Global HealthTech Investment Report

Investment Banking | 2016

IBIS Capital
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London W1D 4NS, UK

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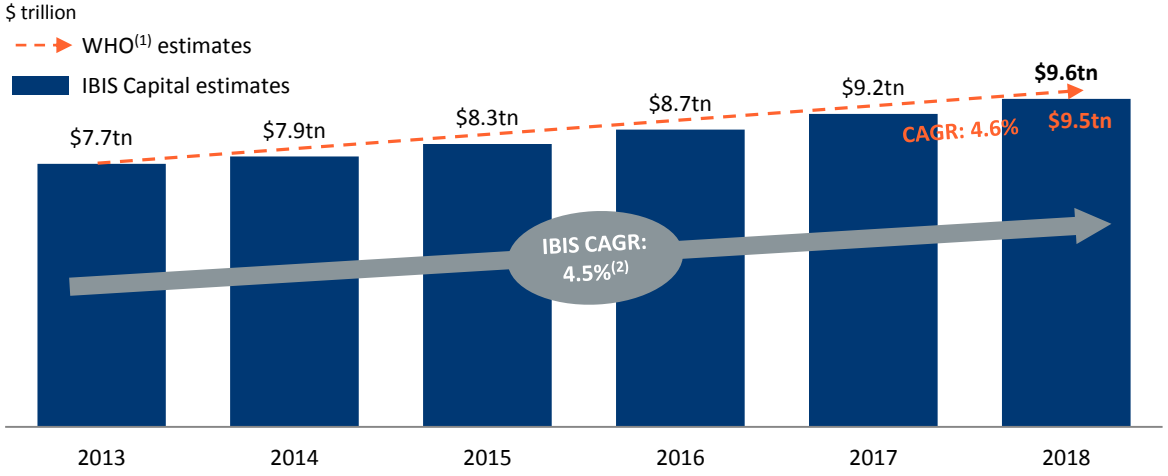
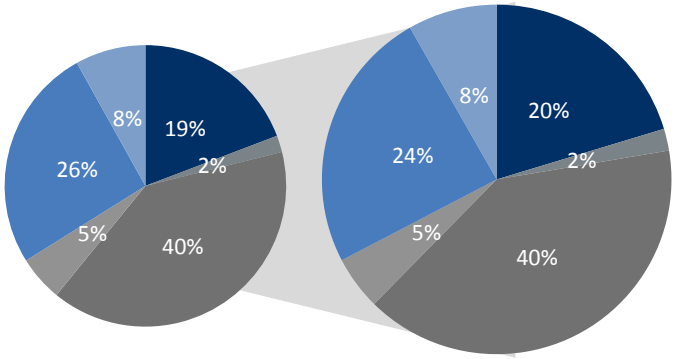
The Global Healthcare Market

Key Challenges Facing Healthcare Systems

2013 – 2018 Global Healthcare Expenditure



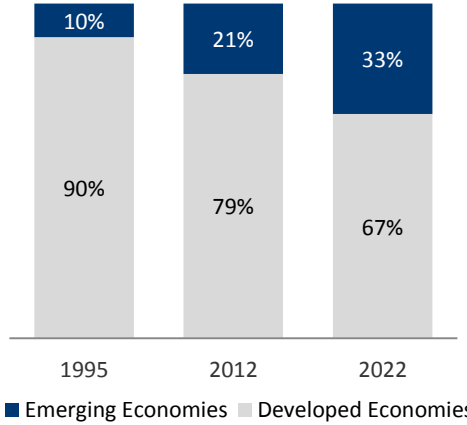
Geographic Breakdown (2013 – 2018)



Geography (2013 – 2018 CAGR)

- Asia Pacific (6%)
- Rest of World (5%)
- Europe (3%)
- Latin America (4%)
- North America (5%)
- Middle East & Africa (6%)

Emerging vs. Developed Economies Healthcare Expenditure Breakdown (1995 – 2022)(2)



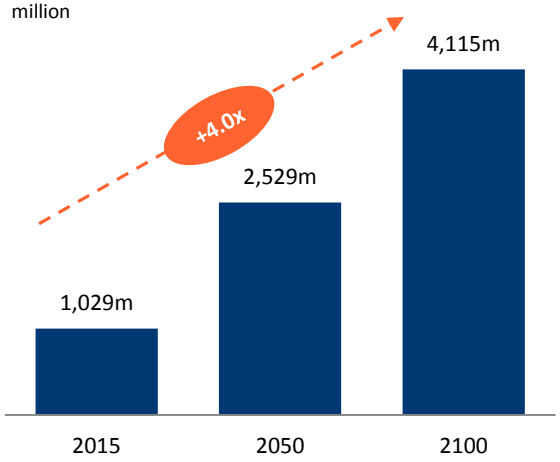
- Global healthcare is becoming unsustainable due to increasing challenges such as population growth, increased life expectancies and more chronic conditions that are squeezing global healthcare budgets. Health spending is estimated to accelerate, rising at an average of 5% per year in 2015-2018 to $9.6tn. Such a financial trend is unsustainable. As demand rises, the pressure to reduce costs and demonstrate value is intensifying

Source: IBIS Capital, World Bank
1) World Health Organisation
2) World Economic Forum

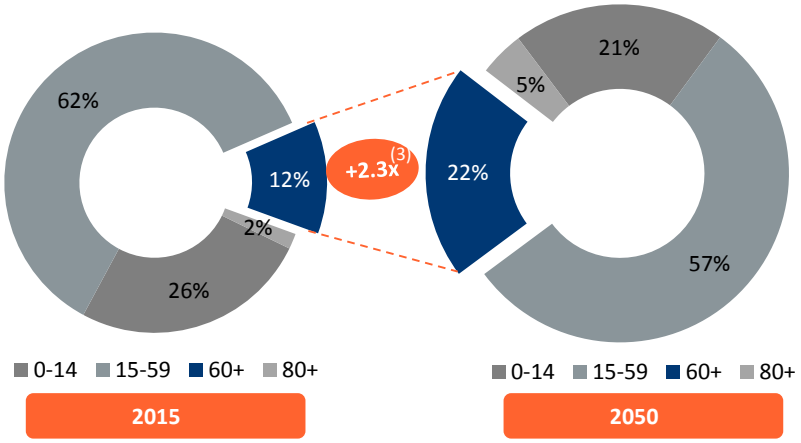
Ageing Populations and Increasing Life Expectancies Driving Healthcare Costs

Additional Demand for Healthcare Services Primarily from Europe and Emerging Economies

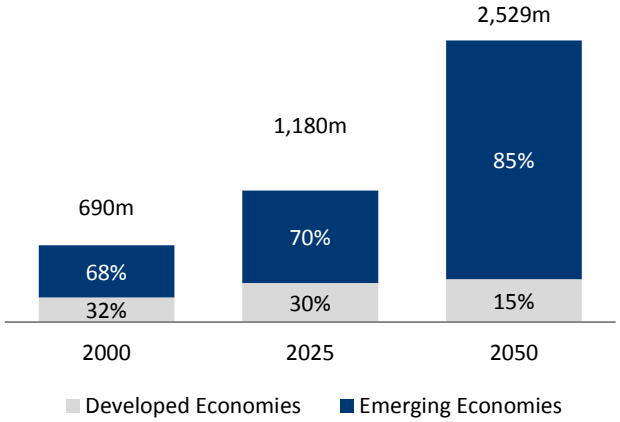
2015 – 2100 World Population over 60[1]



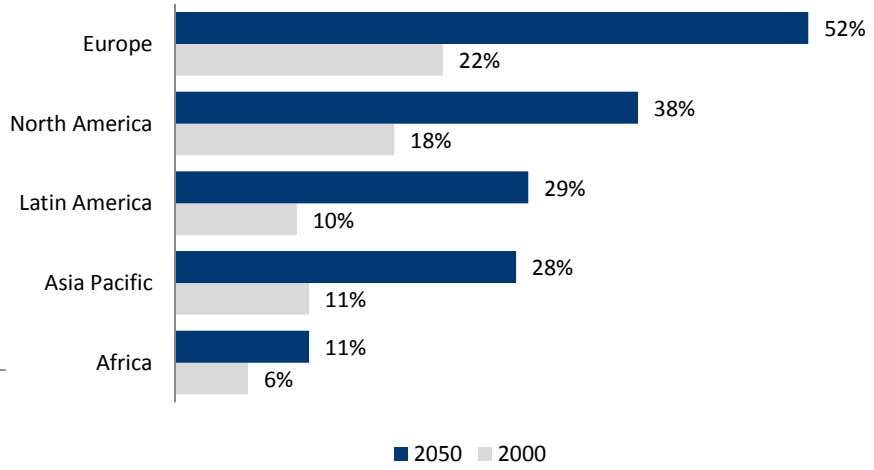
2015 – 2050 Percentage Distribution by Age Group[1]



Emerging vs. Developed Economies World Population over 60 (2000 – 2050)[1]



Old-Age Dependency Ratio[2] (2000 – 2050)[1]

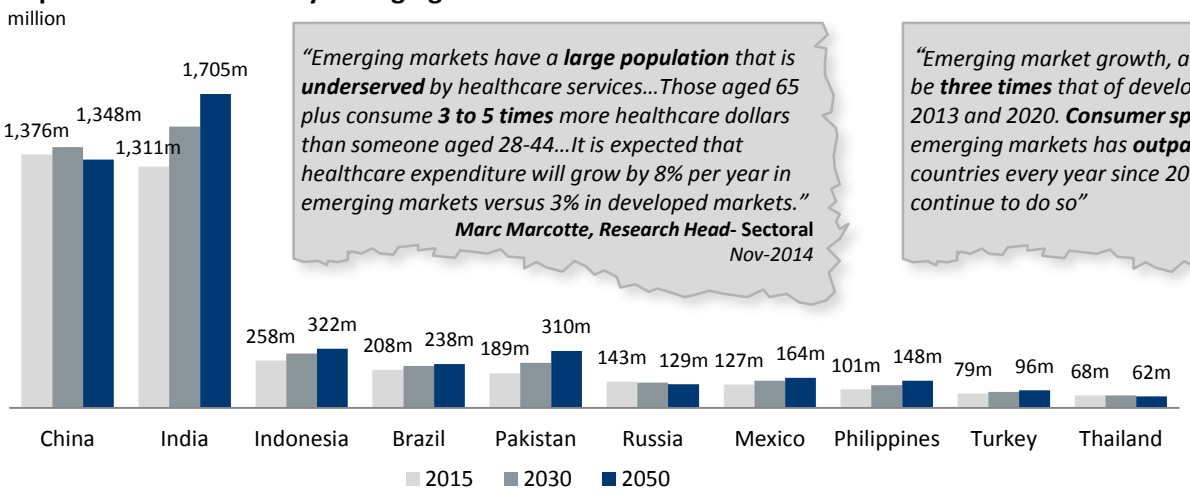


- The global population over 60 is expected to more than double over the next half century to reach 2.5bn by 2050. Much of the gain in life expectancy can be attributed to treatment advances, falling mortality rates in emerging economies and the fight against communicable diseases via better sanitation and improved living conditions
- However, ageing populations and increasing life expectancies are anticipated to place a huge burden on healthcare system budgets in markets such as Western Europe, North America and emerging economies
  - Europe currently has the world's highest proportion of older individuals and is projected to retain that distinction for the next 50 years. 37% of the European population is projected to be 60 or over in 2050 compared to 10% in Africa
  - The current global growth rate between 2000-2050 of the older population at 3% is significantly higher than that of the total population at 1% and the spread between the two rates is expected to become even larger as the baby-boom generation starts reaching older ages

Source: IBIS Capital
1) United Nations
2) Defined as people 65 or older who are in some sense dependent on the population in the working ages of 15-64
3) Value increment

Population Growth and Rising Disposable Incomes in Emerging Markets are Increasing Healthcare Demand and Spending

Population Growth in Key Emerging Economies[1]



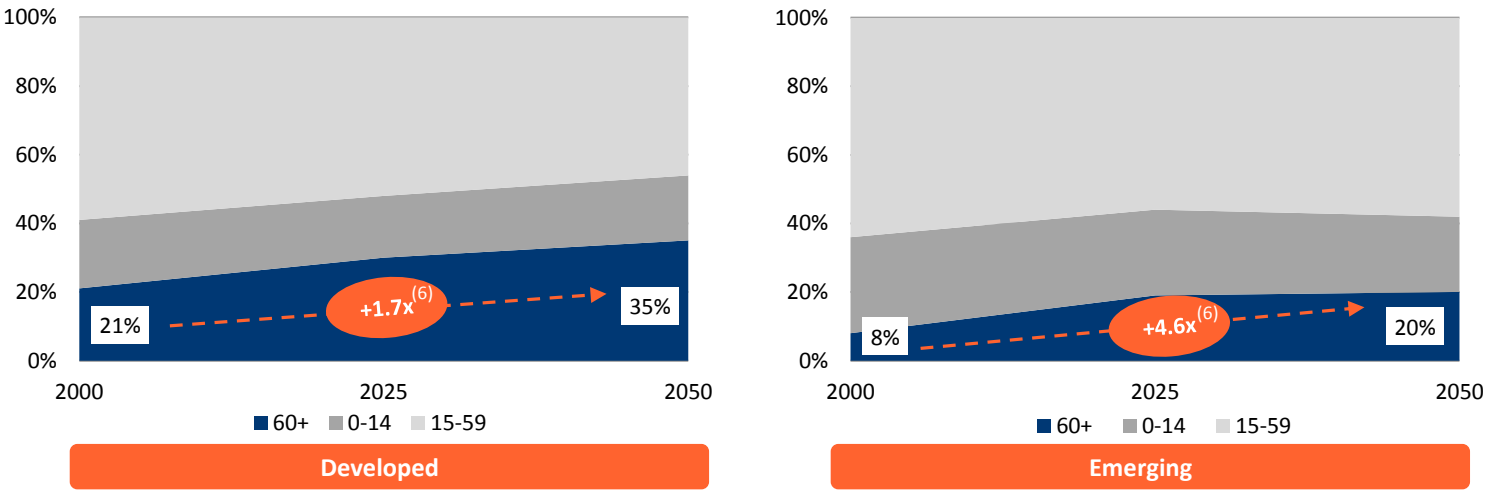
*"Emerging markets have a **large population** that is **underserved** by healthcare services…Those aged 65 plus consume **3 to 5 times** more healthcare dollars than someone aged 28-44…It is expected that healthcare expenditure will grow by 8% per year in emerging markets versus 3% in developed markets."*

***Marc Marcotte, Research Head*- Sectoral**
Nov-2014

*"Emerging market growth, at 43.4%, is forecast to be **three times** that of developed markets between 2013 and 2020. **Consumer spending** growth in emerging markets has **outpaced** that of developed countries every year since 2000 and is expected to continue to do so"*

Euromonitor International
Mar-2014

Developed vs. Emerging Economies Distribution of Population by Age Group[2]

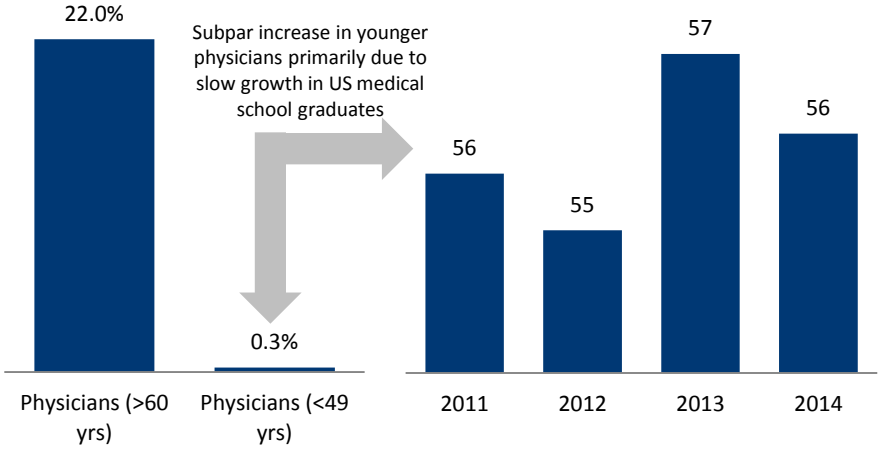


- Population growth and rising household spending in emerging economies are anticipated to drive healthcare spending and demand in 2015 and beyond
  - Emerging economies represented 85% of the world's population and 90% of those under age 30 in 2014. Their total population is expected to grow at three times the rate of developed economies through to 2020[3]
  - By 2018, the number of high income households[4] will rise globally by about 30% to nearly 570m, with over one-half of that growth coming from Asia[5]
- Age-distribution changes in emerging economies have been gradual but will accelerate over the next 50 years; The proportion of older people between 2000 and 2050 will increase by 4.6x and the proportion of children will fall by 0.3x
  - Argentina, Thailand and China are projected to experience a rapid increase in ageing population combined with a sharp decline in the number of young people primarily due to impact of family size policies[5]

Source: IBIS Capital
1) World Health Organisation
2) United Nations
3) ICEF Monitor
4) A household earning over $25,000/year
5) Deloitte
6) Value increment

Workforce Shortages and Chronic Diseases are Major Contributors to Healthcare Costs

2012 – 2014 US Older vs. Younger Physicians Growth[1]



2012 – 2014 US Medical School Graduates per 100k Population[2]

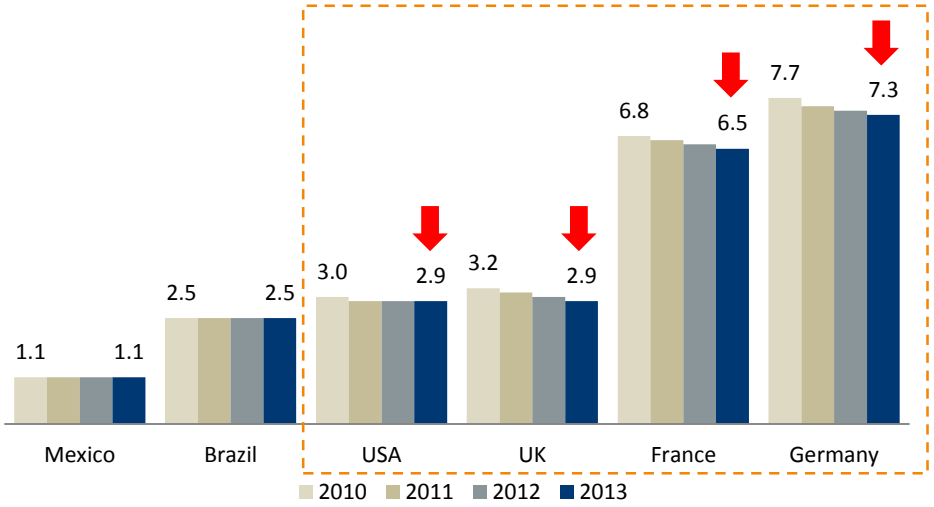
Total deaths from diabetes are projected **to** rise by more than **50%** in the next 10 years[3]

