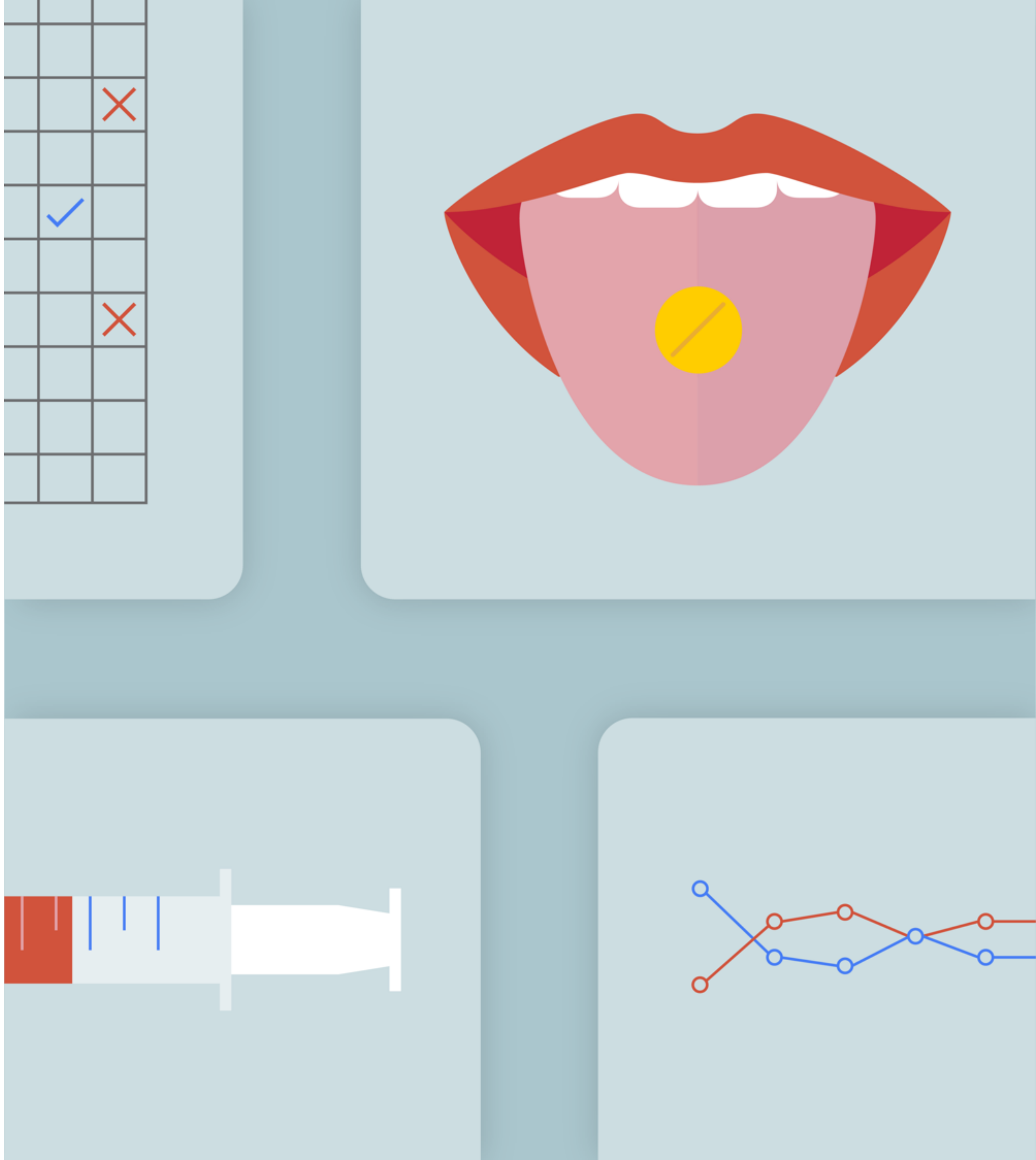
Aukje Mantel-Teeuwisse

Preparedness for the accelerated digitalisation era



Utrecht University

Pharmacoepidemiology
and Clinical Pharmacology

https://neurohive.io/en/news/ping-an-good-doctor-showcases-first-ai-powered-booth-clinic/

