

A group of diverse students, including young men and women of various ethnicities, are gathered around a tablet computer. They are all looking at the screen with interest. The background is a soft-focus outdoor setting with green foliage. The entire image has a blue color overlay.

Developments in e-mental health for students

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The digital world we live in

Healthcare is getting smarter

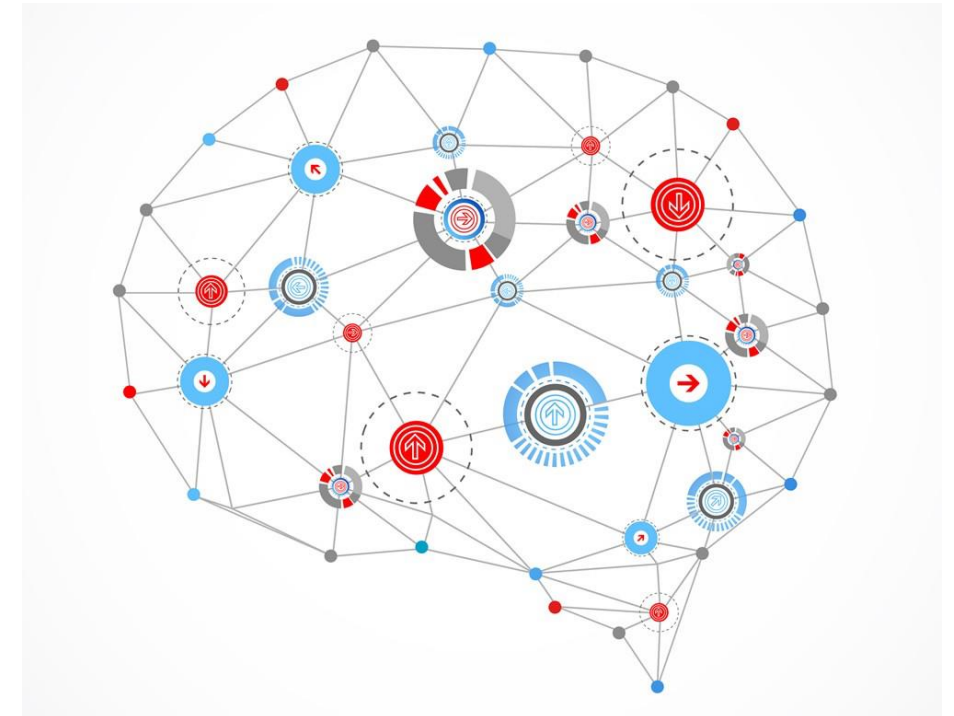
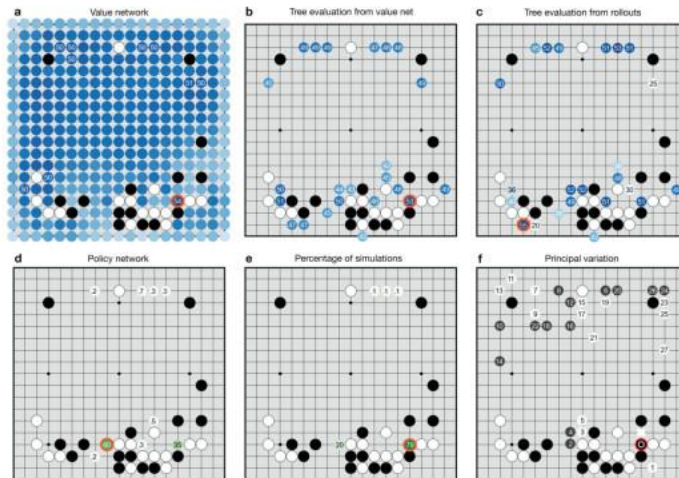
With quality, outcomes, and value the watchwords for health care in the 21st century, sector stakeholders around the globe are looking for innovative, cost-effective ways to deliver patient-centered, technology-enabled “smart” health care, both inside and outside hospital walls.