Tobacco will kill **7.5m** people per year, accounting for 10% of all deaths worldwide[3]

Non-communicable diseases (NCD) kill **38m** people per year[3]. Cardiovascular diseases cause the most NCD deaths at 17.5m people annually[3]

More than **1.9bn** adults were overweight[4,5] in 2014 and **13%** were obese[3,6]

Hospital Beds per 1,000 People in Key Countries[8]



- Chronic diseases are the leading cause of mortality in the world representing 63% of all deaths[3]. Cancer, heart disease and diabetes are becoming major killers especially in emerging economies
  - China, with 98m diabetics has overtaken India (65m) as the world leader in diabetes cases in 2014[7]
- The rise of lifestyle-related chronic diseases is increasing demand and health care spending which may be out of reach for many consumers especially in emerging economies
- As population and healthcare needs grow, developed and emerging economies are struggling to supply adequate numbers of trained, qualified healthcare professionals
  - Large number of medical professionals are reaching retirement age with fewer healthcare professionals being trained and licensed. Workforce shortages together with poor healthcare infrastructure evidenced by varying hospital bed provision between countries also drive up costs and hospitalisation rates

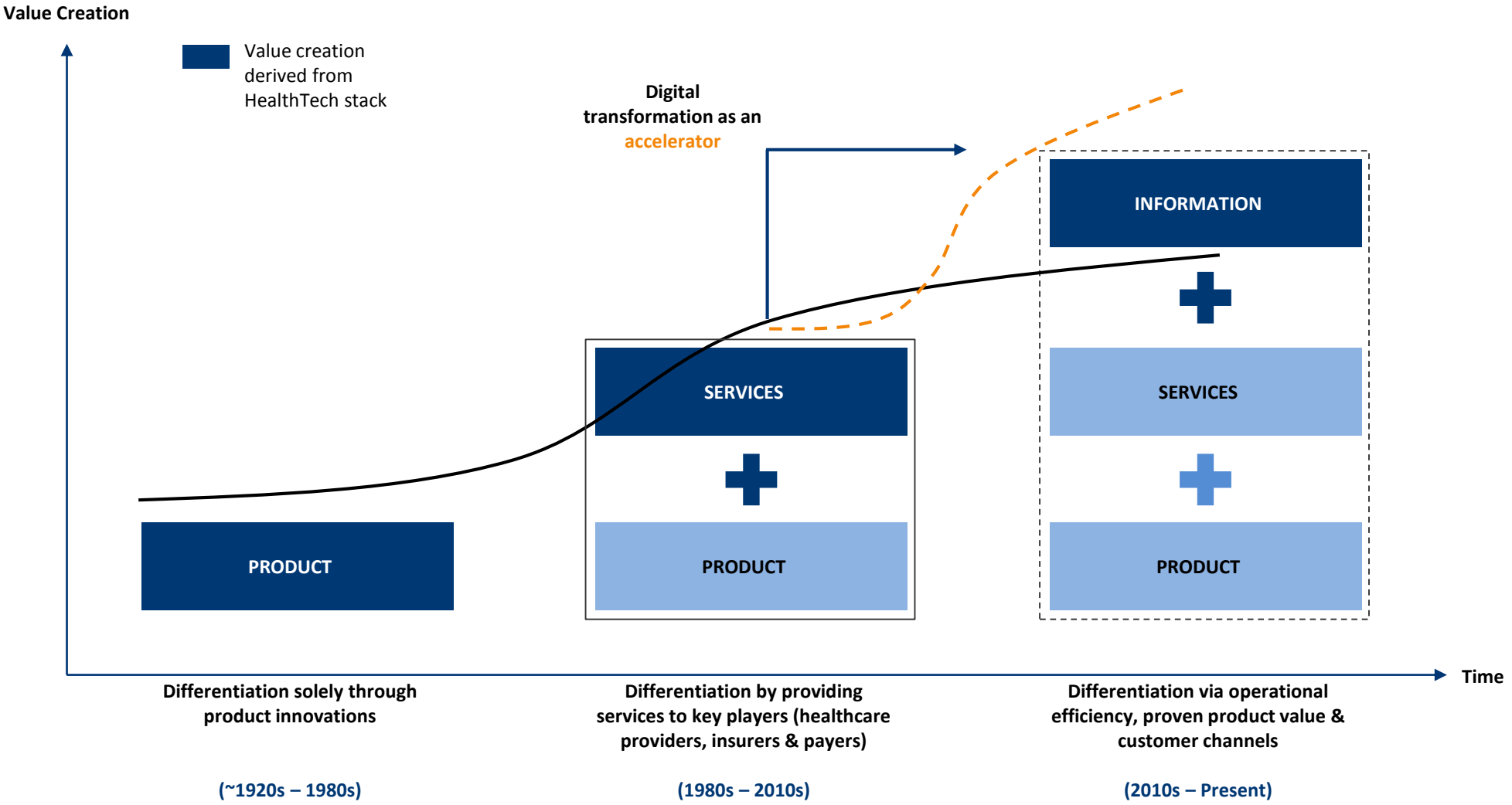
Source: IBIS Capital

1) Census of Actively Licensed Physicians
2) Association of American Medical Colleges
3) World Health Organisation 2015
4) Defined as chronic diseases that are not passed from person to person
5) Defined as Body Mass Index (person's weight in kilograms divided by the square of height in meters) greater than or equal to 25
6) Defined as Body Mass Index (person's weight in kilograms divided by the square of height in meters) greater than or equal to 30
7) International Diabetes Federation
8) Economic Intelligence Unit

Solving Healthcare Challenges by Marrying Medicine and Technology

Digital Transformation Impacts the Healthcare Space Far Beyond the Product by Tapping into the Information Dimension

Evolution of the Healthcare Product Offering



Overview of HealthTech

Distinctions Between Key Subsectors

HEALTHTECH

TELEHEALTH

- Remote exchange of data between a patient at home and their clinician(s) to assist in diagnosis and monitoring
- It involves the delivery of health-related services and information via telecommunications technologies
- Telehealth could range from two health professionals discussing a case over the telephone to measuring/monitoring health conditions at a remote location through fixed or mobile home units using phone lines or wireless technology for clinical review

CareCam HEALTH SYSTEMS · Teladoc · DOCTOR ON DEMAND · corventis

MOBILE HEALTH

- Practice and delivery of medicine and public health supported by mobile communication devices
- mHealth technologies include:
  - Patient monitoring devices
  - Mobile telemedicine/telecare devices
  - MP3 players for mLearning
  - Mobile Operating System Technology
  - Mobile applications (e.g. gamified/social wellness solutions)

fitbit · BASIS · JAWBONE · BODYMEDIA

ELECTRONIC HEALTH RECORDS (EHR) / ELECTRONIC MEDICAL RECORDS (EMR)

- Systematized collection of patient and population electronically-stored health information in a digital format
- Records are shared through network-connected, enterprise-wide information systems or other information networks and exchanges
- The EHR is defined as a longitudinal collection of the electronic health information of individual patients or populations
- The EMR is defined as the patient record created by providers for specific encounters which serves as a data source for an EHR

patientkeeper · AkēLex Smart Healthcare · hellohealth · PROGNOSIS Health Information Systems

WIRELESS HEALTH

- Integration of wireless technology into traditional medicine, such as diagnosis, monitoring and treatment of illness, as well as other tools that can help individuals improve their personal health and wellbeing
- Wireless health differs from mHealth in that wireless health solutions will not always be mobile and mobile health solutions will not always be wirelessly enabled

motherknows · eCaring · Lively · Caring.com

OTHER

- Includes areas such as personal genomics, bionics, implantable/ingestible technology, 3D bioprinting

ekso BIONICS · Medrobotics · organovo · proteus DIGITAL HEALTH

The Global HealthTech Market

Robust Growth in Telehealth Patients, Devices and Rapidly Increasing Scale of the Global mHealth Market Driving Expenditure

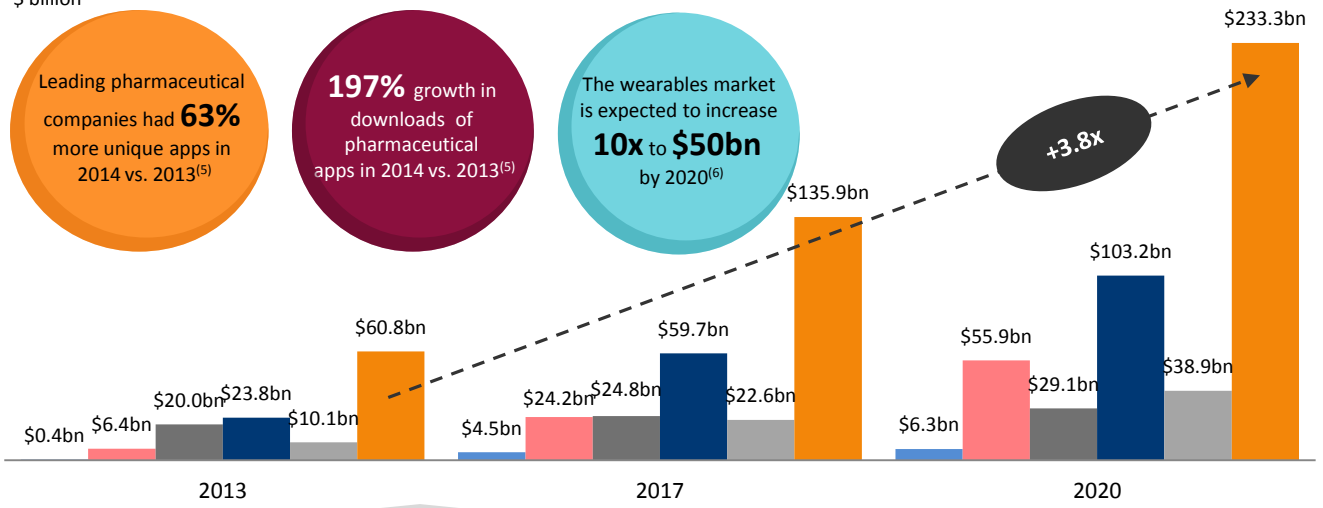
2013 – 2020 Global HealthTech Expenditure[1,2]

$ billion

Leading pharmaceutical companies had **63%** more unique apps in 2014 vs. 2013[5]

197% growth in downloads of pharmaceutical apps in 2014 vs. 2013[5]

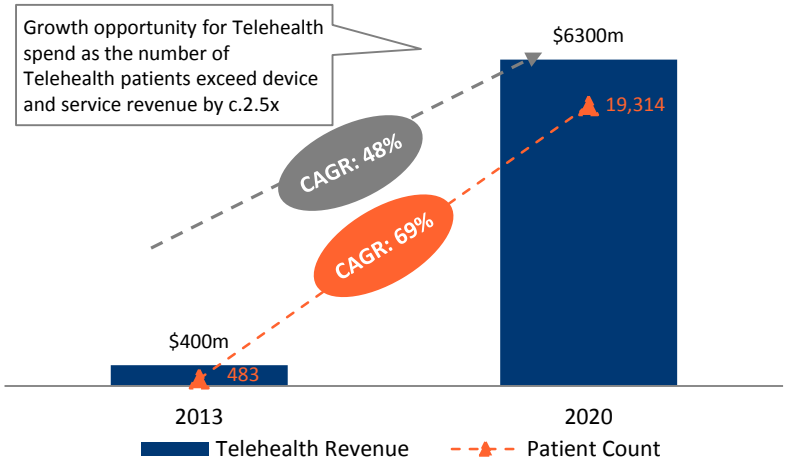
The wearables market is expected to increase **10x** to **$50bn** by 2020[6]



	2013 – 2020 CAGR	Growth in Value ($bn)
Telehealth	48%	5.9
Mobile Health	36%	49.5
EHR/EMR	6%	9.1
Wireless Health	23%	79.4
Other	21%	28.8
Total	21%	172.5

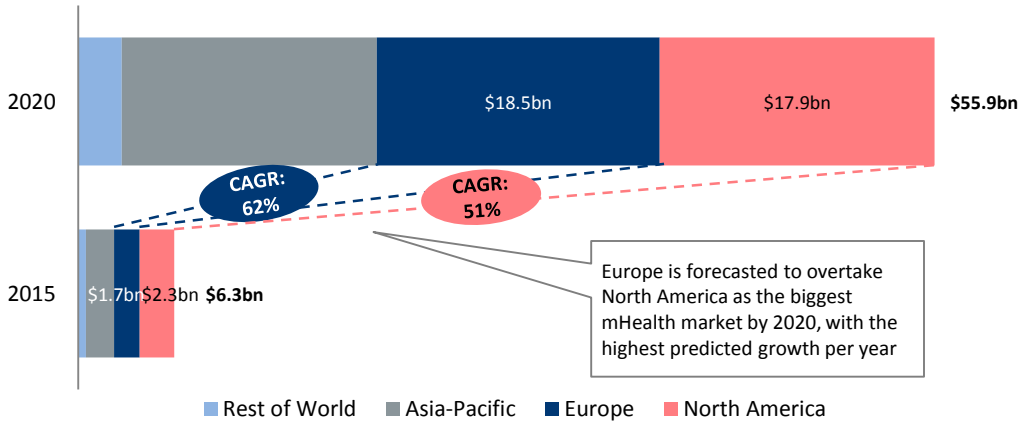
Global Forecast of Telehealth Patients and Telehealth Revenue[1,4]

Telehealth revenue $ million, Patient count thousand



2013 – 2020 Global mHealth Expenditure by Region[1,3]

$ billion



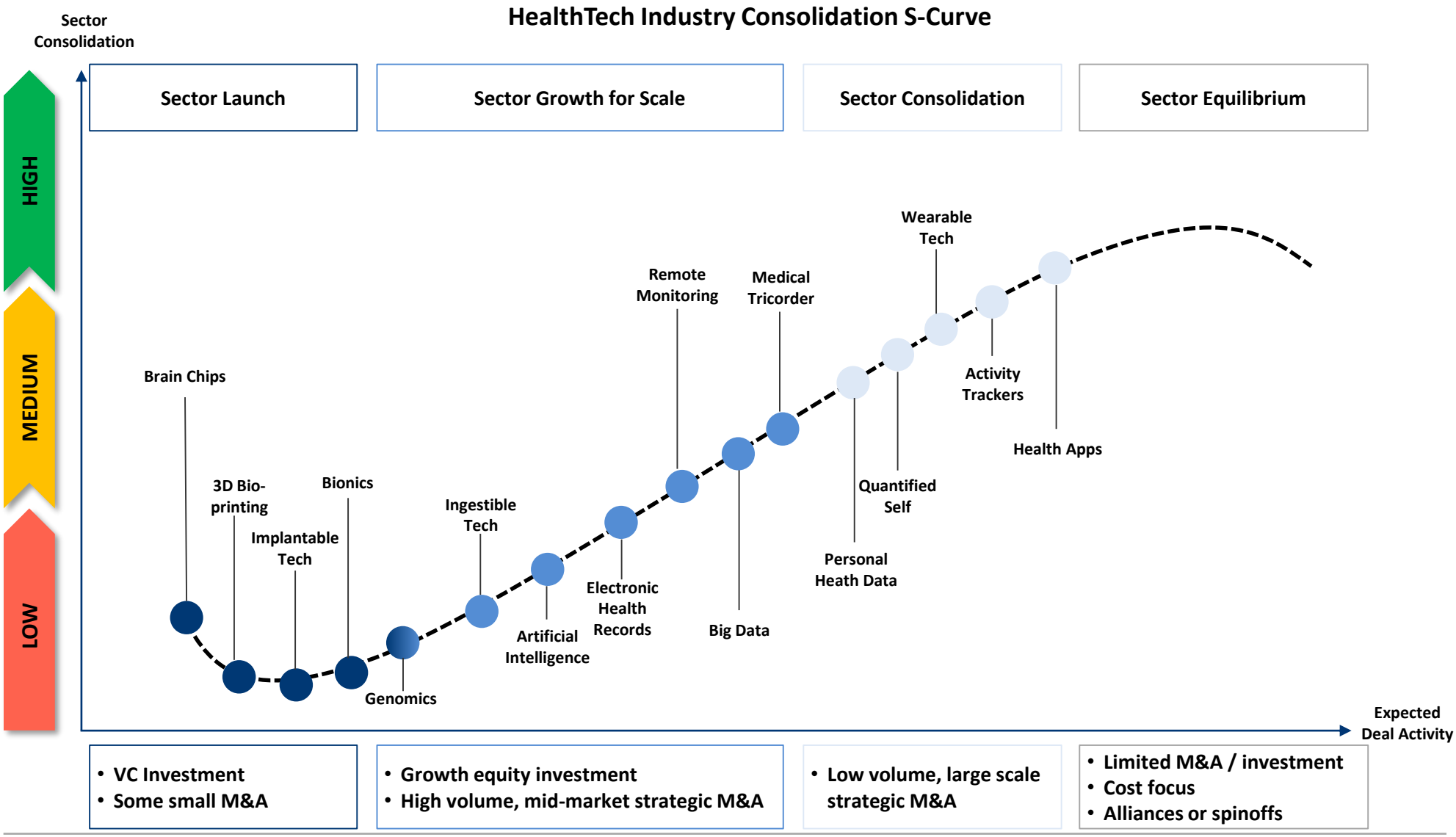
Source: IBIS Capital
1) P&S Market Research
2) Please refer to Slide 8 for category definitions
3) Deloitte
4) IHS Technology
5) Research2guidance 2014
6) mhealthnews.com

HealthTech Market Landscape

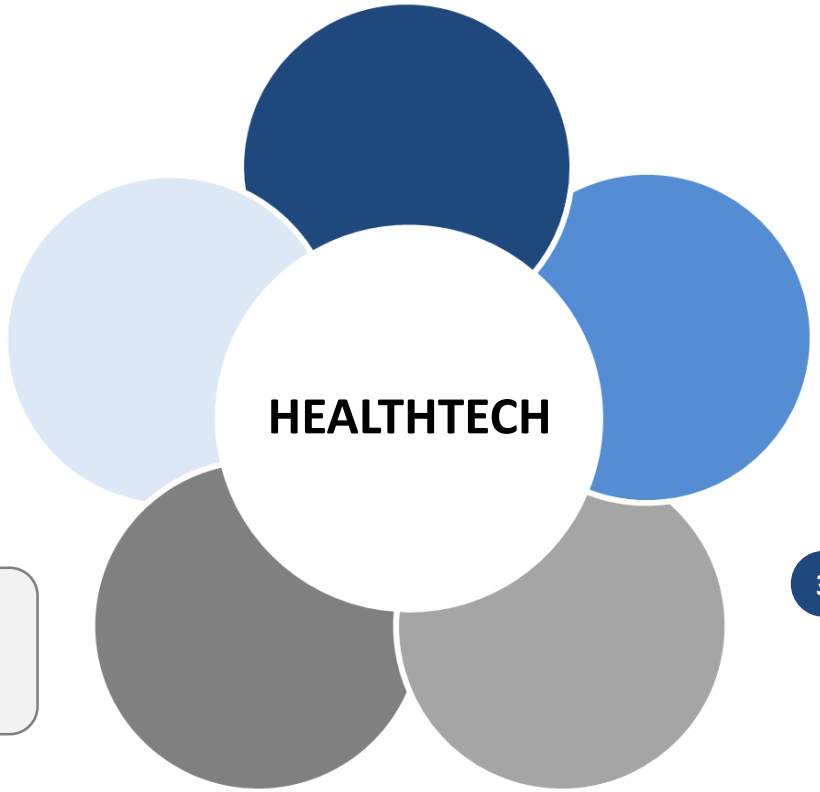
Key Sectors Ripe for Investment

Source: IBIS Capital
1) Internet of Things
2) Electronic Health Record / Electronic Medical record

