THE FUTURE OF INTELLIGENT THINGS

How connected health is disrupting the world of MedTech

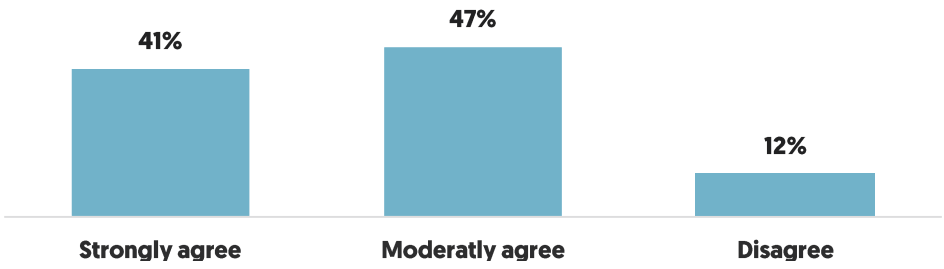
Ipsos Healthcare

Executive summary

There is little doubt that connected health may offer the answer to alleviating financial pressures on healthcare systems and improving patient outcomes, but how exactly can this be achieved? What concerns and barriers need to be considered and who exactly is leading the future of healthcare?

The principle is "prevention not treatment" which would create cost savings for healthcare providers and benefit patients by improving their overall health outcomes. In order to achieve this, however, healthcare delivery must become more patient centric or 'individually tailored'. Interoperable healthcare devices and added value healthcare solutions aim to keep an up-to-date patient profile by communicating this information to providers. This enables healthcare providers to then track changes and ultimately prevent the development of more serious conditions. Early detection translates into early, often less aggressive, treatment. Four in ten primary care physicians in the US and UK who recently participated in the Ipsos Healthcare 'Future of Connected Health' survey strongly agree that remote monitoring of chronic conditions can reduce unnecessary emergency room visits.

TO WHAT EXTENT DO YOU AGREE THAT REMOTE MONITORING OF CHRONIC CONDITIONS CAN REDUCE UNNECESSARY EMERGENCY ROOM VISITS OR RE-HOSPITALIZATION?



One of the key aspects of connected health is patient-generated data obtained through a vast spectrum of devices such as activity trackers, condition specific devices such as asthma inhalers, and implants including defibrillators which communicate patient data wirelessly to cardiac specialists. Research conducted by Ipsos Healthcare shows that 39% of UK and US primary care physicians strongly agree patient generated data should be included in electronic medical records. Moreover 29% of UK and US doctors would include this data in order to inform diagnostic decisions.

Despite strong market growth in this sector, barriers to implementation and adoption still stand in the way of manufacturers.

MedTech sales are estimated to reach a 5.2% compound annual growth rate [CAGR] between 2017 and 2022 not counting connected health devices. The connected health market is expected to be worth $61bn by 2020. The US is one of the markets with some of the highest penetration rates - 21% of adults currently use a connected health device to manage their health, which is not surprising given that around 50% of physicians in the US recommend devices to around 20% of their patients.

So the market for devices is looking healthy, but this alone does not enable better outcomes at lower cost. The majority of the largest medical device companies are now providing serviced-based offerings focused on earlier detection and better informed treatment decisions. Although initially it may appear counter intuitive for device suppliers to reduce the need for costly interventions, pressures for healthcare providers and payers to save money has brought forward the concept of sharing the cost benefits derived from such solutions. Connected health is a highly disruptive and competitive space with many start-ups and non-medical firms seeking to establish themselves. The race has begun for device companies to become market leaders in their respective fields. Establishing themselves early will enable them not only to build longer lasting relationships with healthcare providers and payers, but also to shape the future of healthcare delivery. The same can be said of LifeScience companies, which are developing "beyond the pill" strategies around their molecules to survive the future "connected" world.

All competitors are, however, faced with the same barriers and challenges. Funding the adoption of connected health solutions is a major obstacle to both national healthcare services and solution providers. On a national level, institutions are fighting with budget constraints and the fact that most of the connected health services and devices are not adequately reimbursed. Manufacturers are also now facing the challenges of changing rules to the classification criteria of devices. After a three-year grace period, devices which run any type of algorithm which may impact treatment decisions, will be classified into band 2 or 3 depending on the level of impact. Potentially any connected health device which provides diagnostic suggestions could fall into this category. Costs begin to spiral as manufacturers are seeking legal advice in trying to become compliant and operate in this regulatory minefield.

The future landscape of healthcare may mean much smaller hospitals, given that fewer admissions would be required as a result of responding earlier to changes in health conditions. 'Bits not bricks' is the motto to represent this vision. Nevertheless, until we get to that point we must answer the question, how do we fund the implementation of this transition?