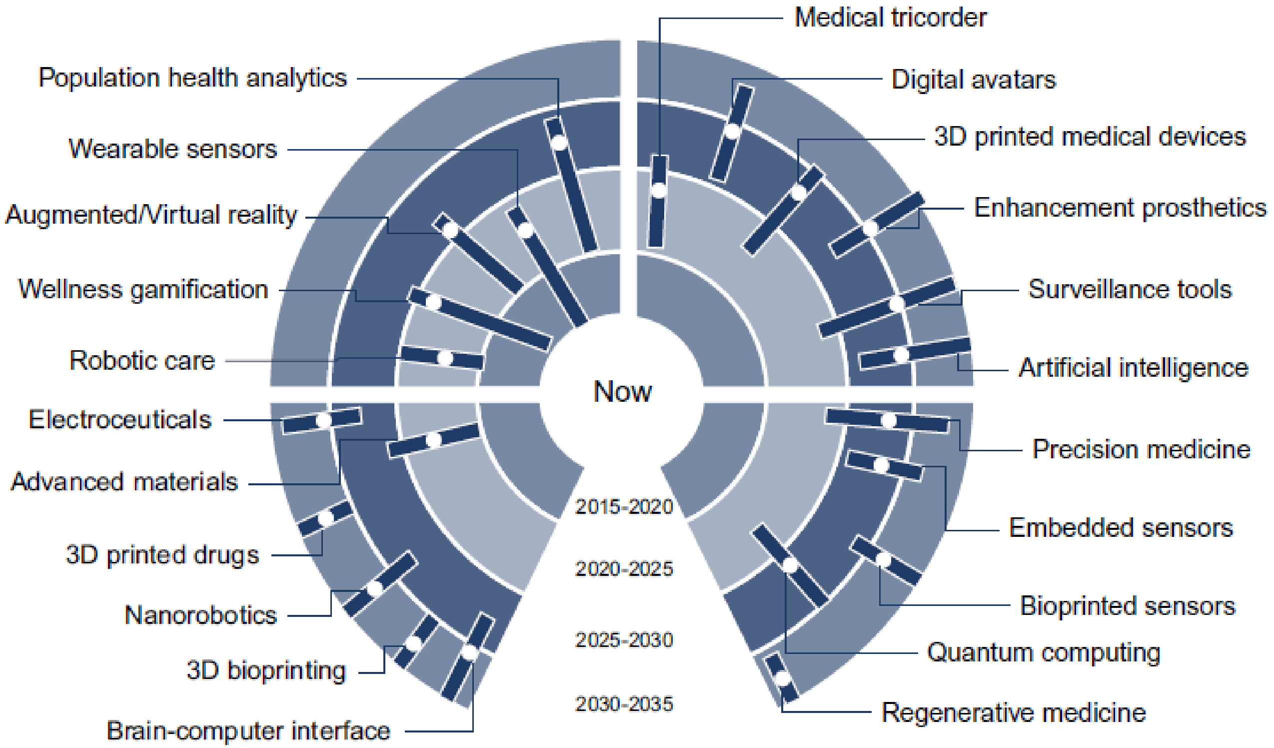
Areas of digitalisation in health

Exhibit 1: Digital Health Tools

Source: IQVIA Institute, Sep 2017

https://www.iqvia.com/es-co/insights/the-iqvia-institute/reports/the-growing-value-of-digital-health