*Deloitte 2018 Global Health Care Outlook
The Evolution of Smart Health Care*



SMART HEALTHCARE

- Google searching
- AlphaGo Mastered the Game of Go with Deep Neural Networks

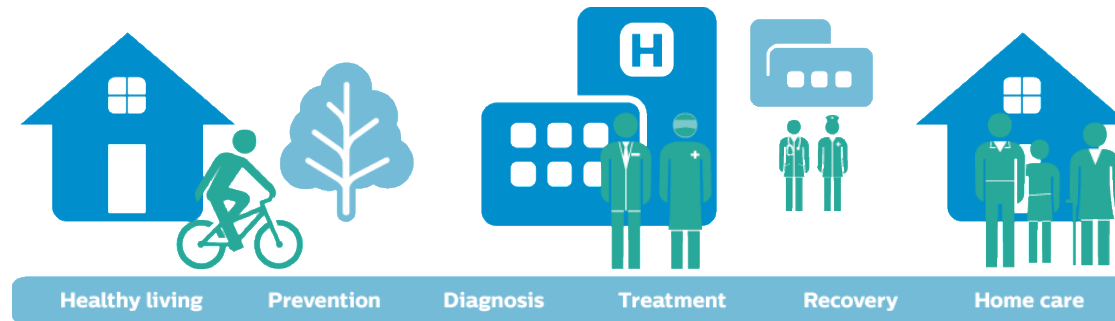
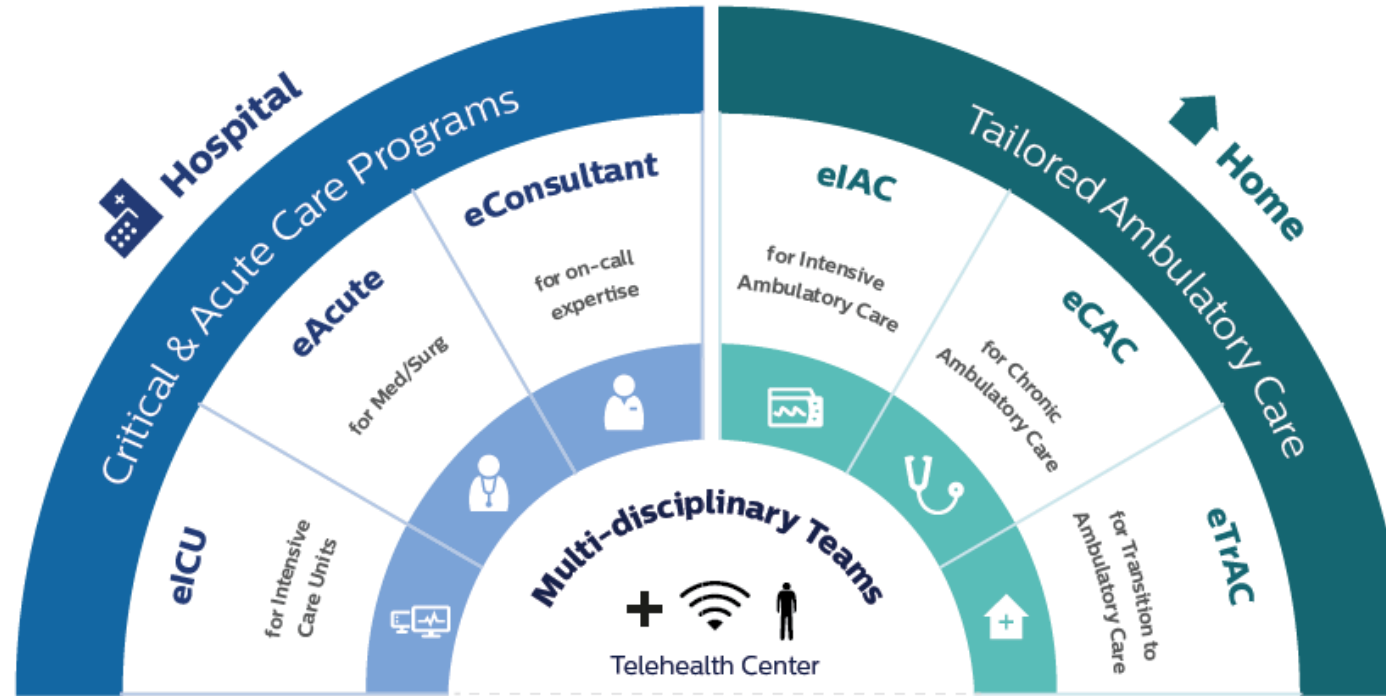


Neural Networks



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Waves of transformation in healthcare





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Waves of transformation in healthcare