Consolidation Rules Until the Next Innovation Wave



5 Sector Trends & Dynamics for HealthTech

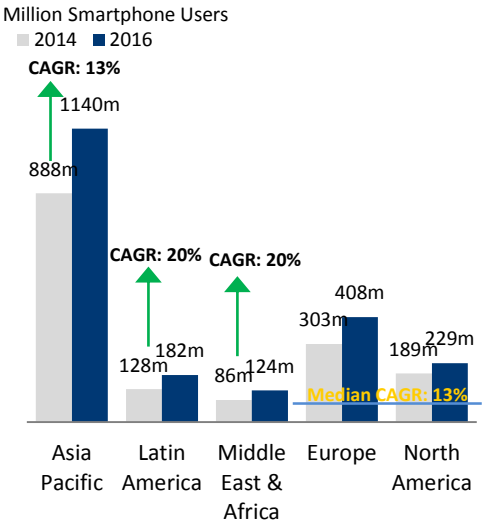


1. SMART MOBILE TECHNOLOGY TO ACCELERATE GLOBAL HEALTHTECH
2. SOCIAL MEDIA AND THE MILLENNIAL MINDSET SHAPING HEALTHCARE CONSUMPTION AND FUTURE DELIVERY
3. QUICKER PROGRESSION OF HEALTHTECH IN EMERGING ECONOMIES
4. BIG DATA ANALYTICS AND REMOTE MONITORING OPTIMISING THE QUALITY OF HEALTHCARE
5. WEARABLE TECHNOLOGY MOVING BEYOND A FASHION FAD

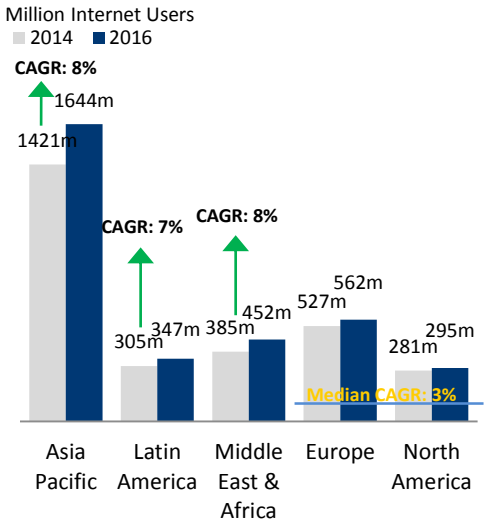
1 Smart Mobile Technology to Accelerate Global HealthTech

Growth in Smartphone, Internet Penetration and Improved Connectivity Driving Acceleration

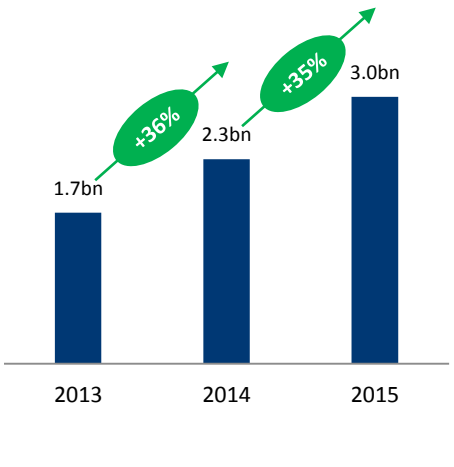
2014– 2016 Global Smartphone Penetration by Region[1]



2014 – 2016 Global Internet Penetration by Region[2]

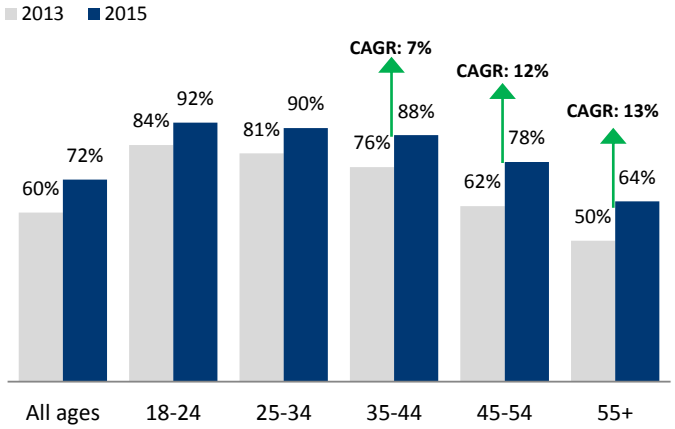


2013 – 2015 Estimated Total Downloads of Mobile Health Apps[3]

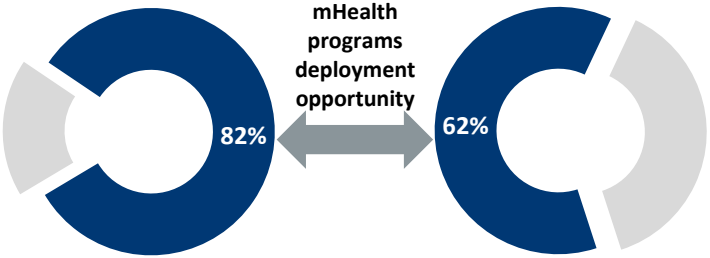


- Smartphones and mobile wireless devices are now a ubiquitous element in daily life
  - The number of health apps on the two leading platforms (iOS and Android) have more than doubled in less than 3 years to reach over 140,000[6] driven by the ownership of smartphones
  - UK smartphone penetration grew from 60% to 72% of the population with the older age groups (35+ and above) recording the highest growth[4]
- Emerging economies also provide huge opportunities for HealthTech. Increasing smartphone penetration in emerging economies lacking a health infrastructure is an important contributor to the disruption of traditional healthcare
  - Africa has 15 doctors per 100,000 inhabitants and 62% of the population live in rural areas with difficult access to medical facilities. Smartphone penetration reached 82% in 2014[5], establishing a trend to encourage implementation of low cost digital health technologies used to reach underserved populations remotely

2013 – 2015 UK Smartphone Penetration by Age Group[4]



2014 Smartphone Penetration vs. Rural Population in Africa[5]



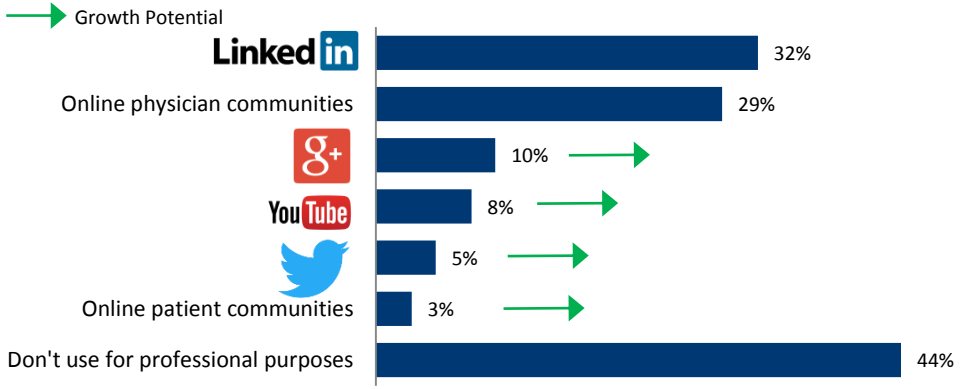
Smartphone penetration in Africa reached 82% in 2014

62% of the population in Africa live in rural areas where access to medical facilities is extremely difficult

Source:
1) eMarketer
2) IBIS Capital estimates
3) Research2guidance, 2015
4) Deloitte
5) Orange Healthcare
6) Research2guidance 2015

2 Social Media and the Millennial Mindset Shaping Healthcare Consumption and Future Delivery

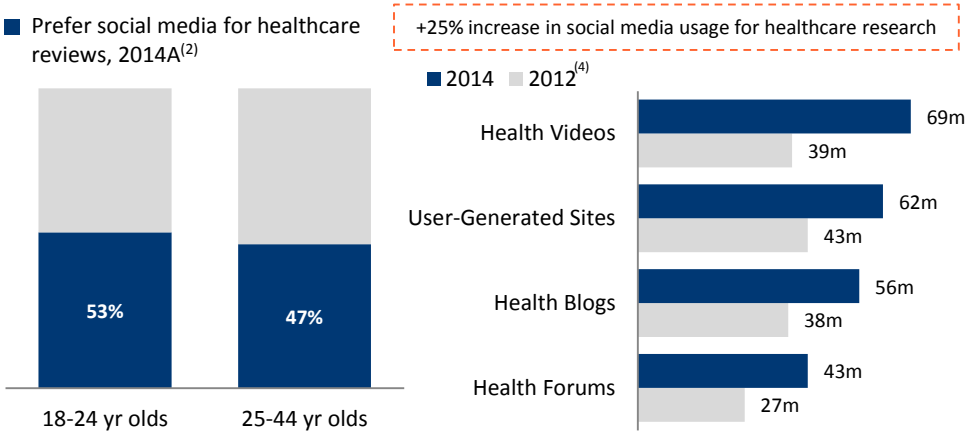
Social Media Sites Used for Professional Purposes by US Physicians 2014[1]



24% of US physicians use social media at least once a day to post or seek medical information[3]

Over **1,500** (35%) US hospitals have official accounts on various social networking sites[3]

Use of Social Media for Healthcare Research Among Consumers is Rising

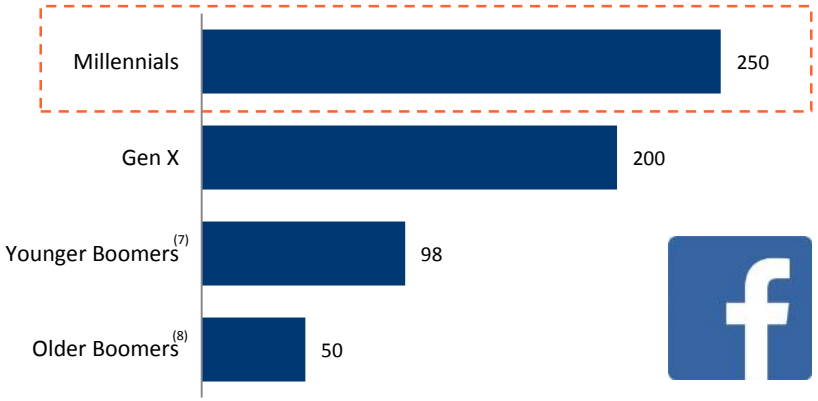


42% of US consumers look up reviews for health providers, treatments and products[3]

25% of US internet users watch health-related videos[3]

Generations, Facebook and Friends[6]

Median number of friends



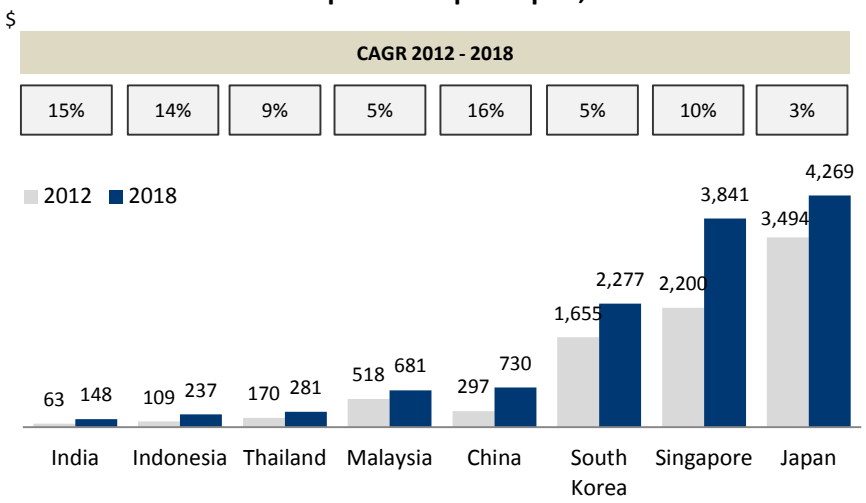
- Social media is becoming a must-have in healthcare. 99% of hospitals have a Facebook, Foursquare and Yelp account[5]
  - Facebook is popular for attracting new patients while Yelp is used to gauge a patient's in-hospital experience
- Medical professionals also find social media a valuable way to track a crisis in real-time, helping them to prepare for an onslaught of patients
- Millennials matter as their preferences drive future healthcare consumption
  - There is a strong correlation between the millennial generation and the use of technology with high probability that technology will be used in healthcare
  - 75% of global millennials consider online reviews and the ability to book appointments and pay bills online important when seeing a physician[5]
  - 60% of global millennials are interested in innovative technologies such as ingestible tech and 3D bio printing[5]

Source:
1) eMarketer
2) The Doctor's Journal, US consumers
3) Docero
4) Kantar Media 2014, US consumers
5) Salesforce 2014
6) Pew Research Center 2014
7) Ages 49-57
8) Ages 58-67

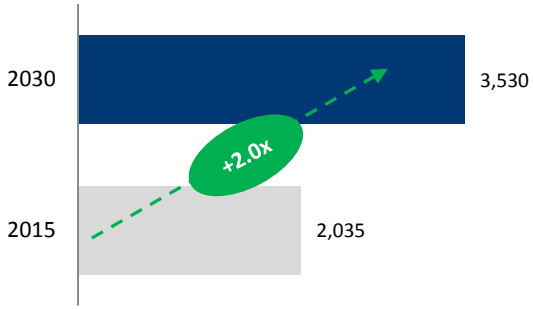
3 Quicker Progression of HealthTech in Emerging Economies

Fast Track to Innovation with Less Entrenched and Limited Infrastructure

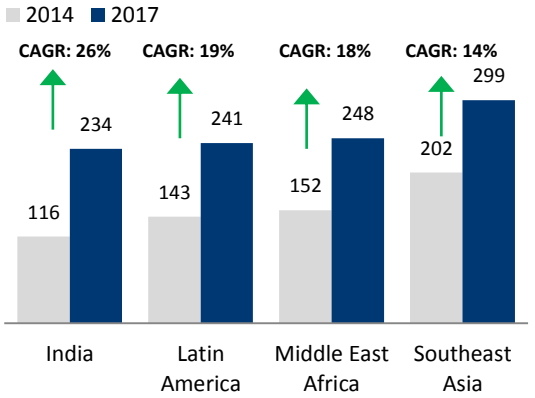
2012 – 2018 Healthcare Expenditure per Capita, APAC[1]



2009 – 2030 Internet Users in Emerging Economies[2]

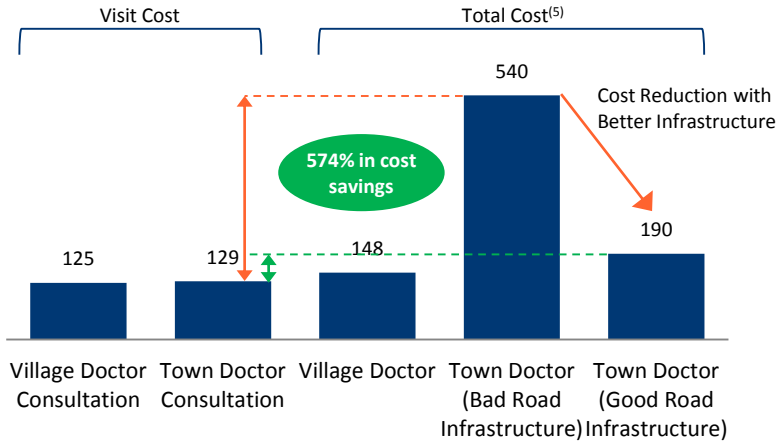


2014 – 2017 Smartphone Users in Key Economies[3]



The Real Cost of Healthcare in Rural India[4]

Cost of Doctor Visit: Rupees



- Healthcare expenditure will continue to experience growth in the next 3 years in the APAC region as rising patient demand for better healthcare and increasing life expectancy drive costs. The healthcare industry in many emerging economies is reaching its tipping point as financial trends in healthcare spending become economically unsustainable
- The increasing penetration of mobile phone ownership and improved connectivity in emerging economies create paths for growth in HealthTech allowing consumers to become better equipped to respond to emergencies, consult with health professionals about health issues as they arise and access health services that are increasingly being delivered through mobile phone based systems
- Emerging countries are also better prepared to embrace new technology without having to go through the process of replacing outdated technology due to a lack of infrastructure. The opportunity cost of travelling for treatment is the biggest factor contributing to high healthcare costs
  - Rural areas in India where doctors struggle to reach patients make it 4 times more expensive to visit a good doctor due to lost income related to the longer trip. However, rural areas also have less medical technology industries to disrupt than developed countries increasing the probability of successful adoption of HealthTech

Source:
1) Frost & Sullivan
2) Euromonitor International
3) Vserv
4) AllianceBernstein
5) Includes consultation fees, travel expenses and forgone income

4 Big Data Analytics and Remote Monitoring Optimising the Quality of Healthcare

Infrastructure Optimisation for Healthcare Providers Moves Front and Centre

Critical Initiatives Negatively Impacted by Current Conditions of Data Management

Duplicate Records: Patients have multiple unmatched and inconsistent medial records

Disconnection: Patient information is unavailable at different points of care

Disparate Systems: Inability to connect systems containing clinical & financial data

Deceptive Systems: Difficulty creating an accurate 360 degree view of each individual

Duplicate records cost typical hospitals **$1.5m** per year(1)