*IPSOS Future of Connected Health PULSE survey January 2017

The landscape of data protection & cybersecurity

One of the greatest concerns to proponents of connected health and sceptics alike are the security measures put in place to guard patient information.

Funding only poses part of the challenge as healthcare professionals question issues over the protection of personal information. Despite being open to the use of patient generated data, 58% of US and UK physicians are concerned about how the patient data is handled and secured. Moreover 78% find 'defined and certified' technical standards very important. 'Cybersecurity' is a hot topic discussed throughout the industry. It is generally accepted that healthcare in the future will continue to rely on digital technology, but at the same time the potential threats from cyberattacks must be limited to a minimum.

Using hacking tools believed to have been developed by the US National Security Agency, a global cyber-attack recently crippled the British NHS, forcing at least 16 health service organisations to revert back to pen and paper. Demands ranging between $300k - $600k were made to restore access. In a different, unrelated case, hackers managed to manipulate insulin pumps which were connected to the IT-network in the healthcare space, altering the dosages. The manufacturer was forced to issue warnings of potential security breaches. The new issue of the EU Medical Device Regulation (MDR) requests a standardised security measure to be applied to hardware and software protecting against unauthorised access. The question remains though who is to regulate and govern these measures.

The importance of this issue has been recognised and forms a central part of the strategy towards shaping a connected health future. It is clear that manufacturers, suppliers and users must speak the same 'language'. Only then can users follow and implement the measures put in place by manufacturers. This is not only the case horizontally, but also vertically between various competing device companies. Connected health draws data from various capture points feeding it into one universal operating system. Healthcare providers are aiming for one global network. Only when all components speak the same language can an effective network be achieved and moreover protected against attacks. One of the leading bodies defining and implementing such security measures and common language is the Personal Connected Health Alliance (PCHA) with its Continua design guidelines and product certifications. The Continua council is made up of some of the leading organisations including Intel, Medtronic, Philips, Roche Diagnostics, Johnson & Johnson, Becton Dickinson, UnitedHealth Group and Ipsos Healthcare. The common aim is to develop a future connected health structure within a secure framework, benefitting healthcare providers and patients alike.

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The importance of user experience

Adoption is nothing without retention. In no other Industry is the “end user” relegated to the side lines in the design of a service built to serve them. Healthcare as an industry needs to embrace the patient at the heart of everything they do. Devices and services must be user friendly, intuitive and designed to be accessible to all ages, socio-economic groups, literacy levels and cultures.

Adoption only poses part of the challenge for providers. Currently 29% of the online population in China use a connected health device or tool to manage their health. More striking, though, is the fact that 18% of the population formerly owned a connected health device and have since stopped using it. Product retention forms the other part of the challenge and is linked to usability. 24% of the Chinese online population find devices, trackers and apps too much effort to use. Involving the end-user in the design process helps to address these challenges and is becoming more common practice. “Hackerthons” are now carried out providing a platform for users to express their needs and ideas which are then directly implemented into the design process.

Connected health may collect data through wearables and other devices but this only forms part of the concept. Desktop interfaces allowing for self-monitoring as well as apps serving the same purpose are becoming increasingly available and important to communicating personal connected health data to the appropriate channels. Health apps are flooding the market with varying degrees of efficacy. One of the more successful apps is the Babylon Health app which entails the recording of symptoms based on text entry and photos, connecting to doctors throughout the world in order to get their feedback. Of course the usual activity trackers are included which record data and take this into consideration, achieving more precise diagnosis. Physicians agree that digital tools must always only support and never replace human judgement. Nevertheless, digital solutions are not only supporting diagnosis, but also saving time and money. The Kaiser Permanente group in the US has already standardised the approach of remote diagnosis and GP interactions are supported by uploads of videos, pictures and other media. Visits to GPs cannot be completely eliminated (yet) but digital solutions are helping to reduce them. This saves travel and waiting time as well as other inconveniences such as those who struggle with mobility.

Suppliers are coming up with new products and solutions every day. Phone attachments reading blood sugar levels are already considered veterans in the market. Virtual and augmented reality are currently driving innovation, not only in the healthcare sector. Mental health treatments are utilising these technologies for remote and bespoke treatments already. Interactive health is becoming the standard of care supported by virtual reality solutions. The London based venture Mindwave is pioneering the treatment of OCD in young people by taking patients through clinically controlled exposure therapy using VR as their platform. This approach enables a completely custom designed environment for each patient, designed in accordance with their individual needs.

Design is pivotal for success and improvement and relies on patient feedback. We have gone beyond patient satisfaction research, obtaining crucial design concepts straight from the people who matter the most - the user. Conducting research with biometrics combined with VR/AR (Virtual Reality/Augmented Reality) capabilities enables manufacturers to address the ever-changing needs of patients, ensuring differentiation in an increasingly crowded market.