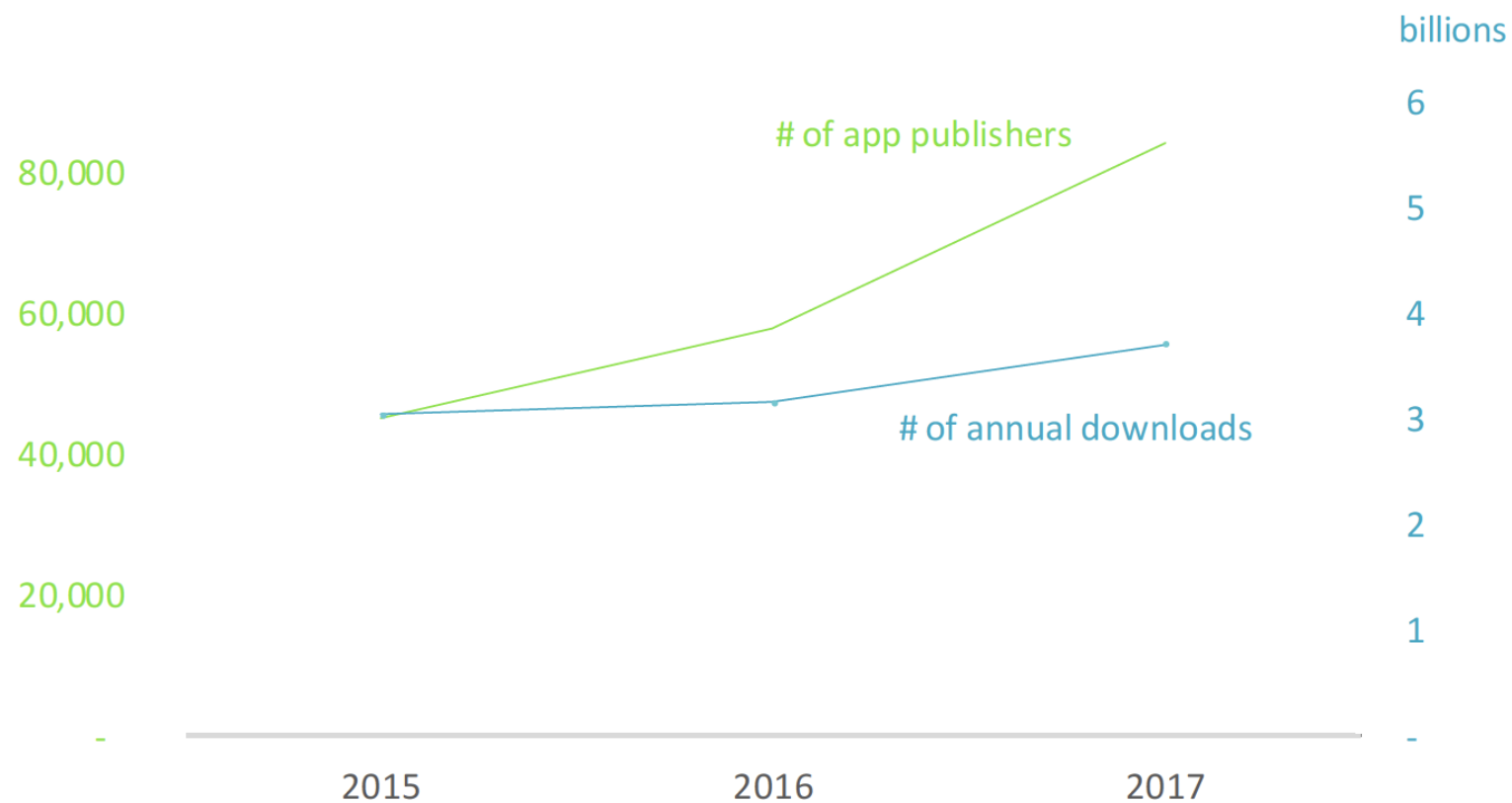


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Number of downloads of health apps; number of health app publishers 2015-2017