Key analytics such as readmission rates can be under-reported by **40%(1)**

20% of radiology tests are duplicates. **$20bn** wasted per year

19% of CIOs(2) report an adverse event from a patient mismatch

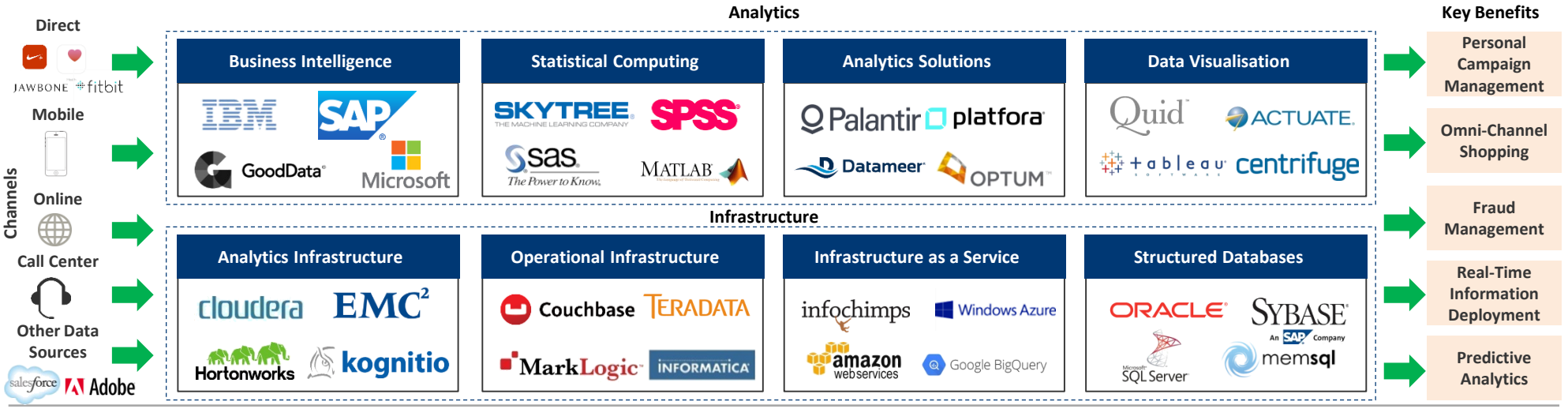
*"What we're talking about here is the **transformation of medicine**. The biomedical sciences have been the pillar of the healthcare system for a long time now. The **new system** will have two equal pillars—the **biomedical sciences** and the **data sciences**"*

Scott Zeger, Vice Provost Research – Johns Hopkins University
Mar-2015

*"**Big data** approaches can help in **population management** so that you are thinking about **all your patients** and can **identify risky situations** even in those **who don't come in**."*

Dr. David Bates, Chief Innovation Officer – Brigham and Women's Hospital
Jan-2015

Building a New Foundation for Leveraging Analytics and Harnessing Data



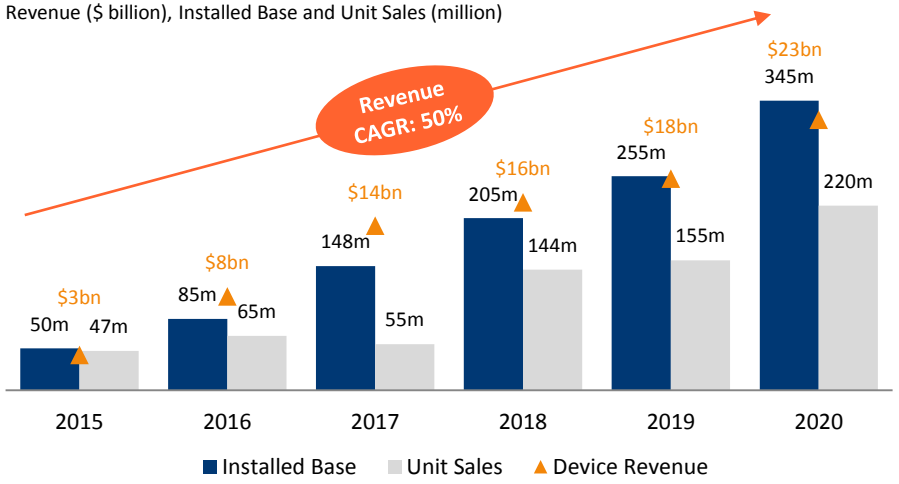
Source:
1) IBM Analytics 2014
2) Chief Innovation Officer

5 Wearable Technology Moving Beyond a Fashion Fad

Increasing Consumer Willingness to Wear Health and Fitness Trackers

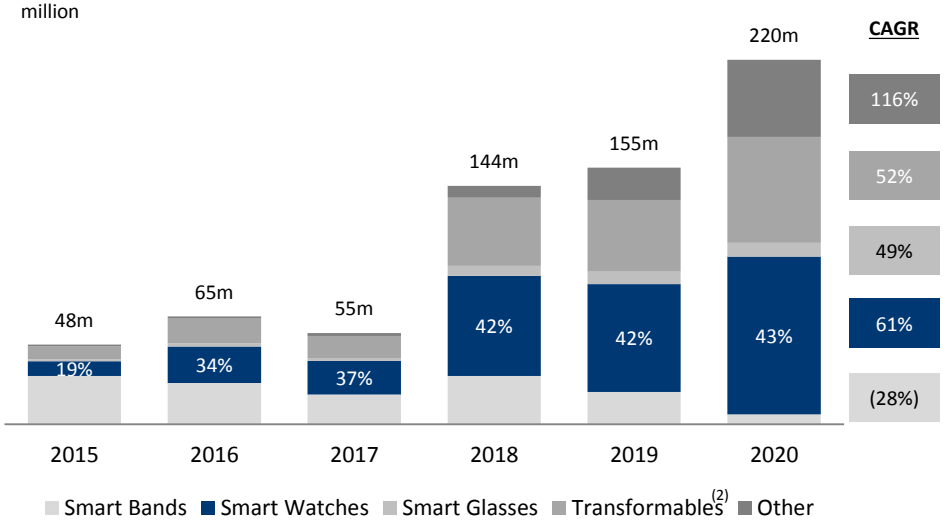
2015 – 2020 Global Smart Wearable Device Revenue, Installed Base and Unit Sales[1]

Revenue ($ billion), Installed Base and Unit Sales (million)

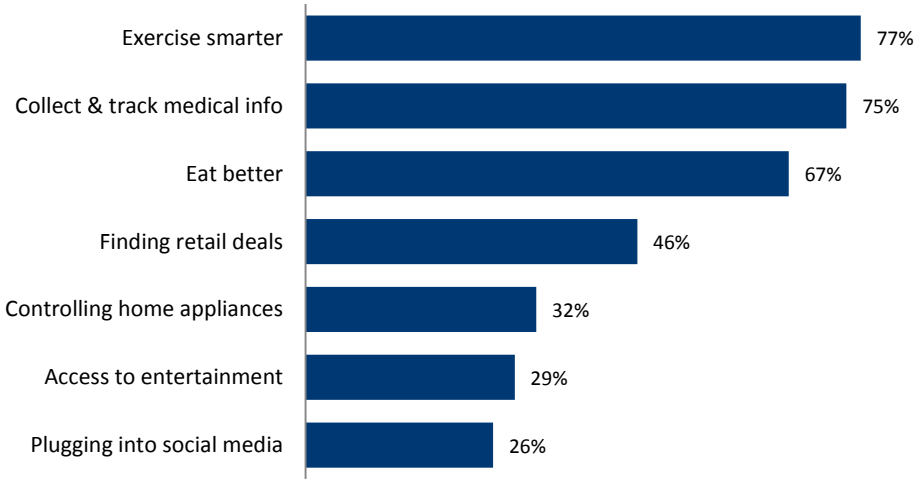


2015 – 2020 Global Smart Wearable Unit Sales by Device Category[1]

million



2014 Consumer Interest from Wearables[3]



- The wearables market is predicted to increase 7.7x to $23bn by 2020. Consumers are increasingly willing to wear health and fitness trackers especially if encouraged to do so by their employers, physicians or insurers
  - 8 out of 10 full-time employees in the US would use a company-provided wearable device in exchange for benefits such as a year-end bonus, reduced health insurance premium or exercise program discount[4]
- Revenue from global wearable devices will be primarily driven by Smart Watches with 94m units sold in 2020 followed by Transformables. Smart bands will progressively decrease, being subsumed into the Other Device categories
- Consumers indicated more interest in health-related information collated from wearables as opposed to information for entertainment purposes. Keeping the consumer engaged is an important part of any wearable strategy

Source:
1) Analysys Mason 2014
2) Devices integrated into clothing and accessories
3) PWC 2014
4) Cornerstone OnDemand

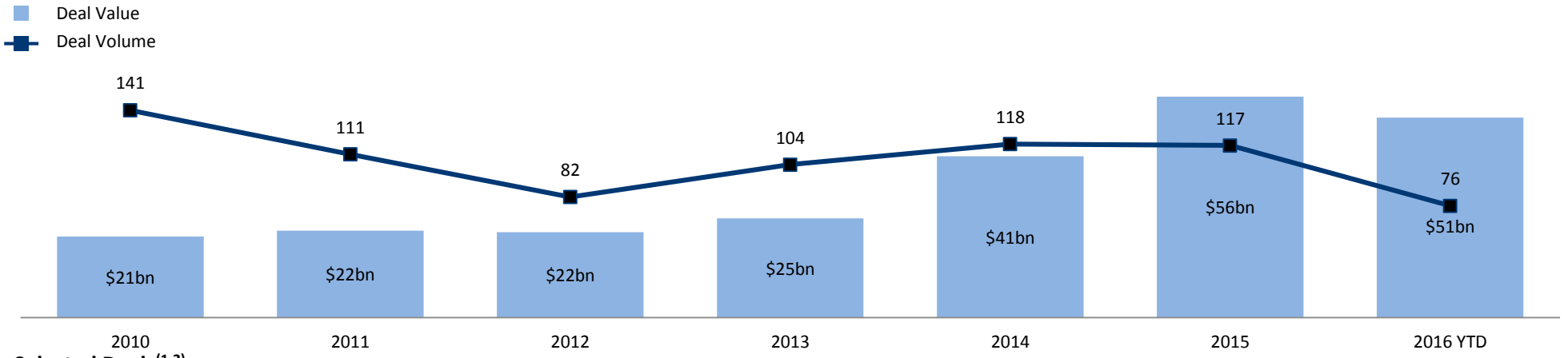
Investment and Acquisition Dynamics

M&A Activity in the Global HealthTech Sector

Record $56bn HealthTech Acquisitions in 2015: The M&A Healthcare Market is Primed for Further Growth Driven by Disruptive Innovation and Fragmentation

2010 – 2016 YTD Global HealthTech M&A Activity[1,2]

$ billion



Selected Deals[1,2]

($ million)

Date	Target	Buyer	EV ($m)	EV/Rev	EV/EBITDA	Target Overview
May-16	IMS Health	Quintiles	13,170	4.3x	17.7x	Health Care IT Solutions
May-16	CHEK Diagnostics	Sinocare Inc.	200	4.4x[3]	n/a	Diagnostic Testing Tools for Medical Point-of-Care
Apr-16	hansen MEDICAL	AURIS Surgical Robotics	101	7.6x	n/a	Medical Robotics Assistance
Mar-16	MedicalDirector	Affinity Equity Partners	114	n/a	n/a	Digital Health Information Platform
Oct-15	Biosensors International	中信产业基金 CITICPE	780	2.8x	11.8x	Biosensors for Cardiovascular and Cardiac Imaging

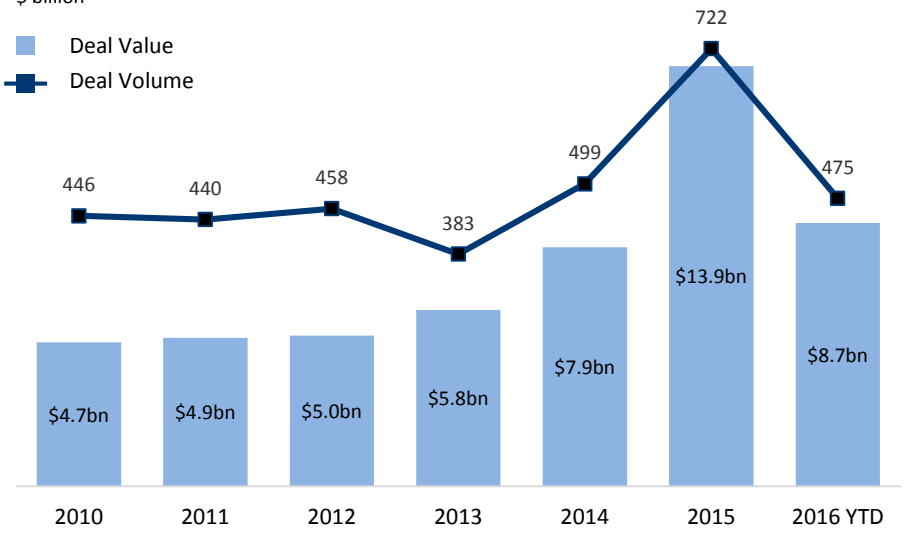
Date	Target	Buyer	EV ($m)	EV/Rev	EV/EBITDA	Target Overview
Oct-15	CliniSys Diagnostics Intelligence	Roper	261	n/a	n/a	Clinical Information Management Software Solutions
Aug-15	Avalere	inovalon	140	2.6x	n/a	Data-Driven Advisory Services
Aug-15	CECITY	Premier	400	n/a	n/a	SaaS Performance Improvement Software
Jul-15	Altegra Health	emdeon	910	4.7x[4]	n/a	Cloud-Based Data Analytics Platform
Mar-15	Corilus Connected Healthcare	AAC capital partners	82	1.8x	15.0x	Software IT for healthcare

Source:
1) Capital IQ as at 11 October 2016
2) Total disclosed enterprise value
3) Harris Williams & Co., Healthcare & Life Sciences Industry Update June 2016
4) Harris Williams & Co., Healthcare IT Industry Update June 2016

HealthTech Fundraising Activity

Personalised Medicine and Patient/Consumer Experience Subsectors Are Picking Up Momentum

2010 – 2016 YTD Fundraising Activity[1,2]



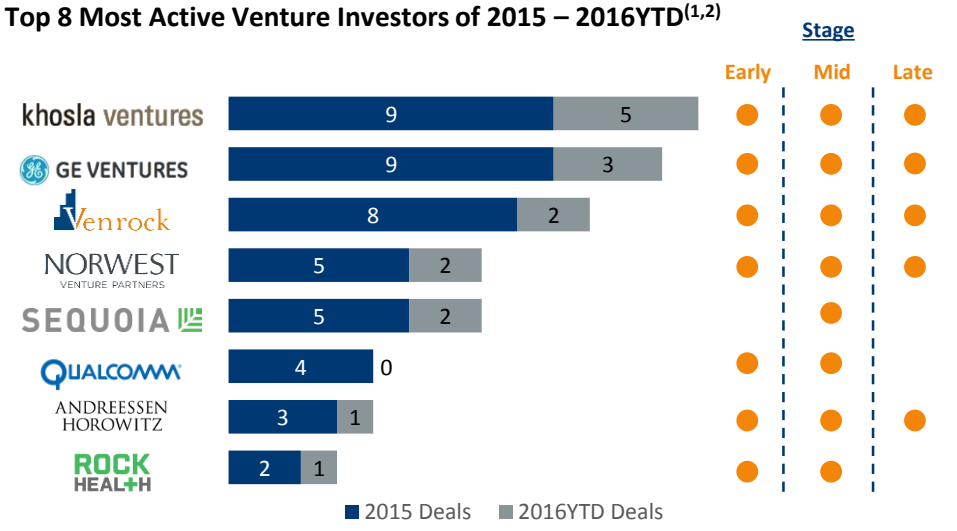
Select Large Deals of 2016 YTD[1,2]

Date	Target	Funds Raised ($m)	Subsector	Notable Investor
May-16	中国平安 PING AN	500	Health Insurance Solutions	IDG资本 IDG Capital Partners
May-15	ZENEFITS	500	Health Insurance Solutions	Fidelity INVESTMENTS
Apr-16	HUMAN LONGEVITY, INC.	220	Genomics	illumina
Jun-15	NANTHEALTH	200	Personalised Health	Allscripts
Jan-16	JAWBONE	165	Wearables	SEQUOIA
Jan-16	healthline	95	Digital Health	SUMMIT PARTNERS
Aug-15	:practo	90	Patient Experience	SEQUOIA

Select Deals Under $10m of 2016 YTD[1,2]

Date	Target	Funds Raised ($m)	Subsector	Notable Investor
May-16	RIGENERAND One Step Ahead in Stem Cells Technology	9.95	Biomedical Devices	PRINCIPIA SGR
Feb-16	OPTERNATIVE	9.84	Online Consulting	TVP TRIBECA VENTURE PARTNERS
Jun-15	Qinec	9.21	Health Management IT	Amadeus Capital
Feb-16	jvion	8.9	Big Data / Analytics	EASTSIDE PARTNERS
Jan-16	Push Doctor Dr.	8.2	Online Consultation	PARTECH International
Mar-16	ACCESSBIO	8.12	Diagnostics / Sensors	LION'S HEAD global partners

Top 8 Most Active Venture Investors of 2015 – 2016YTD[1,2]



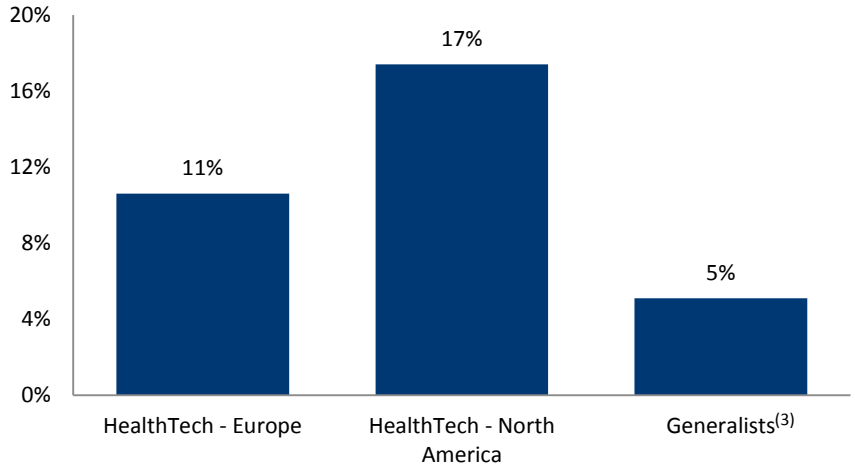
IBIS Capital | A power boutique combining investment banking, corporate development and asset management across digital transition industries