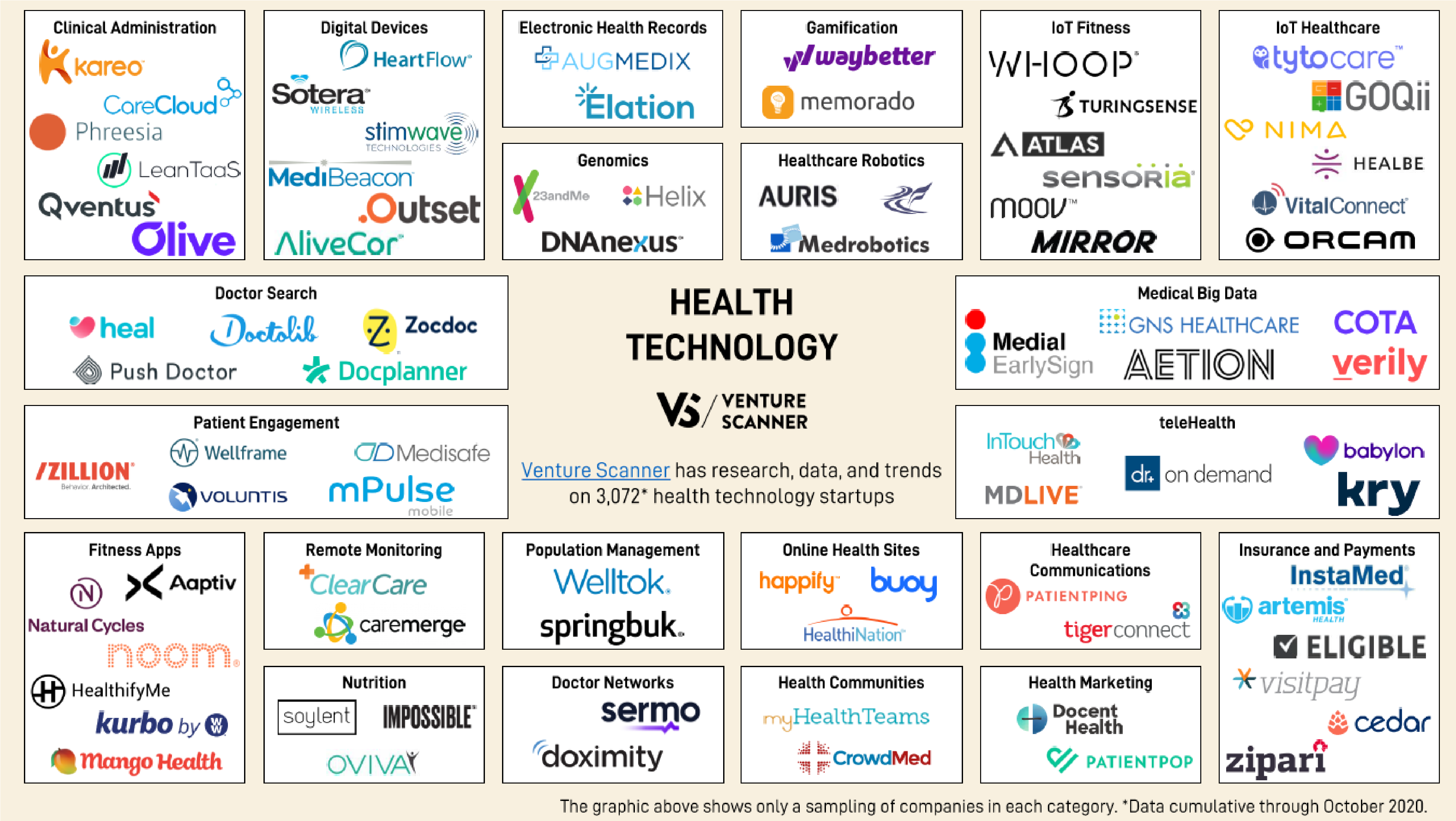
Figure 7.1 gives an overview of the digital health technologies and timelines, which are expected to disrupt the way healthcare systems are organized and how patients are treated.



*Bars represents horizon for technology commercialization and maturation

FIGURE 7.1

Digital health technologies time frame through 2035 (Sullivan, 2016).