Majority <5,000
downloads

Only 2% >500,000
Monthly
active users



Wellness Management

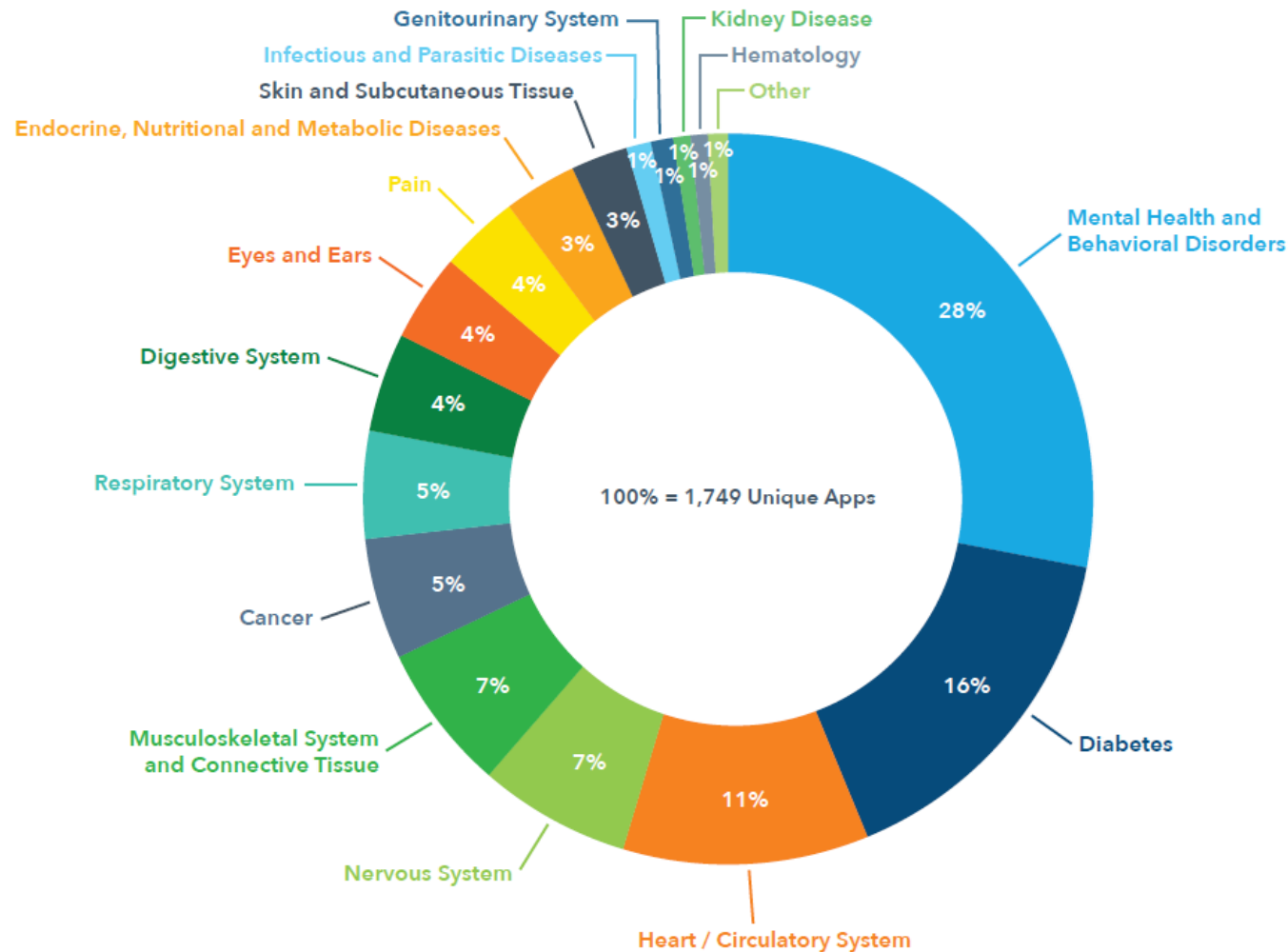
- Facilitate tracking and modification of fitness behaviors, lifestyle and stress and diet

Health Condition Management

- Information on diseases and conditions, enable access to care and enable treatment protocols