Source:
1) IBIS Capital
2) Capital IQ as at 11 October 2016

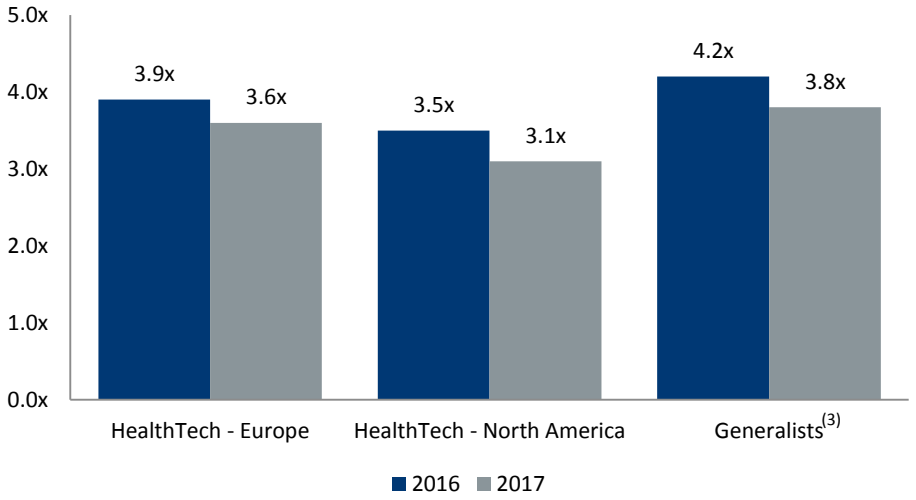
HealthTech: Valuation Benchmarking

Europe Set to Overtake North America with Higher Valuation Multiples

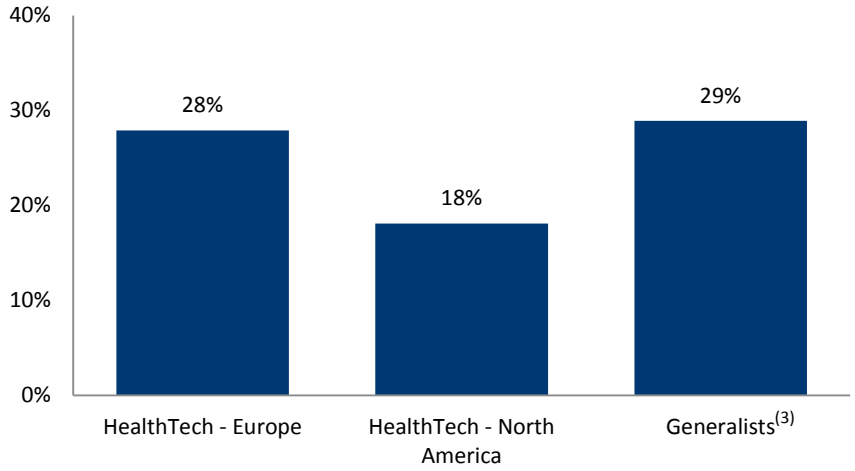
2016 – 2017 Revenue Growth[1,2,3,4]



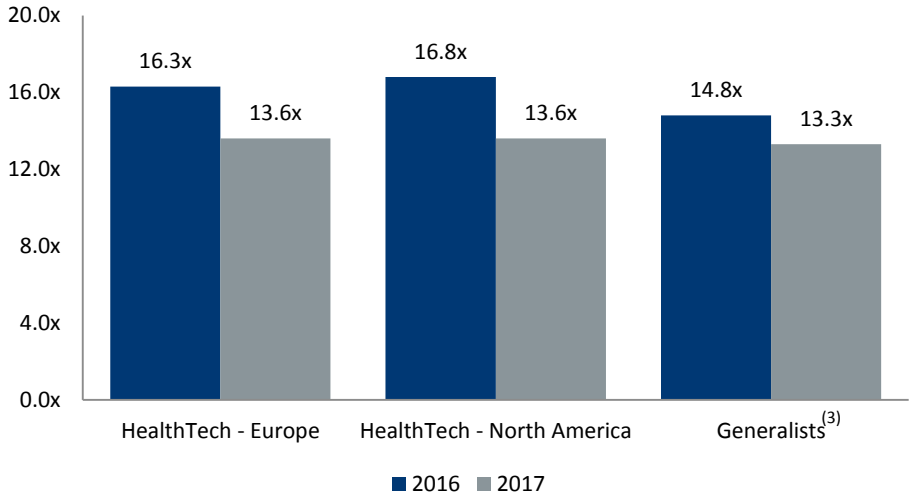
EV / Revenue – 2016 / 2017[1,2,3,4]



2017 EBITDA Margin[1,2,3,4]



EV / EBITDA – 2016 / 2017[1,2,3,4]



Source:
1) Capital IQ as at 11 October 2016, calendarised to December year end
2) Median values taken
3) Defined as healthcare generalists with significant HealthTech exposure
4) Please refer to Slide 23 for details on selected publicly traded companies

HealthTech: Valuation Benchmarking

Selected Publicly Traded Companies

Company [1,2,3,4,5]	Share	Market	Total Net	EV	Revenue Growth		EBITDA Margin			EV / Revenue			EV / EBITDA			EV / EBIT			P / E		
USDm	Price	Cap	Debt		2016-17	2016-18	2016	2017	2018	2016	2017	2018	2016	2017	2018	2016	2017	2018	2016	2017	2018
HealthTech Europe																					
Craneware	16	424	(49)	375	13.0%	11.9%	30.7%	30.9%	30.4%	7.0x	6.2x	5.6x	22.7x	19.9x	18.3x	24.6x	21.9x	20.4x	37.2x	32.8x	30.2x
Servelec Group	3	235	16	251	15.6%	9.1%	23.0%	24.9%	25.9%	3.1x	2.7x	2.6x	13.6x	10.9x	10.2x	14.6x	11.6x	10.8x	17.0x	13.9x	12.9x
EMIS Group	12	723	(1)	722	7.8%	6.3%	35.0%	34.4%	33.9%	3.6x	3.4x	3.2x	10.3x	9.8x	9.4x	14.8x	13.9x	13.0x	19.1x	18.1x	16.9x
CompuGroup Medical	46	2,284	383	2,667	8.3%	12.3%	22.5%	24.2%	25.1%	4.3x	3.9x	3.4x	18.9x	16.3x	13.4x	28.4x	21.7x	17.1x	25.5x	21.8x	17.3x
75th Percentile					13.6%	12.0%	31.8%	31.8%	31.3%	4.9x	4.5x	3.9x	19.9x	17.2x	14.6x	25.5x	21.8x	17.9x	28.4x	24.6x	20.6x
Median					**10.6%**	**10.5%**	**26.9%**	**27.9%**	**28.2%**	**3.9x**	**3.6x**	**3.3x**	**16.3x**	**13.6x**	**11.8x**	**19.7x**	**17.8x**	**15.0x**	**22.3x**	**20.0x**	**17.1x**
Mean					**11.1%**	**9.9%**	**27.8%**	**28.6%**	**28.8%**	**4.5x**	**4.0x**	**3.7x**	**16.4x**	**14.2x**	**12.8x**	**20.6x**	**17.3x**	**15.3x**	**24.7x**	**21.6x**	**19.3x**
25th Percentile					8.1%	8.4%	22.9%	24.7%	25.7%	3.5x	3.2x	3.1x	12.8x	10.6x	10.0x	14.7x	13.3x	12.4x	18.6x	17.0x	15.9x
HealthTech North America																					
HealthStream	27	872	(139)	733	15.4%	14.3%	15.1%	17.1%	19.8%	3.2x	2.8x	2.5x	21.2x	16.3x	12.4x	n/m	33.9x	23.2x	n/m	n/m	44.3x
Teladoc	17	782	(81)	701	54.7%	48.5%	(40.3%)	(10.1%)	2.3%	5.7x	3.7x	2.6x	n/m	n/m	n/m	n/m	n/m	n/m	n/m	n/m	n/m
Castlight Health	4	433	(126)	308	28.7%	27.0%	(37.0%)	(7.0%)	4.9%	3.1x	2.4x	1.9x	n/m	n/m	n/m	n/m	n/m	19.7x	n/m	n/m	49.6x
Cerner Corporation	62	20,867	(45)	20,822	9.9%	10.9%	33.6%	33.8%	n/a	3.9x	3.5x	3.1x	11.5x	10.4x	n/a	15.5x	13.5x	12.0x	23.2x	20.5x	16.3x
athenahealth	130	5,113	160	5,273	19.4%	18.7%	21.4%	21.7%	22.9%	4.8x	4.0x	3.4x	22.4x	18.4x	14.8x	n/m	32.8x	26.5x	n/m	n/m	46.2x
Allscripts Healthcare Solutions	13	2,496	1,107	3,603	9.7%	8.2%	18.3%	19.1%	19.5%	2.3x	2.1x	1.9x	12.5x	10.9x	10.0x	16.1x	13.9x	12.4x	22.7x	19.1x	16.7x
75th Percentile					26.4%	24.9%	20.6%	21.1%	19.8%	4.6x	3.7x	3.0x	21.5x	16.8x	13.6x	16.0x	33.1x	23.2x	23.1x	20.1x	46.2x
Median					**17.4%**	**16.5%**	**16.7%**	**18.1%**	**19.5%**	**3.5x**	**3.1x**	**2.5x**	**16.8x**	**13.6x**	**12.4x**	**15.8x**	**23.3x**	**19.7x**	**22.9x**	**19.8x**	**44.3x**
Mean					**23.0%**	**21.3%**	**1.9%**	**12.4%**	**13.9%**	**3.8x**	**3.1x**	**2.6x**	**16.9x**	**14.0x**	**12.4x**	**15.8x**	**23.5x**	**18.8x**	**22.9x**	**19.8x**	**34.6x**
25th Percentile					11.3%	11.7%	(23.9%)	(1.0%)	4.9%	3.1x	2.5x	2.1x	12.2x	10.8x	11.2x	15.7x	13.8x	12.4x	22.8x	19.4x	16.7x
Healthcare Generalists With Significant HealthTech Exposure																					
Oracle	39	158,560	(14,340)	144,220	2.2%	2.8%	42.8%	44.9%	45.5%	3.9x	3.8x	3.6x	9.0x	8.4x	8.0x	9.8x	8.8x	8.4x	16.1x	14.0x	12.7x
Medtronic	86	119,081	19,435	138,516	5.1%	5.5%	31.5%	33.3%	34.8%	4.7x	4.4x	4.2x	14.8x	13.3x	12.0x	18.1x	15.3x	14.2x	21.9x	17.2x	15.5x
Abbott Laboratories	44	63,945	4,474	68,419	4.9%	5.4%	24.0%	24.9%	25.1%	3.3x	3.1x	2.9x	13.6x	12.5x	11.7x	16.5x	15.2x	14.0x	19.8x	17.8x	16.1x
Thermo Fisher Scientific	159	62,731	13,485	76,216	9.1%	6.7%	25.2%	25.8%	26.5%	4.2x	3.8x	3.7x	16.6x	14.8x	13.9x	18.1x	16.2x	15.1x	19.4x	17.1x	15.4x
Boston Scientific Corporation	24	32,345	4,989	37,334	6.0%	6.2%	27.3%	28.9%	29.9%	4.5x	4.2x	4.0x	16.5x	14.7x	13.3x	25.4x	21.2x	18.7x	21.6x	18.9x	16.5x
75th Percentile					6.0%	6.2%	31.5%	33.3%	34.8%	4.5x	4.2x	4.0x	16.5x	14.7x	13.3x	18.1x	16.2x	15.1x	21.6x	17.8x	16.1x
Median					**5.1%**	**5.5%**	**27.3%**	**28.9%**	**29.9%**	**4.2x**	**3.8x**	**3.7x**	**14.8x**	**13.3x**	**12.0x**	**18.1x**	**15.3x**	**14.2x**	**19.8x**	**17.2x**	**15.5x**
Mean					**5.5%**	**5.3%**	**30.2%**	**31.6%**	**32.4%**	**4.1x**	**3.9x**	**3.7x**	**14.1x**	**12.7x**	**11.8x**	**17.6x**	**15.3x**	**14.1x**	**19.8x**	**17.0x**	**15.2x**
25th Percentile					4.9%	5.4%	25.2%	25.8%	26.5%	3.9x	3.8x	3.6x	13.6x	12.5x	11.7x	16.5x	15.2x	14.0x	19.4x	17.1x	15.4x

Source: Capital IQ as at 11 October 2016

1) Calendarised to December year end
2) EV/Revenue multiples assumed n/m if > 10.0x
3) EV/EBITDA multiples assumed n/m if > 30.0x
4) EV/EBIT multiples assumed n/m if > 40.0x
5) P/E multiples assumed n/m if > 50.0x

Healthcare 2.0

The Healthcare Delivery Model of the Future

Building Out the HealthTech Stack: An Integrated, Powerful, Virtual Cycle of Innovation

1 QUANTIFIED SELF

Elevating consumer understanding of health and transforming expectations of the marketplace

2 TRANSPARENT CONSUMER MARKETS

Empowering consumers to make informed value-based decisions, improving competition

3 SMART CARE TEAMS

Enabling a predictive personalised, preventive health, wellness and engagement ecosystem

A HealthTech stack should include three distinct movements that support the entire healthcare continuum, creating a virtuous cycle

Source: IBIS Capital, Oliver Wyman

The Healthcare Delivery Model of the Future

The Quantified Self: Changing the Conversation and Behaviour

The Quantified Self

Clinical and Health Condition Values
- Blood sugar
- Weight changes
- Blood pressure
- Heart function
- Blood oxygen

Healthy Living Values
- Steps or activity
- Sleep
- Nutrition
- Stress
- Weight

Expense and Budget Values
- Affordability
- Deductible status
- Exposure
- Pharmacy costs
- Reward opportunities

Real-time personalised preventive health

Smart Care Teams

Increased relevance and engagement through social communities

Smart personalised shopping

Social and Expert Communities

Healthy Living Rewards Exchange

Exchanges and Shopping Market

- The quantified self movement includes using electronic sensors to track a variety of metrics that can be digitally processed, interpreted and shared in databases with other people's information
- Consumer tools will allow consumers different entry points to improve their "health IQ" and resources to help change long-term behaviour
- Electronic health records will incorporate real-time data and the conversation between doctor and patient will have the intensity of an ICU[1] consultation backed by insight gleaned from the patient's daily living information
- Group engagement through social and family networks will further fuel long-term behaviour change; widespread influence of the ecosystem for diet and exercise
- The convergence of big data and consumer social data suggests how the supply side and smart care teams will be able to radically improve prevention and care in the new and improved health system

Relevant Transactions[2]

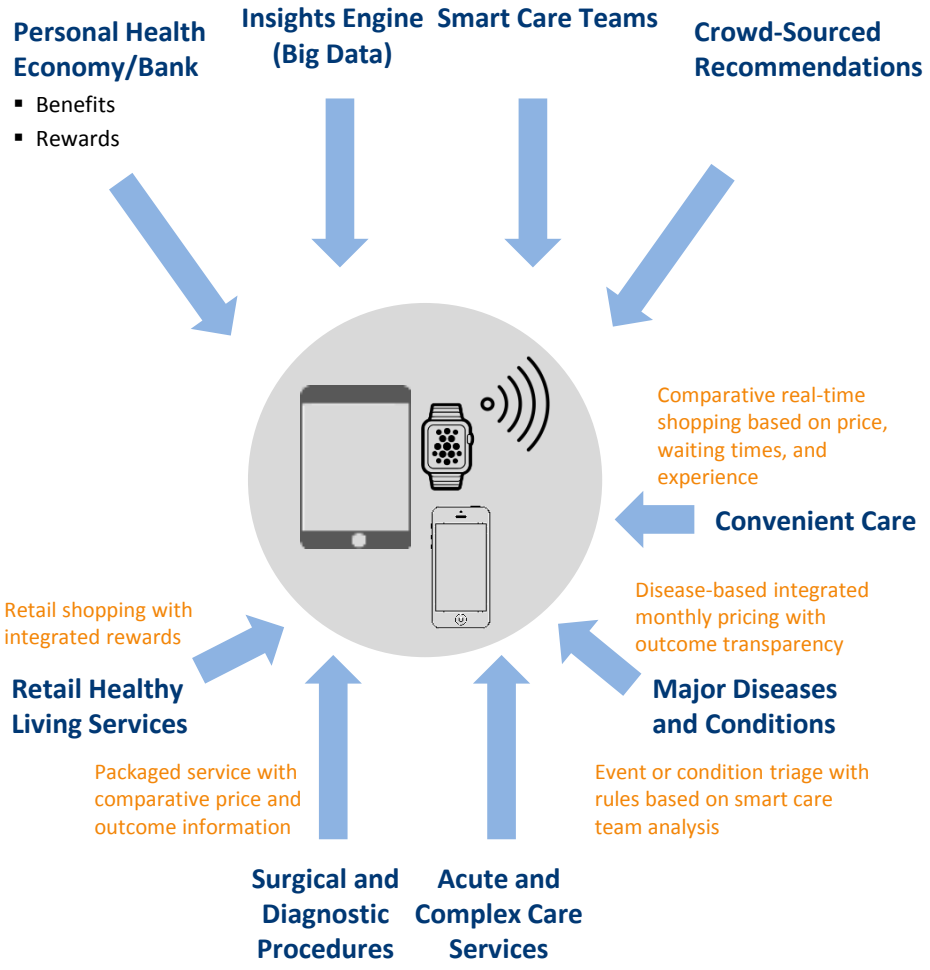
Date	Target		Subsector	Trans. Value ($m)	Trans. Type
Jul-16	LifeWatch		Sensors	46	Fundraising
Jul-16	Big Health		Sensors	12	Fundraising
Jun-16	toSense		Sensors	7	Fundraising
Mar-16	PEERBRIDGE		Wearables	55	Fundraising
Jan-16	JAWBONE		Wearables	165	Fundraising

Source:
1) Intensive Care Unit
2) Capital IQ as at 11 October 2016

The Healthcare Delivery Model of the Future

Transparent Consumer Markets: Personalised, Digital, Retail

Transparent Consumer Markets



- Consumers are able to take a more active role in shopping for healthcare with government transparency requirements and the emergence of companies offering transparency as a service
- Consumers will be able to personalise their health benefits at the time of enrolment using apps to optimise choices between benefit plans and health delivery models. They will also be able to shop for healthcare services based on price, quality, access and service with crowd-sourced input. By making more economical purchases, they will earn rewards that will help "stretch" their healthcare dollars. Additional discounts and rewards will be offered for engagement
- The quantified self will heighten consumer awareness and expectations while transparent markets will enable consumers to shop on value leveraging crowd sourcing and to earn rewards for smart, economical decisions

Relevant Transactions[1]

