wide, but can be classified into one of five functional groups



Clinical data

Remote monitoring devices, prescription compliance



Lifestyle and Behavioral data

Lifestyle choices, preferences, activities, QoL



Environmental/Contextual and Geographical data

*Temperature, humidity, pollen count
Closest hospital, pharmacy, care clinic*



Demographics and Profile data

Age, Address, Employer, Industry






Social data

Friends, Family, Affiliations, Communication, Activities









**Patient
Generated
Data
(PGD)**

Example of valuation of users: Lifestyle and behavioral data

Company	Valuation	Key functionality
	<ul style="list-style-type: none">▪ \$ 4.1 B after IPO, currently trading at \$ 7.0 Billion▪ 21 Million users▪ \$ 330 per user	<ul style="list-style-type: none">▪ Wearable device, measuring steps, calories burned, floors climbed▪ Advanced version heart rate and exercise route
	<ul style="list-style-type: none">▪ Acquired by Under Armour for \$ 475 Million▪ 80 million users▪ \$ 5,90 per user	<ul style="list-style-type: none">▪ US based company▪ Mobile community applications▪ Measuring calorie counter, diet tracking and suggestions
	<ul style="list-style-type: none">▪ Acquired by Under Armour for \$ 85 Million▪ 20 million users▪ \$ 4,25 per user	<ul style="list-style-type: none">▪ Danish company▪ Mobile community application▪ Measuring sports activity, steps, routes, duration and heart beat if puls belt connected

Patient Generated Data can generate significant value for healthcare providers

Value drivers	Key metrics	Example of demonstrated PGD value
 <p>Improve patient experience and satisfaction</p>	<ul style="list-style-type: none"> HCAHPS satisfaction scores Patient reported satisfaction Leapfrog rankings 	<ul style="list-style-type: none"> Patient engagement can increase a patient's customer experience A Geisinger study of 30,000 patients showed patients with the lowest patient engagement levels cost 8-21% more
 <p>Expand access to care</p>	<ul style="list-style-type: none"> Time spent per patient Lead time for scheduling appointments Level of community coverage 	<ul style="list-style-type: none"> Mobile applications can reduce in-office time spent on unnecessary forms and paperwork A mobile enabled program at the VA led to a 15 % increase in same-day primary care physician appointment availability
 <p>Improve clinical outcomes and quality of care</p>	<ul style="list-style-type: none"> Condition specific parameters indicative successful treatment (e.g. blood pressure level) Medicare star rating 	<ul style="list-style-type: none"> Mobile enabled patient engagement programs can improve compliance and lead to better outcomes Partners' Cardiac Connect program reduced readmissions by 51%
 <p>Expand / retain membership</p>	<ul style="list-style-type: none"> Patient enrollment Patient turnover 	<ul style="list-style-type: none"> PGD capabilities creates differentiation from competition and can add to patient stickiness John Hopkins Hospital's mobile app for depression monitoring caused an increase in patient retention
 <p>Optimize utilization</p>	<ul style="list-style-type: none"> Readmission rate Reduction of excess care Reduction of hospital acquired illness 	<ul style="list-style-type: none"> Remote monitoring and intervention can keep sub-acute encounters out of the hospital A coordinated care model at Intermountain resulted in 10% reduction in hospitalizations for normal Medicare patients
 <p>Optimize operational efficiency</p>	<ul style="list-style-type: none"> Average length of stay Reduction of clinical variability Reduction in supply utilization 	<ul style="list-style-type: none"> Analytics of PGD help clinicians identify and reduce variability in care and reduce costs Intermountain obstetrics program based on analysis of delivery risk data estimated to save \$50M per year

SOURCE: Health Affairs; New Era Of Patient Engagement

Continuous care through diabetes sensors



Sensor picks up on higher than average blood sugar levels. These levels are recorded in her chart



Sensor picks up that Carrie's blood sugar levels are well out of the normal range

Carrie's physicians sees her sensor data and is able to identify key trends based on medication and lifestyle, allowing her to better treat Carrie

September
1-20

September
21

September
22-25

September
26

September
28-30

Sensor monitors Carrie's blood sugar levels and reports this back to her chart, identifying key trends and vitals

In Carrie's personal online portal, she receives a notice that she should consider changing her diet to include less sugar

Carrie does not heed the warning of changing her diet and her blood sugar levels continue to rise

Carrie is contacted directly and asked to come into the urgent care facility



Glooko is an example of predictive diabetes care

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After Arriving On Android, Glooko Lands \$7M From Samsung & More To Bring Predictive Diabetes Care Global

Posted Jan 8, 2014 by Rip Empson (@ripemp)

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The proliferation of connected devices, coupled with rapid advances in data analytics and sensor technology, has fundamentally changed the way people interact with and manage their health. Thanks to smartphones and a new generation of smart, wearable gadgets, it's now easier than ever before to monitor and analyze a dizzying array of inputs and physiological signals and inputs — from your heart rate and calorie intake to your biorhythms and stress levels.