Exhibit 6: Disease-Specific Apps by Therapy Area



Top five condition management areas

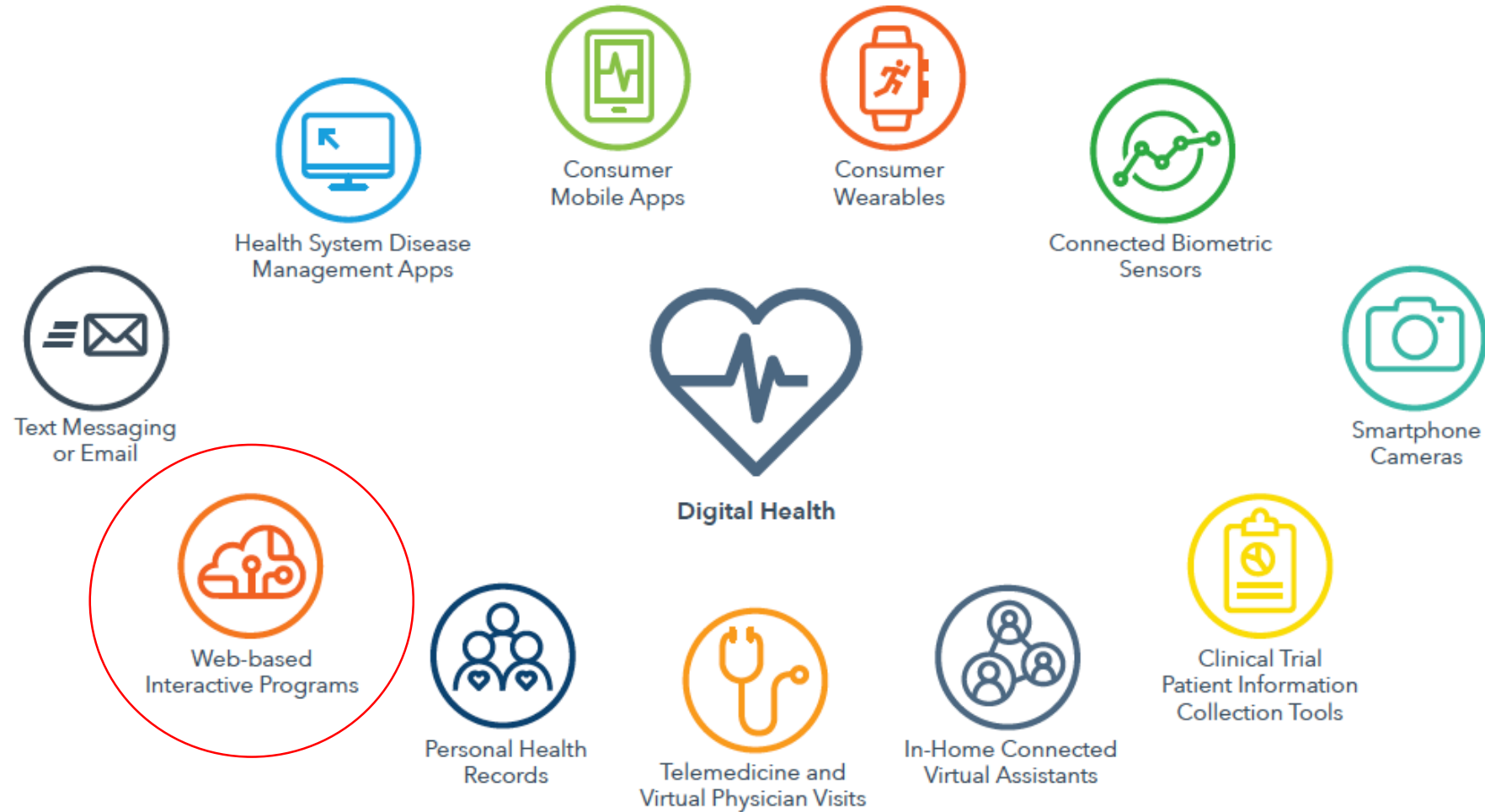
1. Mental health conditions
2. Diabetes
3. Heart and circulatory conditions
4. Nervous system disorders
5. Musculoskeletal conditions



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Health Condition Management Ecosystem