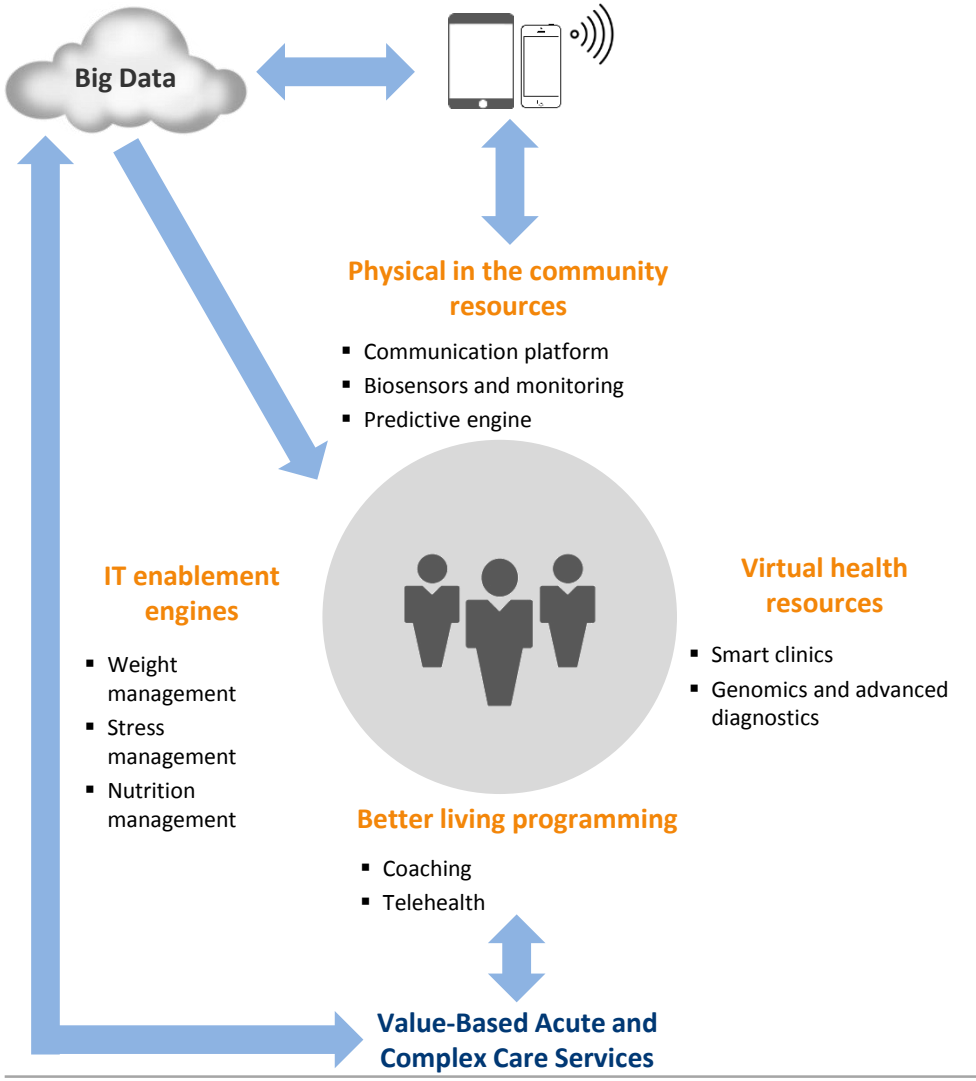
Date	Target	Subsector	Trans. Value ($m)	Trans. Type
Mar-16	connecture	Insurance	52	Fundraising
Jan-16	babylon	Online Consulting	25	Fundraising
Oct-15	Welcome Cure	Online Consulting	6	Fundraising
Aug-15	PLANSOURCE	Health Benefits	70	Fundraising
May-15	PillPack	Online Pharmacy	50	Fundraising

Source:
1) Capital IQ as at 11 October 2016

The Healthcare Delivery Model of the Future

Smart Care Teams: Care Designed Around the Consumer

Smart Care Teams



- Smart care teams will evolve into sophisticated information businesses and expert resources; current physician to patient ratio of 1 to 2,000 will transform to 1 to 6,000[1] in a smart care team with more contact for patients as smart care teams encompass not only physicians, but nurses, social workers, coaches etc.
- Smart care teams will extend their reach, capacity and convenience by partnering with brick-and-mortar and virtual providers to create a care ecosystem integrating telehealth consultations, remote monitoring and real-time feedback into their workflow. The integrated ecosystem moves beyond responsive sick care to focus on proactive whole person care (diet, engagement, social context and motivation)
- Improved predictive modelling and big data will also enable smart care teams to create highly personalised care plans for individuals
- An overall step-change advancement in connection, personalisation, prediction and prevention

Relevant Transactions[2]

Date	Target	Subsector	Trans. Value ($m)	Trans. Type
Apr-16	proteus DIGITAL HEALTH	Health Management	50	Fundraising
Mar-16	BLUEBEE	Big Data / Analytics	11	Fundraising
Jan-16	AiCure	Health IT	12	Fundraising
Jan-16	FLATIRON	Big Data / Analytics	175	Fundraising
Jun-15	GLOBAL KINETICS CORPORATION	Health Management	11	Fundraising

Source:
1) Oliver Wyman
2) Capital IQ as at 11 October 2016

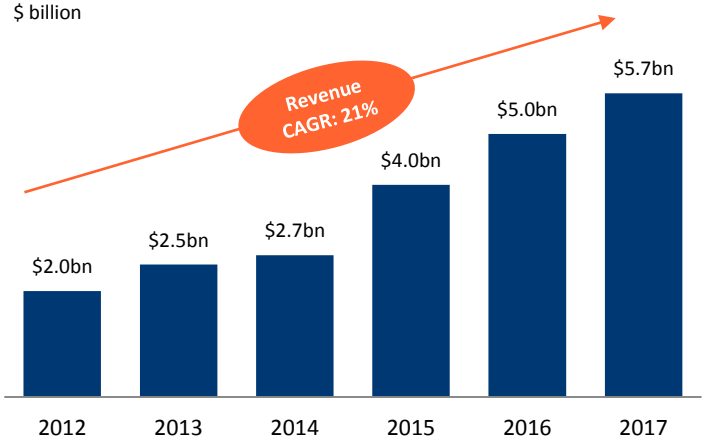
New Areas of Growth

Finding New Growth

Print Thyself Offering Customisation and Increasing Cost Efficiency

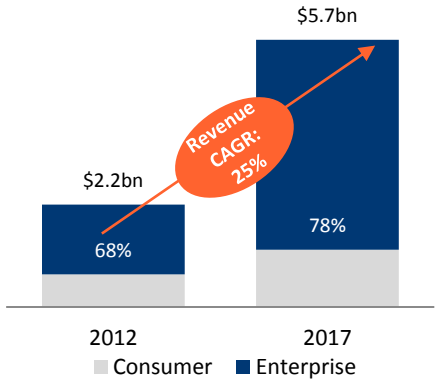
2014 – 2017 Global 3D Printing Market Revenue Forecast[1,2,3,4]

$ billion

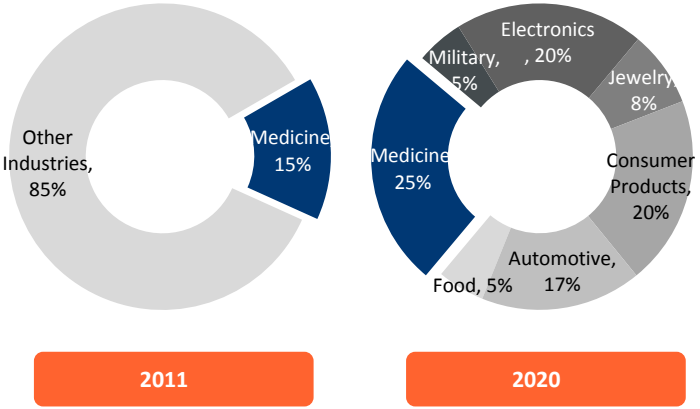


3D Printer Use is Migrating from Hobbyists to Commercial Manufacturers[5]

$ billion



Medicine Set to Overtake All Other Industries in 3D Printing[1,6]



Key Developments in 2015

L'ORÉAL organovo™

- Partnership to print human skin where L'Oreal plans to use synthetic skin to test make-up and skincare
- The technology will leverage Organovo's proprietary NovoGen Bioprinting Platform and L'Oreal's expertise in skin engineering to develop 3D printed skin tissue for product evaluation and other areas of advanced research
- L'Oreal currently grows skin from 100,000 tissue samples measuring 0.5 square centimetres, donated by plastic surgery patients. The 3D-printed tissue developed by Organovo is made from tiny building blocks that make up living human cells, sharing features with native tissue
- The printing process aims to automate the creation of living human tissues that mimic the form and function of those naturally found in the body, such as skin

P&G Agency for Science, Technology and Research SINGAPORE

- Partnership to launch a five-year plan grant of $43m[7] for research and development; Research institutes in Singapore to submit their proposals for a chance at developing bioprinting solutions for P&G
- P&G is currently developing several in vitro skin models in line with the company's beauty and care segment
- The grant competition would allow P&G to rely on academics already exploring the field rather than developing the company's own program thus increasing cost efficiency

Source: L'Oreal, Organovo, Procter & Gamble, Agency for Science, Technology and Research

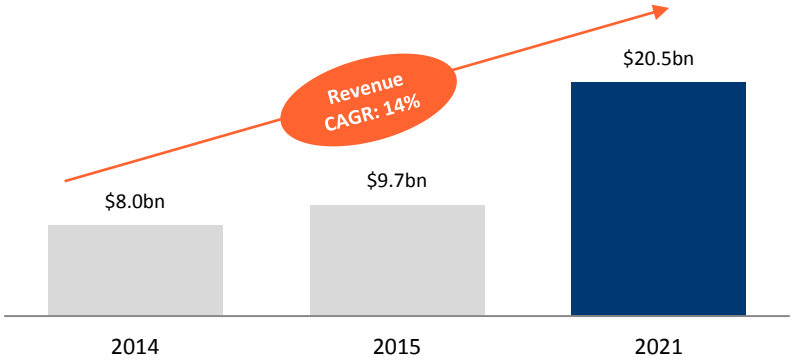
1) Wohlers Associates
2) Morgan Stanley Research
3) JP Morgan Research
4) Smartech Markets
5) Gartner
6) Seeking Alpha Research
7) Oanda as of 6th November: USD/SGD: 1.4

Finding New Growth

Growing Geriatric Population, Prevalence of Organ Failure and Growing Incidence Rates of Accidents Driving Innovation in the Critical Field of Prosthetics

2014 – 2021 Global Medical Bionics Revenue[1]

$ billion



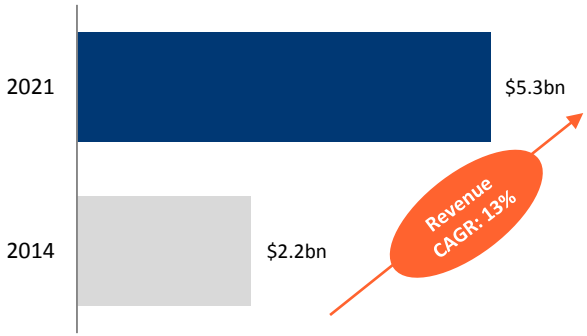
Global Medical Bionics By Type[1]

Largest market share in 2014A (28%)

Bionic Brain	Exoskeleton[3]	Bionic Limbs
Bionic Heart	Others[4]	Bionic Vision

2014 – 2021 Global Bionic Limbs Revenue[1]

$ billion

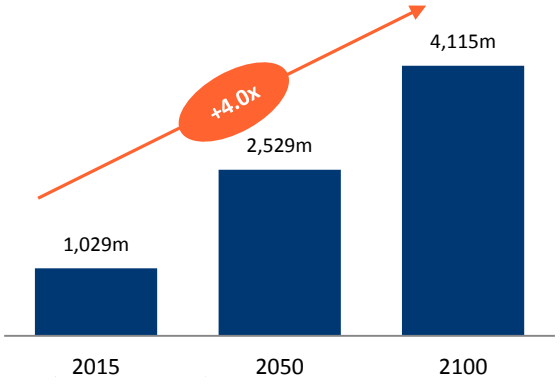


Macro Drivers

Ageing Population

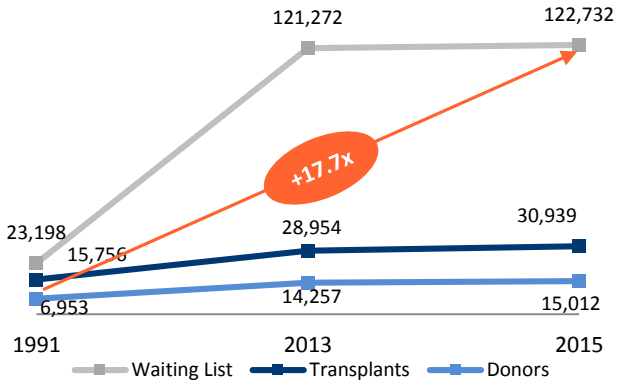
2015 – 2100 World Population over 60[2]

million



Organ Failures

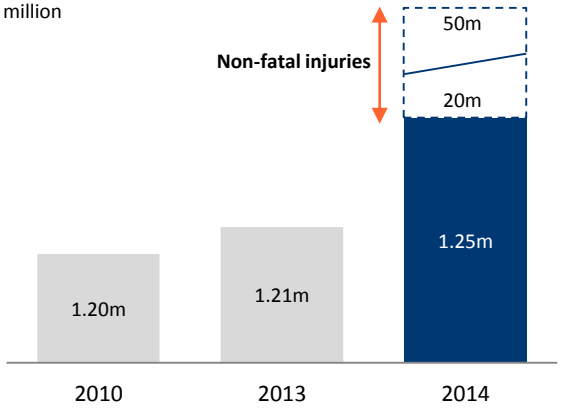
1991 – 2015 U.S. Organ Transplant Data[5]



Number of Accidents

2010 – 2014 Global Road Traffic Fatalities[6]

million



ekso BIONICS · Medrobotics · touch bionics · KINOVA ROBOTICS · REX BIONICS · ReWalk Robotics · CYBERDYNE · iRobot

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Source:
1) Transparency Market Research
2) United Nations
3) Mobile machine that delivers energy for limb movement
4) Smartech Markets
5) United Network for Organ Sharing
6) World Health Organisation

Select Business Models

Fitness Tracking Reinvented with Style: Jawbone

Company Overview

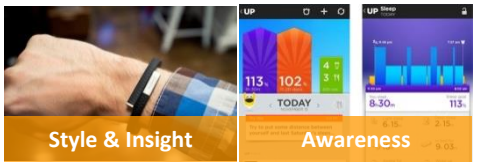
Headquarters: San Francisco, USA

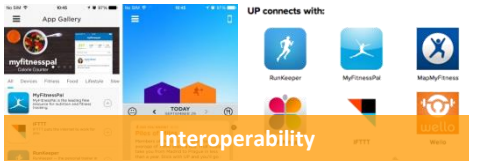
JAWBONE

- **Founded:** 1999
- **# Employees:** 300
- **Business Description:** Developer and distributor of consumer mobile and wearable devices. Jawbone UP, the company's main product, is a wristband and app that tracks how you sleep, move and eat. Jawbone owns over 230 patents related to UP. Other products also include audio devices and bluetooth headsets
- **Key Developments:** $300m funding raised from Blackrock, 2015. Other investors include Khosla Ventures, Andreessen Horowitz
- **CEO:** Hosain Rahman

Key Product Offerings

- Jawbone UP consists of a fitness wristband and a mobile app. It tracks your sleep, movement and eating activity in real time and uses that information to provide insight into your daily life and identifies area for wellness improvement
- Jawbone UP is interoperable with other tracking tools and third party apps such as Runkeeper and MapMyFitness





Quantified Self | **Internet of Things** | **Big Data**

Business Model

Key Monetisation Areas

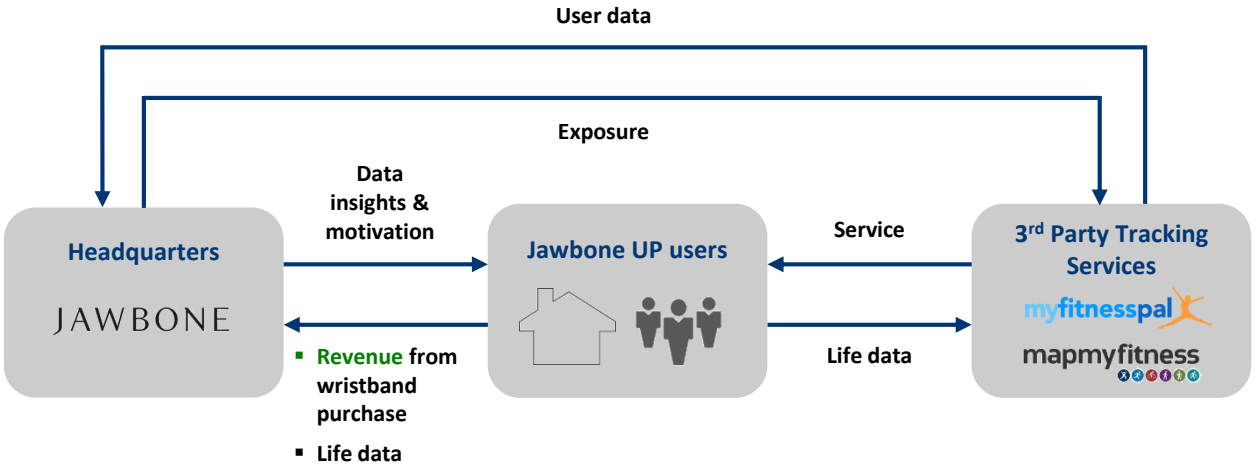
- Main revenue driver from selling data tracking wristbands at a retail price of c.$130
- Freemium model for the Jawbone UP app where users get insights on their data activity for free

Key Themes

- Device & App pairing
- Data model
- User insights

Comparables with Similar Business Models

fitbit | Withings Inspire health



Source: IBIS Capital, Capital IQ as at 11 October 2016, Public Company Information

A Self-Learning Healthcare System: PatientsLikeMe

Company Overview

Headquarters: Cambridge, USA

patientslikeme®

- **Founded:** 2004
- **# Employees:** 98
- **Business Description:** Online health data and information sharing website for patients. Knowledge is shared between patients and medical organisations. c.350,000 registered patients with more than 2,500 conditions. Extensive database of 110,000 adverse event reports on 1,000 different medications
- **Key Developments:** $8.38m funding from undisclosed investors, 2015
- **CEO:** Martin Coulter

Key Product Offerings

- The PatientsLikeMe (PLM) website is designed to share medical data in a secure and private way allowing people to track their medical journey or report medicine reviews
  - Community members can compare treatments, symptoms and experiences
- PLM aggregates reviews consumers share about their conditions and sells it to partners (e.g. Pharmaceutical/Biomedical companies)

Healthcare 2.0 | Quantified Self | Big Data

Business Model

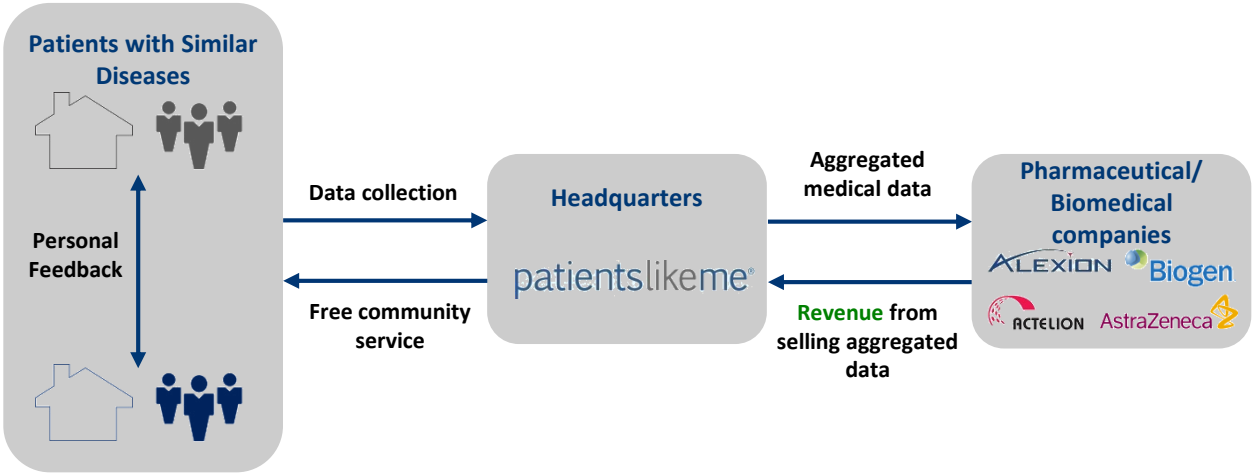
Key Monetisation Areas

- Main revenue driver from sale of aggregated data generated by the community to organisations, with the permission of patients
- Freemium model offered to users where users share information and engage on the platform