The future success of connected health relies on transparency, education & advocacy...

Manufacturers are met with challenges on multiple levels. Not only do product offerings have to suit a fast developing market, but external factors must also be taken into consideration. Education and advocacy must be undertaken in order to gain buy-in from the more sceptical healthcare providers. In the US and UK 52% of physicians remain only moderately convinced that personal connected health devices can improve outcomes. Furthermore 37% are only moderately convinced that patient generated data should be included in EMR systems. This is where communication of the right information through the right channels becomes crucial to product uptake.

Addressing concerns such as data security can only fully work when the entire industry aligns. Partnerships such as the PCHA are making headway in drawing all the information together to enable solutions which will re-assure physicians and patients alike that appropriate market standards have been defined and implemented.

... and we are doing our bit to support this brave new world

The Ipsos Healthcare Centre of Excellence for Connected Health provides organisations with answers to their critical business needs. Typically, this reaches far beyond identifying customer segments and their needs and drivers. At the root of connected health marketing strategies lies the need to clearly define provider and user needs - the key component for solution development. Key communication channels and messaging prioritisation is one of the most common business objectives we help to address.

The challenges we typically observe in this market are formulating customer engagement plans which external stakeholders draw upon to facilitate product uptake. Given the holistic approach of connected health, payers have become as important as providers and users. Finding payer solutions relies on establishing optimal payment models and reimbursement strategies. After all, cost is one of the major barriers to adoption amongst both providers and users.

Just like the fast-paced innovation of technology, connected health is constantly developing and changing. In order to remain ahead of the curve, it is crucial to keep abreast of the market. At Ipsos we do this by using the latest research methodologies available and running regular research studies to help build evidence in the field of connected health. Our approaches include the use of AR/VR, biometric analysis, rapid research (providing feedback from healthcare professionals within 24 hours) and many other cutting edge technologies, as well as traditional research with market influencers and key opinion leaders. This enables our clients to not only be part of, but also shape the future of connected health.

Want to learn more? Please get in touch with:

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IPSOS Connected Health Centre of Excellence

Ipsos have a global centre of excellence in connected health which inputs into all studies with any component of connected health to ensure robust material design, correct sampling, cutting edge thinking and genuine insight, in context.

We are also thought leaders in the connected health space. Recently our data and insights were used to inform the healthy longevity initiative and will appear in Joseph Kvedar's latest book The Mobile Age. Ipsos is a global member and sits on the executive board for Personal Connected Health Alliance. We have an active voice in the connected health conversation and are Continua certification holders.

About the Research

IPSOS Future of Connected Health PULSE survey January 2017

The PULSE survey on the future of connected health was conducted with 650 General Practitioners [Italy n=93, USA n=153, UK n=103, France n=100, Germany n=100, Spain n=101] between 25th January and 30th January 2017 as part of the IPSOS Healthcare Rapid Research program. The survey offers insights into perceptions towards connected health, potential uptake, concerns and perceived benefits.

IPSOS International Survey on Connected Health November 2016

The Connected Health 2016 survey was conducted with 11,013 adults aged 18-80 [USA n=5,003, UK n=3,002, Japan n=3,008] between 14th September and 20th November. The first Ipsos International Survey on Connected Health, spanning the USA, UK and Japan and multiple stakeholder perspectives, offers a picture of the uptake and use of connected health technologies. The inaugural survey also contains an in-depth focus on Type 2 Diabetes across the study markets, including a technology preference segmentation of patients in the USA and UK. Type 2 Diabetes was chosen for its high prevalence and likelihood to be influenced by digital and connected health in the future.

IPSOS Global Trends 2017

The 2017 Global Trends survey is an Ipsos survey conducted with 18,180 adults aged 16-64 [in the US and Canada 18-64] between 12 September and 11 October 2016. This is the second wave of the Global Trends survey – a previous version was run in 2013 with 20 countries and the report was published in 2014. The survey was carried out online using the Ipsos Online Panel System in 23 countries – Argentina, Australia, Belgium, Brazil, Canada, China, France, Great Britain, Germany, India, Indonesia, Italy, Mexico, Japan, Peru, Poland, Russia, South Africa, South Korea, Spain, Sweden, Turkey and the United States of America. Approximately 1000+ individuals were surveyed in Australia, Brazil, Canada, China, France, Germany, India, Indonesia, Italy, Japan, Spain, Great Britain and the United States of America. Approximately 500+ individuals were surveyed in Argentina, Belgium, Poland, Mexico, Peru, Russia, Saudi Arabia, South Korea, Sweden and Turkey.

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