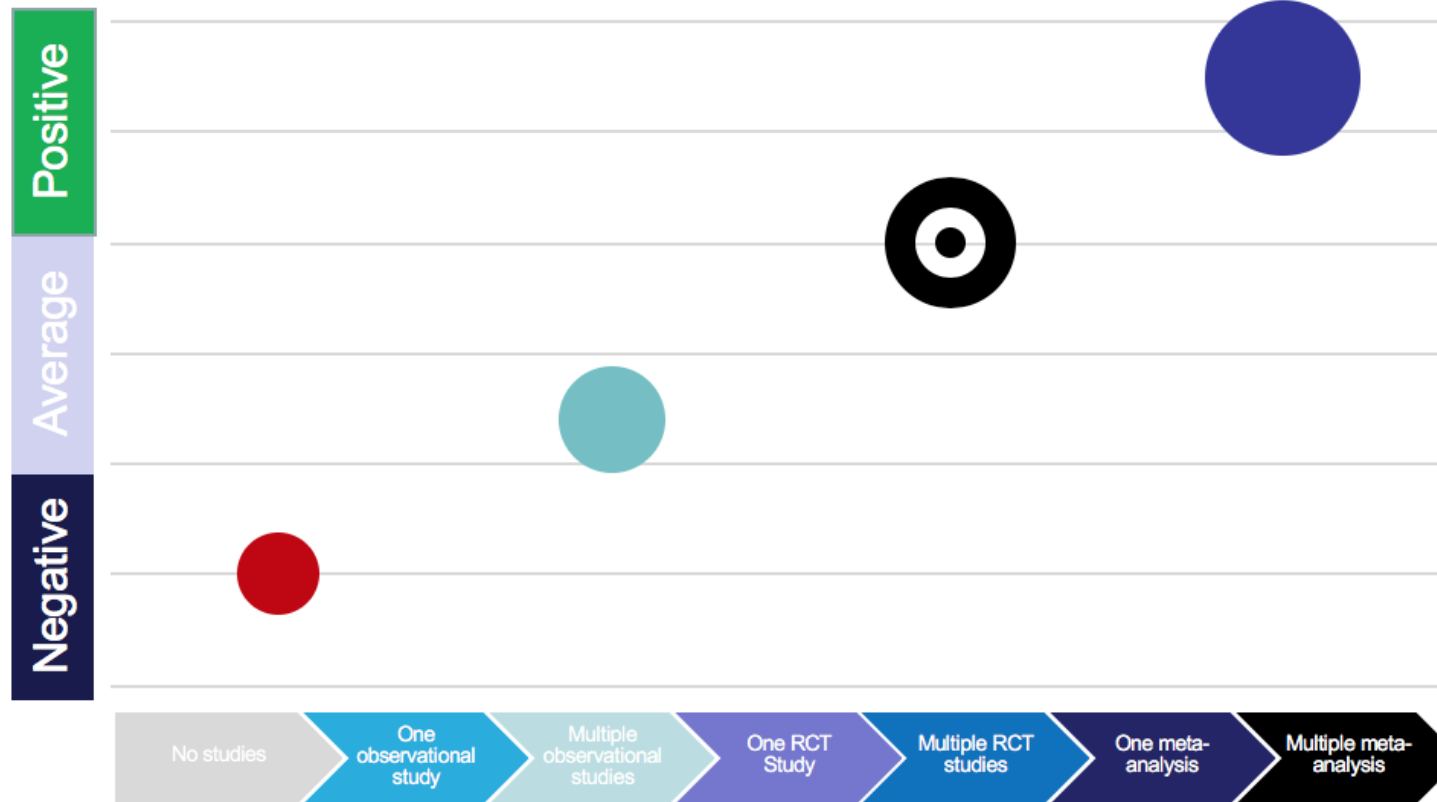
Exhibit 1: Digital Health Tools





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Maturity of digital health efficacy studies



Candidates for inclusion in Clinical guidelines: Depression, Anxiety, Diabetes.



NICE National Institute for Health and Care Excellence

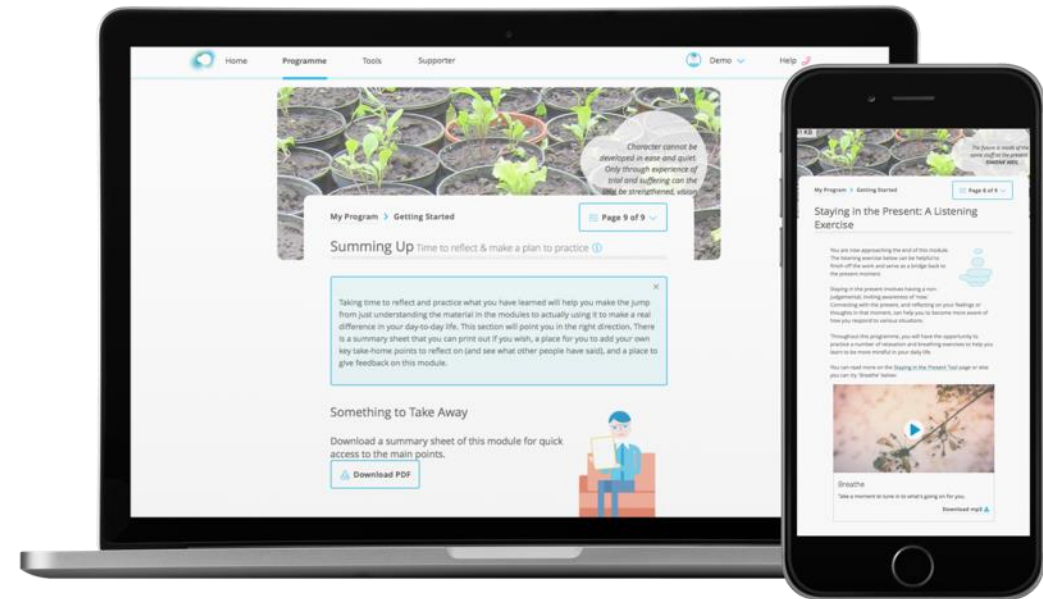


Internet-delivered CBT

There have been really positive moves to increase access to evidence-based psychological therapy for anxiety and depression.