Key Themes

- Selling big data
- Online community
- Strategic alliances using a B2B2C model

Comparables with Similar Business Models



Source: IBIS Capital, Capital IQ as at 11 October 2016, Public Company Information

Health and Ancestry Start Here: 23andMe

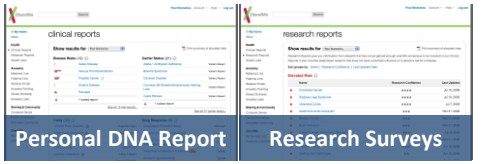
Company Overview

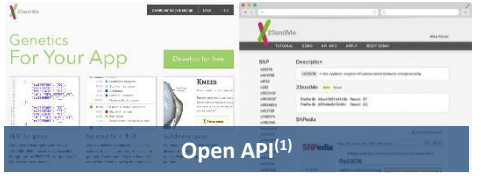
Headquarters: Mountain View, USA

- **Founded:** 2006
- **# Employees:** 92
- **Business Description:** Personal genomics and biotechnology company providing rapid genetic testing and ancestral-related genetic reports. 300,000+ DNA samples, 250,000 genotyped customers, 2m survey responses per week forming an extensive database of 100m phenotypic data points to fuel genetic research
- **Key Developments:** $115m in funding from Casdin Ventures, Google Ventures and consortium, 2015
- **CEO:** Anne Wojcicki

Key Product Offerings

- Consumers pay $99 for a Personal Genome kit (which requires some saliva) and send the kit back to the company. A personal DNA report on health conditions and lineage is produced
- Consumers can gain more personal genome insight by contributing their data to research studies of genetics
- The company has an API(1) to let developers build apps on top of user's genetic information





Healthcare 2.0 | Quantified Self | Personal Genomics

Business Model

Key Monetisation Areas

- Main revenue drivers from sale of personal genome kits and providing reports on c.240 health conditions and lineage discovery
- Pending launch of B2B segment as an additional revenue stream by providing DNA research studies and surveys to enterprises

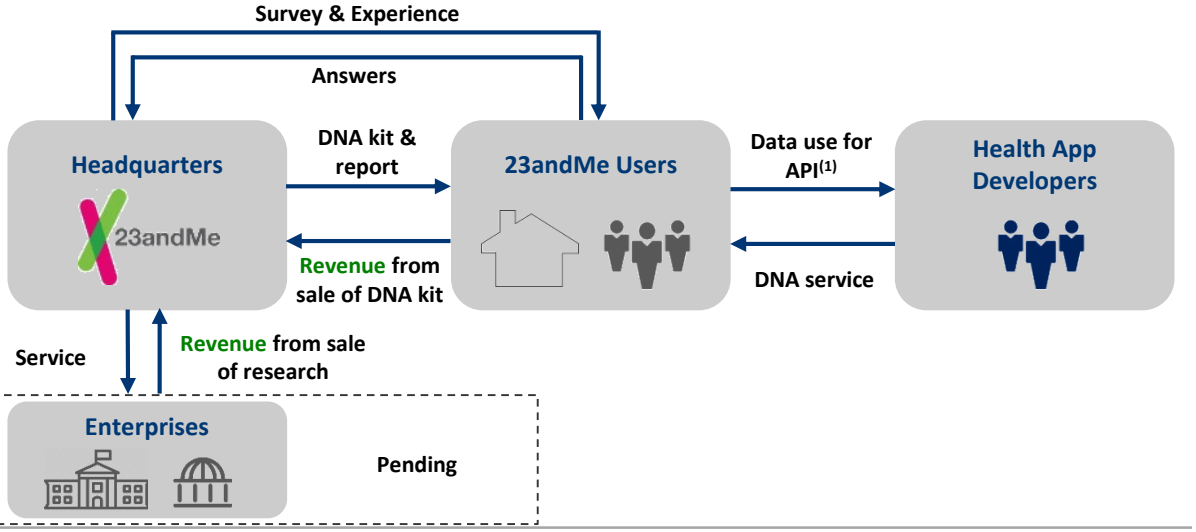
Key Themes

- Big data
- Online community
- Product-Service combination
- B2B model (pending)

Comparables with Similar Business Models

INVITAE Reinventing genetic testing.

PATHWAY GENOMICS®



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Source: IBIS Capital, Capital IQ as at 11 October 2016, Public Company Information

1) Application Program Interface

The Peer to Peer Insurance Concept: Friendsurance

Company Overview

Headquarters: Berlin, Germany

friendsurance

- **Founded:** 2010
- **# Employees:** 40
- **Business Description:** Online peer to peer insurance sharing. Social networking through which small insurance policies are shared between consumers, lowering insurance premiums. 50-60% insurance cost reductions due to lower administration costs and lower fraudulent claims from trusted friends
- **Key Developments:** Undisclosed millions of Euros raised from Vantage Funds and Horizons Ventures
- **CEO:** Tim Kunde

Key Product Offerings

- Communities are created to cover an insurance claim in the case of an accident
- Users provide €5-50 to cover another user's claim. If a claim exceeds the amount of the group, Friendsurance covers the rest of the claim
- A portion of the premium flows into a common money pool, the other part to the insurer. In case of damage, a part of the coverage will be paid from the pool. If no claims, each member receives his share back

Peer to Peer | **Co-consumption** | **Low Premiums**

Business Model

Key Monetisation Areas

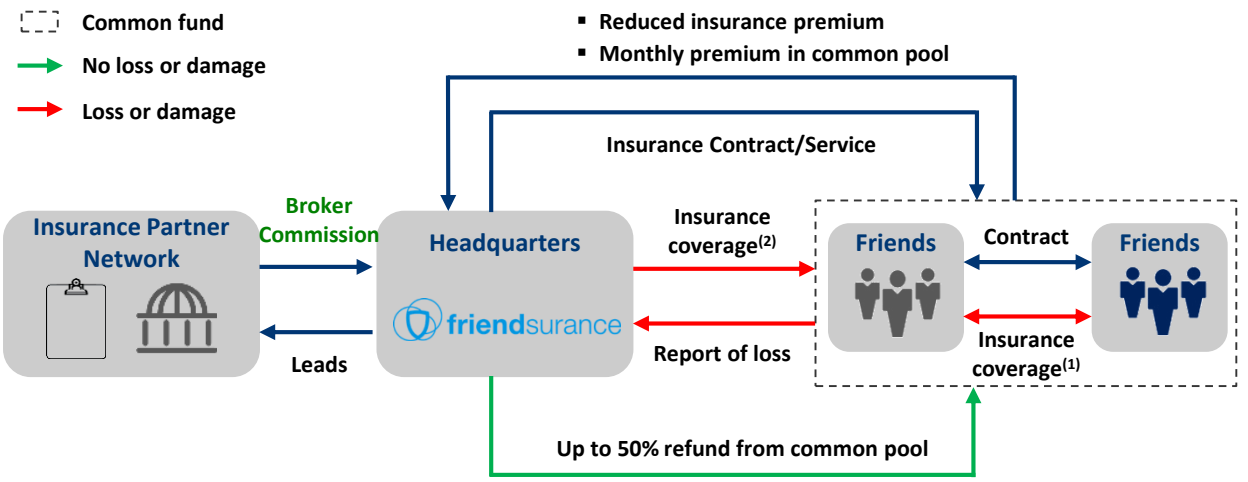
- Main revenue driver from brokerage commissions between Policy holders and existing Insurance Partners. Substantial cost reductions through lower insurance premiums by allowing customers to spread risks among friends resulting in reduced fraud and process costs and more preferable risk pools

Key Themes

- Peer to Peer model
- Broker model
- Insurance refund (Policyholder share)
- Common insurance pool

Comparables with Similar Business Models

peers HOMESHARING LIABILITY INSURANCE | GUEVARA | PROSPER



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Source: IBIS Capital, Capital IQ as at 11 October 2016, Public Company Information

1) Paid from common fund
2) If insurance claim exceeds amount of the common fund

Know How Your Heart is Doing Right Away: AliveCor

Company Overview

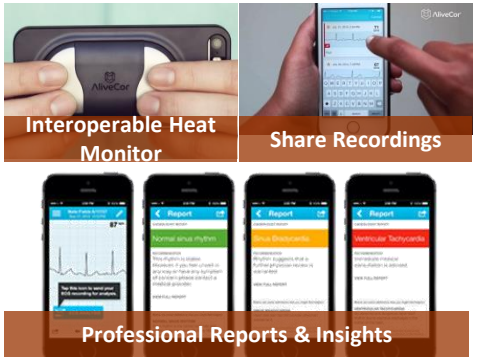
Headquarters: San Francisco, USA

AliveCor®

- **Founded:** 2010
- **# Employees:** 37
- **Business Description:** Develops heart monitors interoperable with smartphone/smartwatch and records heart rhythm through pulse on fingers. Results delivered through an app. 85% sensitivity and 90% specificity in identifying Atrial Filbrillation (AF)[1]
- **Key Developments:** $3m loan funding from Square 1 Bank, 2015. Other investors include Qualcomm Ventures, Khosla Ventures. FDA approval for algorithm to detect AF, 2014
- **CEO:** Euan Thompson (Interim)

Key Product Offerings

- AliveCor heart monitor takes an electrocardiogram (ECG) through electrodes when a person places his fingers on the device
- The AliveECG app stores all ECG recordings viewable on the consumer's dashboard. Personal doctors can request access to the data and recognise trends over time
- Consumers can send any recordings via the AliveInsights app on any symptoms (for a fee per recording) for clinical review where cardiologists are available 24/7



Big Data | Product with a Service | Internet of Things

Business Model

Key Monetisation Areas

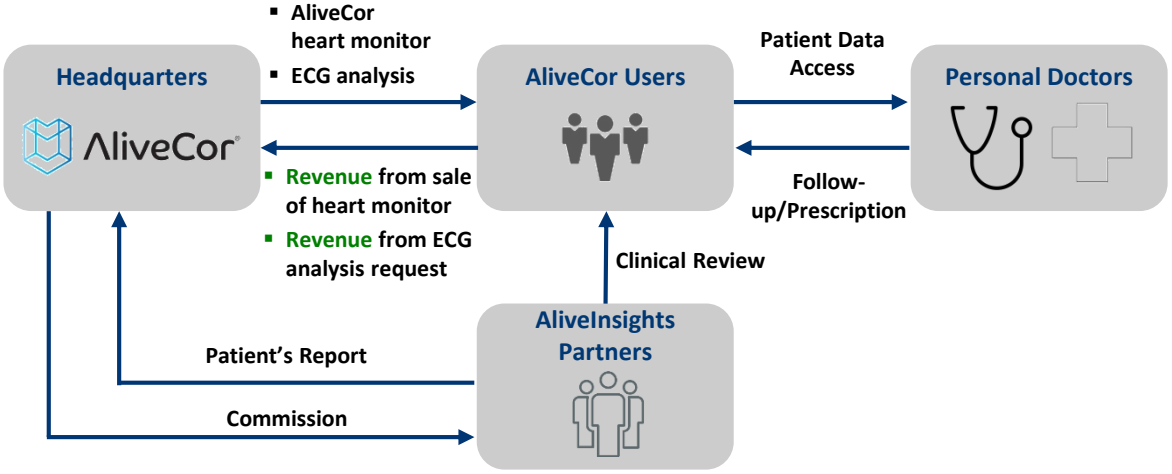
- Main revenue drivers from sale of ECG devices (c.$199) and via the company's AliveInsights Service (professional analytics service providing reviews on consumers' ECG recordings)

Key Themes

- In-app purchases
- Partnership model
- Product-Service combination

Comparables with Similar Business Models

Preventice SOLUTIONS | Lively | Healthsense



IBIS Capital | A power boutique combining investment banking, corporate development and asset management across digital transition industries

Source: IBIS Capital, Capital IQ as at 11 October 2016, Public Company Information

1) A major cause of stroke

The Uber for Doctors: Practo

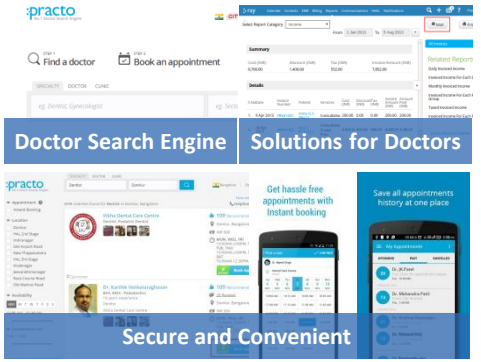
Company Overview

Headquarters: Bangalore, India

- **Founded:** 2008
- **# Employees:** 224
- **Business Description:** Online service for scheduling appointments with doctors and provides practice management solutions for doctors. 1m doctors listed from over 310 Indian towns and cities. 7.5m unique patients and over 7m appointments per year
- **Key Developments:** $90m funding from Tencent, 2015. Other investors include Sequoia, Sofina, Google Capital. Use of proceeds for lead generation and to accelerate international expansion
- **CEO:** Shashank ND

Key Product Offerings

- Practo: Consumer facing doctor discovery portal
  - Free product for patients that enables users to find doctors who specialise in a wide variety of medical care. The portal also allows contextual advertisements from hospitals and clinics
- Doctor facing practice management software: Subscription-based SaaS product that provides solutions for doctors



Subscription as a Service | **Healthcare 2.0** | **Big Data**

Business Model

Key Monetisation Areas

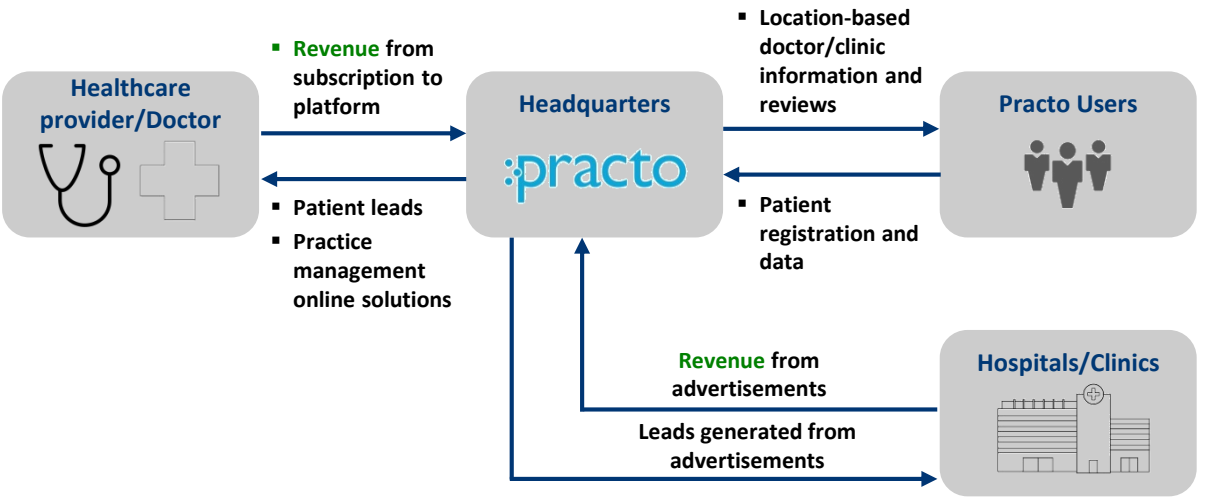
- Main revenue drivers from sale of Healthcare provider/Doctor facing practice management SaaS software on a subscription basis and from advertising/listing revenue from hospitals and clinics on the company's consumer facing portal

Key Themes

- Online Community
- Big Data
- Patient management system

Comparables with Similar Business Models

lybrate | ZocDoc (Get well sooner.) | BetterDoctor



Source: IBIS Capital, Capital IQ as at 11 October 2016, Public Company Information

A Fully Integrated Healthcare Platform: Babylon Health

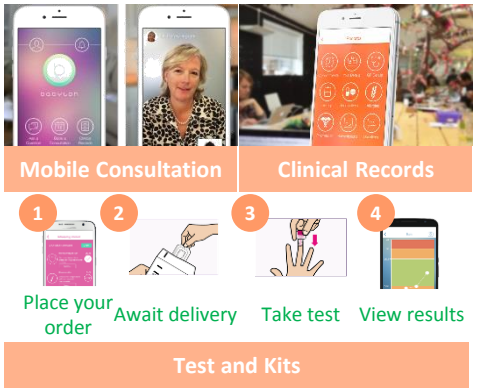
Company Overview

Headquarters: London, United Kingdom

- **Founded:** 2014
- **# Employees:** 100
- **Business Description:** mHealth app providing a platform for users to book appointments, access clinical records and utilise the app's data analysis system. 100+ GPs, therapists and specialists employed across the UK and Ireland offering a pay-as-you-go and subscription consultation services to 250,000+ users
- **Key Developments:** $25m funding from AB Kinnevik, 2016. Other investors include BXR Group, JamJar and Hoxton Ventures
- **CEO:** Ali Parsa

Key Product Offerings

- Main product offering on the platform is the Babylon Health app offering GP consultations and online health information services on a user's mobile phone
- The platform provides clinical records services allowing patients to upload information on their health history and medication for improved consultation services
- Users can order Tests & Kits for monitoring and testing of diabetes, cholesterol, liver, kidney and blood



Internet of Things | **Subscription as a Service** | **Big Data**

Business Model

Key Monetisation Areas

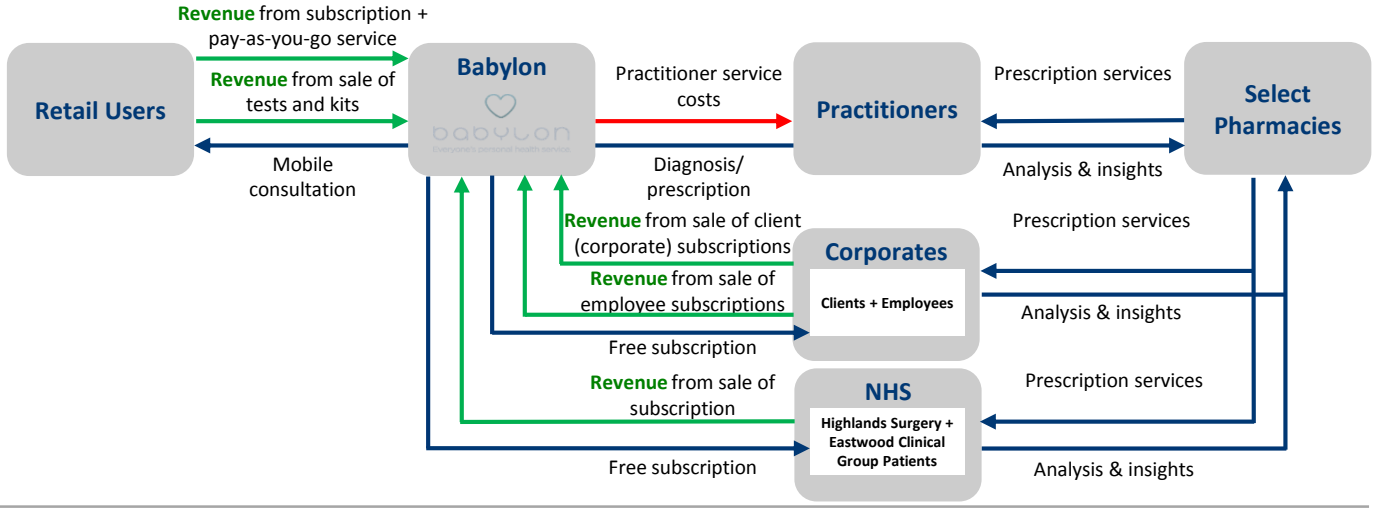
- Main revenue drivers from sale of mobile consultation services on a subscription and pay-as-you-go basis and from rolling out subscription contracts amongst corporate partnerships