The promise of today's health apps is that, by leveraging mobility and realtime analytics, they can help Average Joes like you and me transform biometric data into something more substantial Information, knowledge and changes in behavior. While the market continues to brim with all manners of behavioral change and health management apps, only a tiny fraction of startups are addressing an area in which health management and tracking technology could (arguably) have the greatest impact: Chronic diseases and conditions.

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Glooko	
FOUNDED 2010	
OVERVIEW	
Glooko is an innovative Silicon Valley company with a unique diabetes management solution for patients, health systems, and payer groups. Glooko's products - the Glooko mobile apps, MeterSync Cable for iOS and Android, and the Glooko Web Dashboard -	

Several providers have launched initiatives to capture this value from PGD

○ Size of bubble = Number of initiatives
 ● Cleveland Clinic ● Geisinger ● Intermountain ● Mayo Clinic ● PartnersHealth

Use case portfolio of leading innovators

Stage of care

Chronic

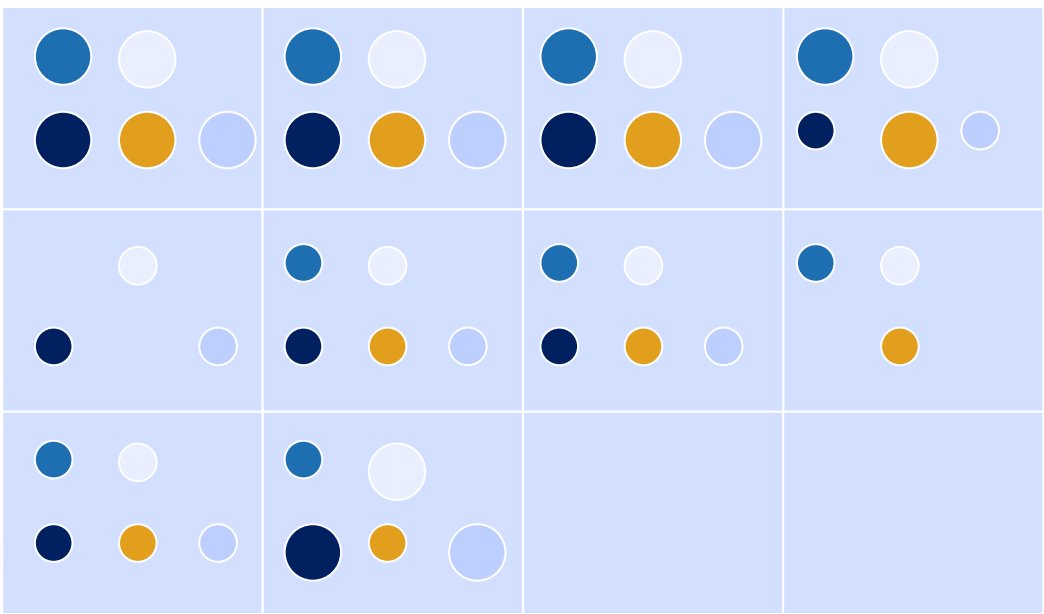
- Chronic conditions
- High-risk patients
- Patient reported outcomes

Episodic

- Remote clinician intervention
- Pre-visit intake process

Wellness

- Mobile activity tracker
- Patient engagement



Continuous care

- Remote monitoring

Patient engagement

- Behavioral modification
- Patient engagement
- Education

Customized care

- Physician / patient alerts
- Care optimization based on user feedback preference

Research into better care

- Population health informatics
- Outcomes analysis
- Risk stratification

Use case themes

Value at stake

Not just financial...

\$300-450 billion value at stake from Healthcare analytics (McKinsey report)

\$50-70 billion of these savings through performance measurement

Even a 3% increase in productivity due to better visualisation translates to **\$9 billion value** at stake

...But also saving lives

Better quality of care: There is a 8x to 10x variance in practice level performance for A&E usage and NEL admissions in the UK, what if this information was available to every patient before registering with their GP practice?

Better access to care: Less than 25% of sampled UK population access healthcare related information online as compared to >80% who access their banks online

Privacy, security, legal: Who has access to what; how are the data protected; what are the legal implications?

Questions

Privacy

- How sensitive are the data?
- Who has access to the data?
- How is patient transparency measured / monitored?
- What level of patient consent?

Security

- How are data protected?
- Who is responsible?
- What risk mitigation plans are in place?
- How do you ensure device compatibility with relevant company standards?

Legal and compliance

- How can the data be used?
- What are the legal considerations / issues?
- Does the new data change any legal liability?