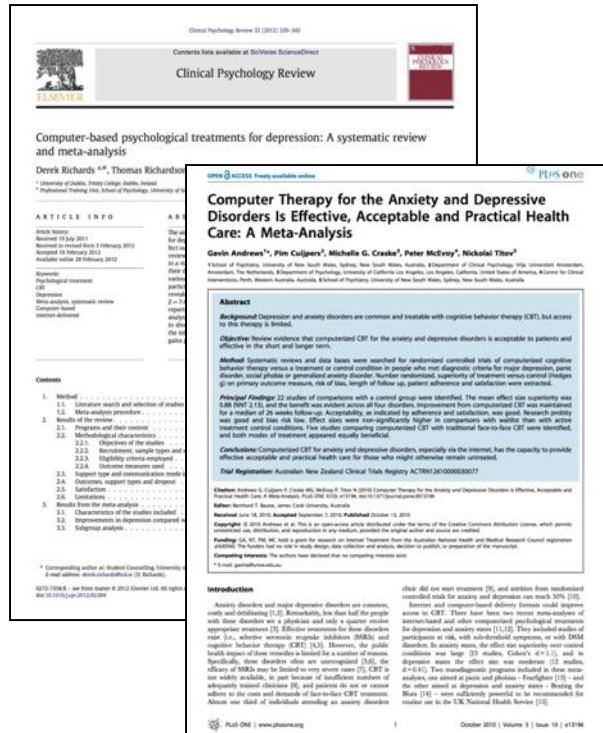
To really help as many people as possible, we need creative solutions that fit into modern life and the ways in which people want to access support.

As technology becomes ever more part of our daily lives, it is important we have treatments that bring CBT to even more people who can benefit, in ways that they want to access it.



Internet-delivered cognitive behavior therapy (iCBT) is a method for the dissemination of CBT.

History and Research



Mid-late 90s multiple researchers began to comment on **the potential uses of the internet for CBT** (Riley & Veale, 1999)

Issac Marks - one of the first pioneers of recognising the potential of computers to increase access to CBT (Marks et al, 2008)

Andrews et al (2010) in their meta-analysis of 22 studies concluded that cCBT for anxiety and depressive disorders, especially via the internet, has the capacity to provide effective **acceptable and practical health care**

1999

2008

2010

History & Research



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History and Research



Review of computerised cognitive behavioural therapies

Products and outcomes for people
with mental health needs

Joanna Hofman, Alexandra Pollitt, Miriam Broeks,
Katherine Stewart, Christian van Stolk

Richards & Richardson meta-analysis - 19 studies of cCBT for depression. **Therapist-supported studies ($d=0.78$), administrative-supported studies ($d=0.58$); no support size ($d=0.36$).**

RAND review of available cCBT products and their outcomes by Hofman et al (2016) provided a systematic assessment of cCBT platforms.

Wright, Owen, Richards, et al., 2019 40 studies revealed an overall estimated post-treatment ES $g = 0.502$ and at follow-up with 21 studies an ES $g = 0.29$. Therapist-supported studies ($g=0.673$) and studies with no support size ($g=0.239$).