Key Themes

- Mobile Consultation
- Big Data
- Mobile Clinical Records

Comparables with Similar Business Models

Now Healthcare | healthiestyou | Push Doctor



Source: IBIS Capital, Capital IQ as at 11 October 2016, Public Company Information

A Learning Portal for All Things Dentistry: Dentinal Tubules

Company Overview

Headquarters: London, UK

- **Founded:** 2009
- **# Employees:** 10
- **Business Description:** Learning portal for the UK dental community offering live and recorded webinars, online community, professional development courses, product services and job search/advertising functionalities operating a subscription based service, currently c.25,000 professionals subscribed
- **Geographies:** United Kingdom
- **Key Developments:** Privately owned
- **Ownership:** Founder
- **Founder:** Dhru Shah

Key Product Offerings

- Dentinal Tubules provides an online learning portal for dentistry that allows dentist to chat, share and learn
- The website is a self-service platform, as users upload their own learning materials for others to use
- Providing unique user directory and specialist case insights to offer a peer-to-peer advice stream
- Watch live events in dentistry academia provided via the company's streaming portal

Tubules Live | Forums | Partners

Directory | Cases | Videos

Groups | Documents

Subscription as a Service | Peer to Peer | Healthcare 2.0

Business Model

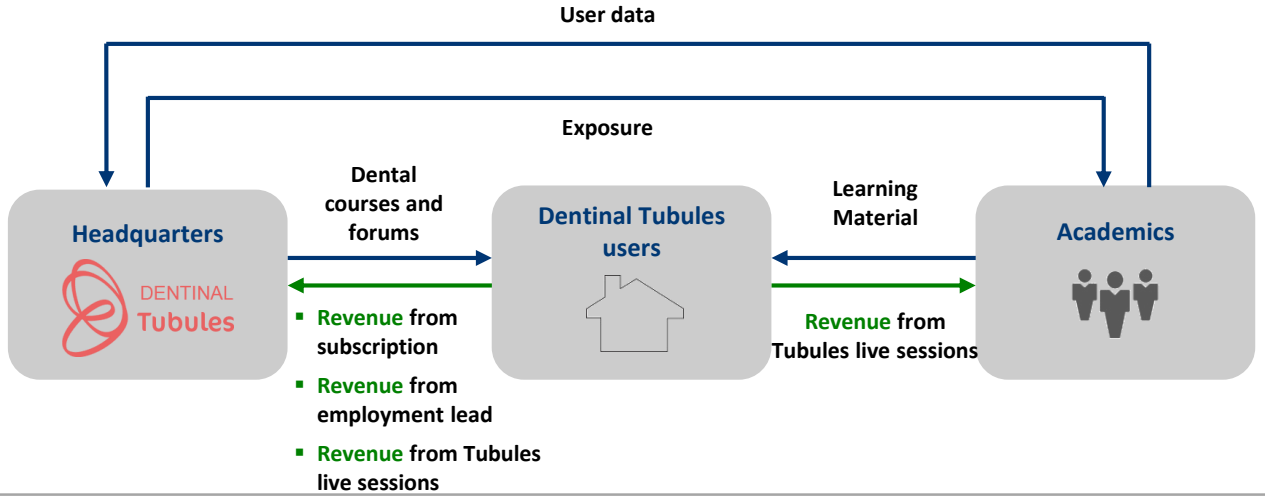
Key Monetisation Areas

- Main revenue drivers from sale of monthly subscription to individuals and corporates on a single or multiple member package and from employment leads

Key Themes

- Online dental community
- Forum
- Courses and live webinars

Key Partnerships



Source: IBIS Capital, Capital IQ as at 11 October 2016, Public Company Information

A Market Leader in Providing an End-to-End Service for the Patient Lifecycle: Synergix Health

Company Overview

Headquarters: London, UK

- **Founded:** 2013
- **Chairman:** David Ravech
- **CEO:** Bayju Thakar
- **Business Description:** Synergix Health owns an integrated portfolio of health services that provides a full service platform offering to patients from consultation to medication delivery. The company serves 30+ blue chip clients across the UK including Microsoft, SAS, Roche and Mcdonalds with access to 30k+ end users and has achieved 100% client retention to date
- **Key Developments:** £6.5m of profits reinvested into the platform expected to yield c.10x return on investment by FY2019[1]. Partnership agreement in 2015 with AXA PPP healthcare to roll-out digital healthcare services to its corporate clients; potential market opportunity of 5m+ end users identified

Key Product Offerings

Doctor Care Anywhere	Provider of secure phone and video GP[2] appointments globally with real-time health tracking and prescription management capabilities. Rigorous credential checks and industry leading training for all physicians on platform
health guardian	Digital care platform that creates schedules for medication adherence, lifestyle and health tracking and real-time clinical support leveraging Doctor Care Anywhere's team of expert physicians
Prosper.	Digital design and multi-platform app specialising in the development of health and productivity tools. Platform developed by a leading team of designers and architects with 20+ experience in helping health brands

DIAGNOSE → PRESCRIBE → DELIVER

Telehealth | **Subscription as a Service** | **Remote Monitoring**

Business Model

Key Monetisation Areas

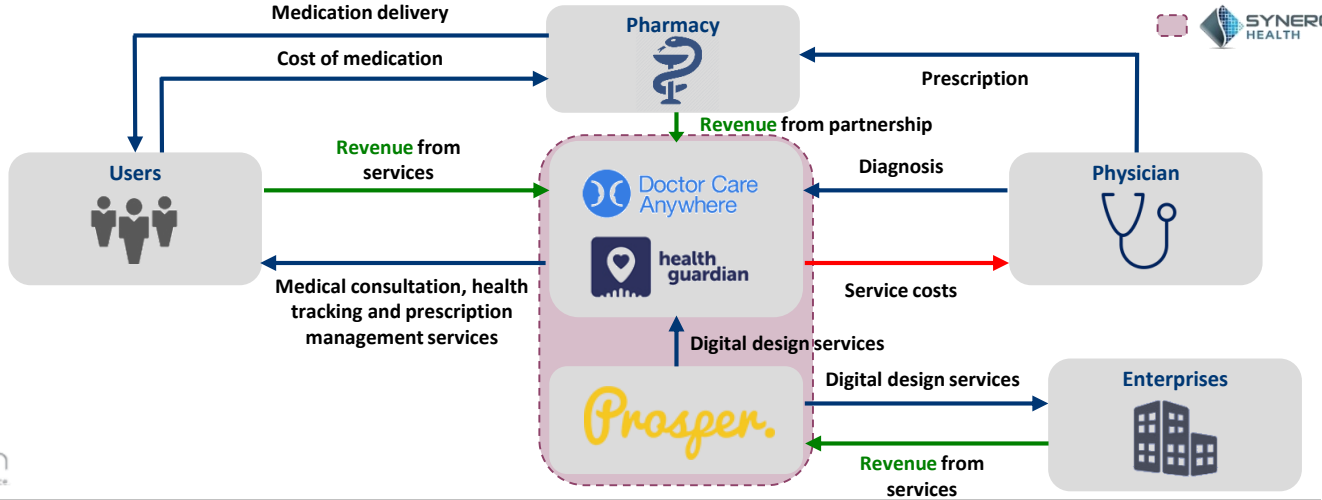
- Subscription-based pricing with variable subscription period for retail consumers
- Licence-based contracts for enterprise customers
- Attractive operating margins beyond minimum efficient scale with net profit margins[3] of c.40% achieved to date

Key Themes

- Fully integrated patient experience
- Global prescription capabilities
- Enhanced patient engagement and outcomes

Comparables with Similar Business Models

healthiestyou | NowHealthcare | babylon



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Source: IBIS Capital, Capital IQ as at 11 October 2016, Management, Public Company Information

1) Financial year end March
2) General practitioner
3) Net profit before tax

Surgical Procedure Mapping: Touch Surgery

Company Overview

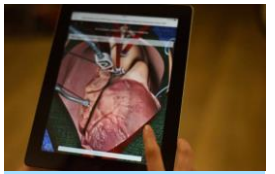
Headquarters: London, UK

TOUCHSURGERY

- **Founded:** 2011
- **# Employees:** 35
- **Business Overview:** Provider of a virtual surgical simulator platform for medical students and patients. The company has received 1m+ global downloads and 30,000 hours of use per month, publishing 60+ procedures in a variety of surgical specialities
- **Key Developments:** Touch Surgery raised $5m of Series B funding from Redline Capital Management and Episode 1 Ventures in 2014
- **CEO:** Jean Nehme

Key Product Offerings

- Touch Surgery's platform allows healthcare professionals and patients to learn, practice and teach surgical procedures anytime, anywhere
- The company allows users to practice 60+ procedures on their mobile devices and assess cognitive competency through a real-time feedback and data dashboard from a range of specialty curriculums including orthopaedics, general surgery, emergency medicine, plastics and maxillary facial surgery using the app's health insurance portability and accountability compliant built-in analytics tools
- A social media interface allows users to connect with physicians and share experiences with peers



Surgery Simulation

Data Analytics

Artificial Intelligence | Big Data | Healthcare 2.0

Business Model

Key Monetisation Areas

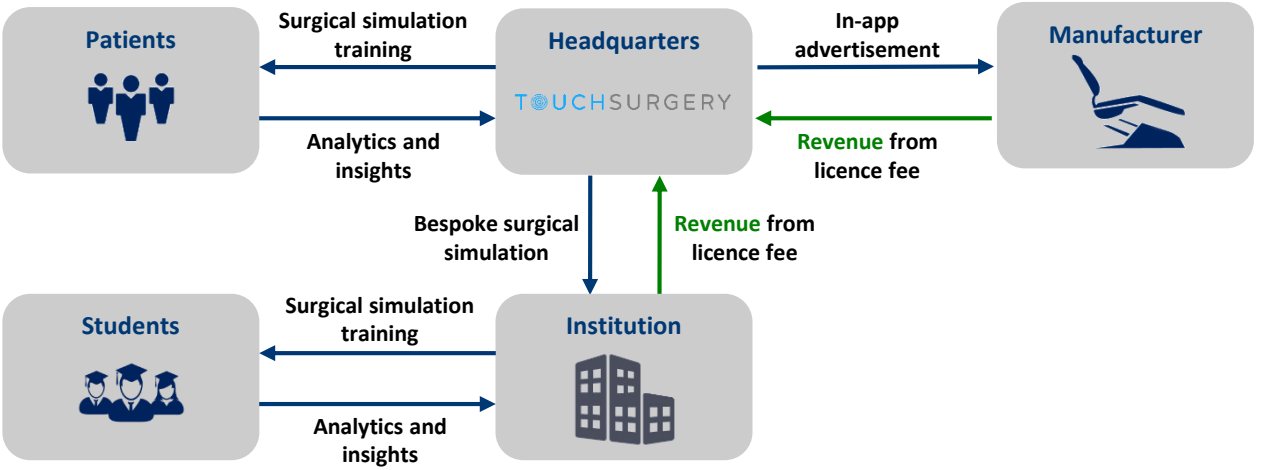
- Main revenue driver is licence fee agreements from surgical device manufacturers and medical training institutions

Key Themes

- Immersive environments
- Device agnostic
- Data & analytics

Comparables with Similar Business Models

immerse | Medical Realities | VIRTAMED WE SIMULATE REALITY



Source: IBIS Capital, Capital IQ as at 11 October 2016, Public Company Information

About IBIS Capital

Specialist HealthTech Team

Extensive Experience of Investment Banking, Corporate Development and Asset Management across Digital Transition Industries

Charles McIntyre
CEO & Founder

- 25+ years of experience as an advisor, investor and entrepreneur in the Media, Digital Media and Education sectors (100+ transactions)
- Partner at Apax Partners and in 1999 spun out investment banking arm practice to form Altium Capital (acquired by Gold-Zack in 2000 for £150m)
- Co-founded IBIS Capital in 2004
- Co-founder of EdTech Global

Jamie Ritchie
Partner

- 10+ years of experience in M&A, private equity, venture capital, joint ventures and fundraisings, advising start-ups through to FTSE 100 companies, stakeholders and management teams
- Partner, Head of London Office & Corporate Team, Wilsons Solicitors LLP
- Corporate lawyer at Ashurst, including secondment to the equity capital markets team of Bank of America Merrill Lynch, overseeing IPOs and equity fundraisings

Rory Henson
Associate

- 5+ years of experience in investment banking across TMT, Education and Healthcare sectors
- Investment banking with Jefferies working with high growth clients across Media, Digital Media, Internet, Communications, Software, Telecommunications on private placement, M&A and equity/debt offerings
- Co-founder of HealthTech advisory coverage and HealthTechXGlobal
- Leads HealthTech research coverage

Ivan Ong
Analyst

- 3+ years of experience in investment banking across Media, Technology and Education sectors
- Equity research experience across the North American and European Cleantech sectors
- Co-founder of HealthTech advisory coverage and HealthTechXGlobal
- Leads HealthTech research coverage
- Holds an MSc Finance from Imperial College London
- Significant contributor to EdTech Europe proprietary research coverage

IBIS Capital
15 Media Banking Specialists

citi Jefferies Deloitte. UBS Lehman Brothers Bank of America Merrill Lynch

Unrivalled Sector Network and Research Capabilities

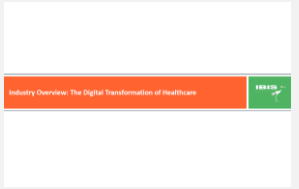
PROPRIETARY KNOWLEDGE AND NETWORK WITHIN THE HEALTHTECH ECOSYSTEM

GLOBAL NETWORK

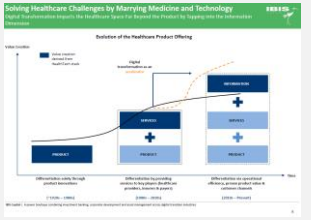
- Access to industry "Movers & Shakers"
  - Proprietary industry database
- "Peer & Experts" validation network

RESEARCH & INSIGHTS

- Global and pan-regional research
- Proprietary insight on innovative companies (>200 profiles on growth companies)
- HealthTechX 20 Awards



healthtechx global



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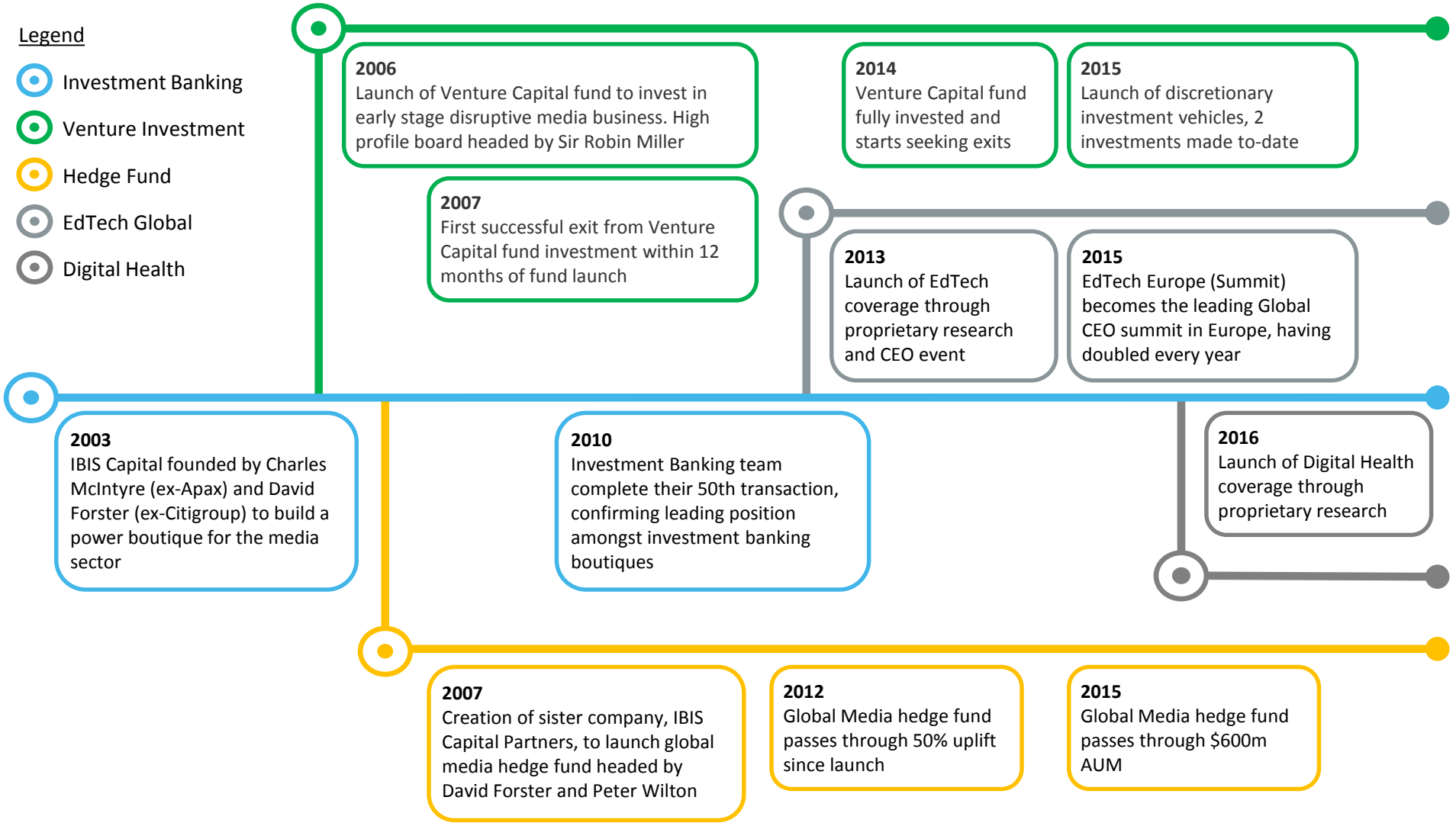

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