2012

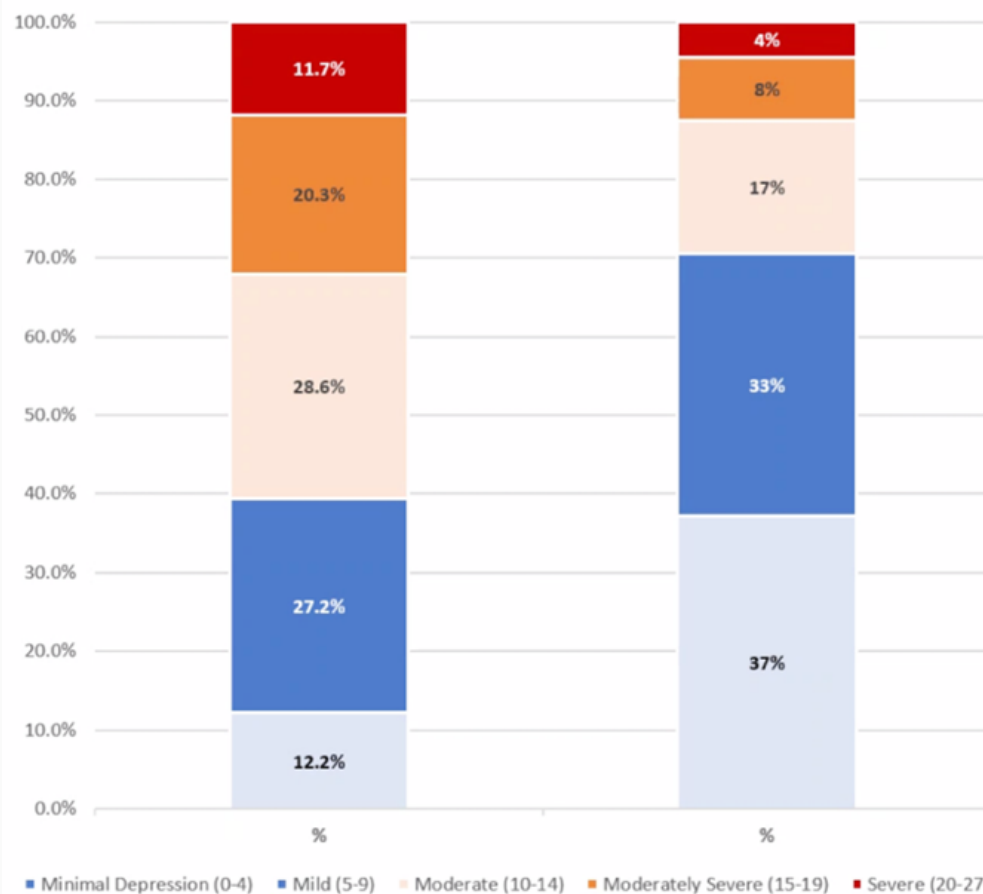
2016

2019

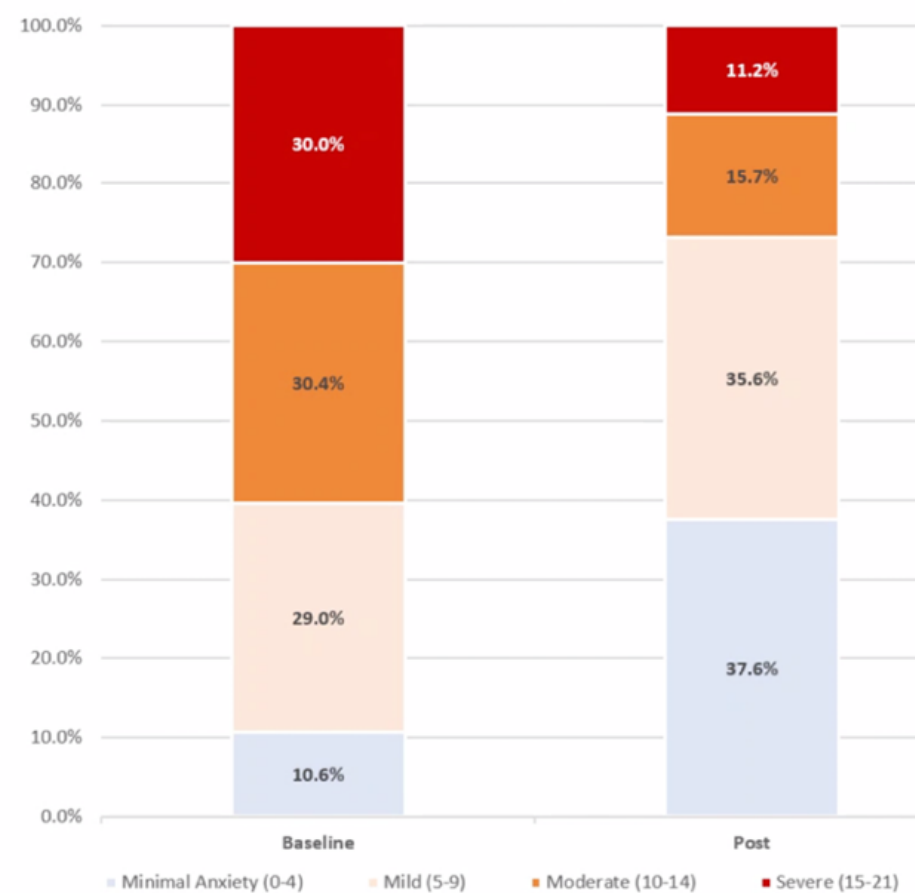
Interventions are effective and cost-effective



PHQ9 Pre & Post
(n: 42,352)



GAD7 Pre & Post
(n: 42,352)



STUDENTS AND DIGITAL WORLDS