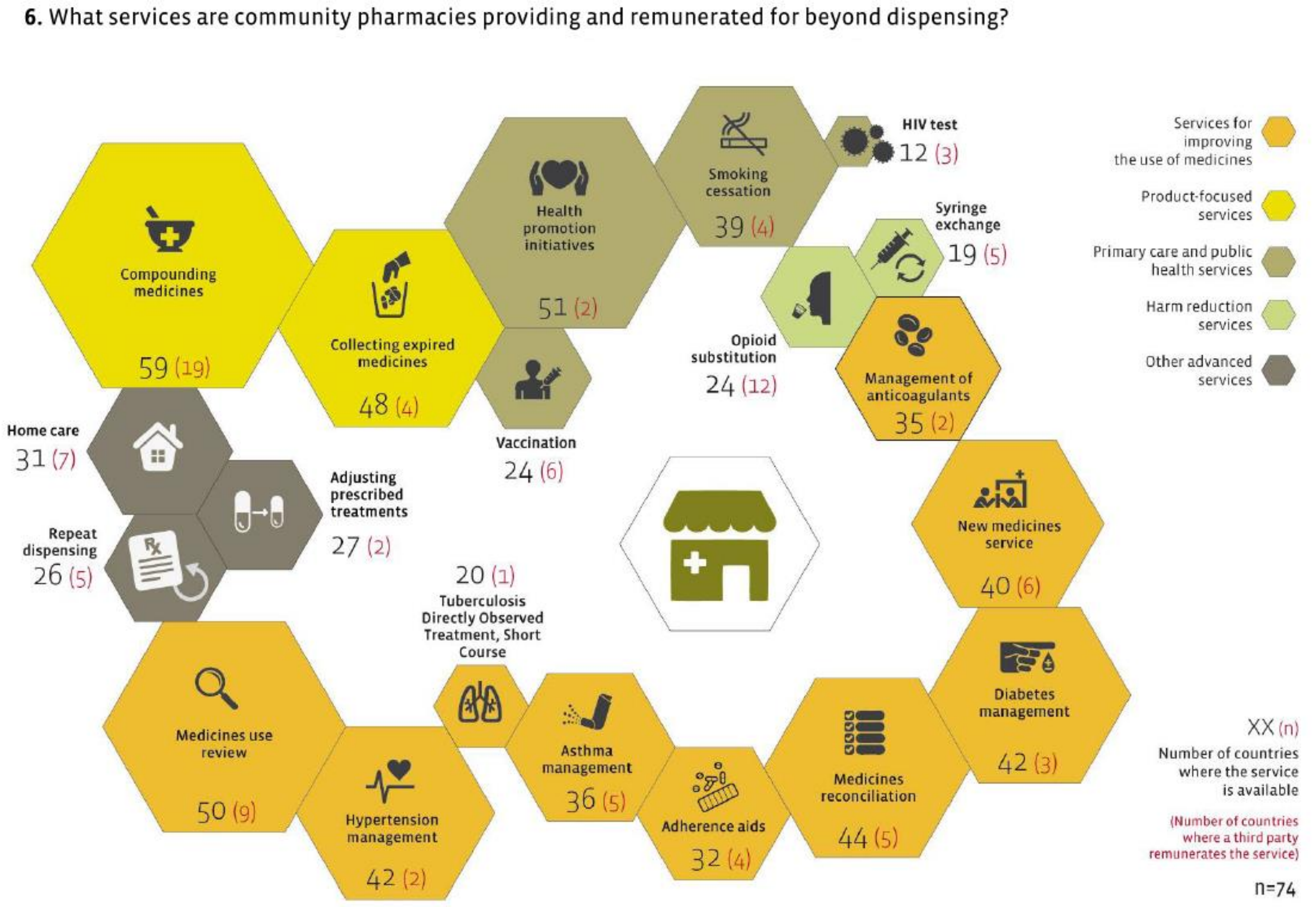


https://www.venturescanner.com/2020/11/06/q4-2020-venture-scanner-sector-maps/

Digital technologies in pharmaceutical care

Pharmaceutical care services

https://jcpp.net/patient-care-process/



https://www.fip.org/file/1348

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Impact of the COVID-19 epidemic on the provision of pharmaceutical care in community pharmacies

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Table 1
Patient education and counseling in the pharmacy during the COVID-19 epidemic.

	In the pharmacy	Telephone	Video call	Other	Examples
First prescription, % (n)	73.0 (157)	25.1 (54)	0	1.9 (4)	Referral to online or written information
Refill prescription, % (n)	68.4 (147)	24.7 (53)	0	7.0 (15)	Self-service medication locker, use of video animations, referral to written or online information
Inhalation instruction, % (n)	42.3 (91)	22.3 (48)	0.5 (1)	34.9 (75)	Short introduction in pharmacy, referral to video animation or website
Medication review, % (n)[a]	7.4 (7/95)	82.1 (78/95)	3.2 (3/78)	7.4 (7/95)	Use of (postal) patient questionnaire, only medication analysis (no patient contact)

[a] 95 participants (44.2%) mentioned to conduct medication reviews during the COVID-19 epidemic.

Research Article

Effects of the Proactive Interdisciplinary Self-Management (PRISMA) Program on Online Care Platform Usage in Patients with Type 2 Diabetes in Primary Care: A Randomized Controlled Trial

Hindawi
Journal of Diabetes Research
Volume 2020, Article ID 5013142, 10 pages
https://doi.org/10.1155/2020/5013142

Esther du Pon,[1,2] Nanne Kleefstra,[3,4,5] Frits Cleveringa,[6] Ad van Dooren,[1] Eibert R. Heerdink,[1,7] and Sandra van Dulmen[8,9,10]

Table 3: Results of platform usage by interest, user category, and activity.

n (%)/mean ± SD/median (25-75 quartiles)	Intervention group (*n* = 95)	Control group (*n* = 98)	*p* value/median difference score (95% CI)
Interested patient[a]	58 (61.1)	65 (66.3)	0.45*
Platform user[b]	33 (34.7)	33 (33.7)	0.50*
Active user[c]	21 (22.1)	18 (18.4)	0.45*

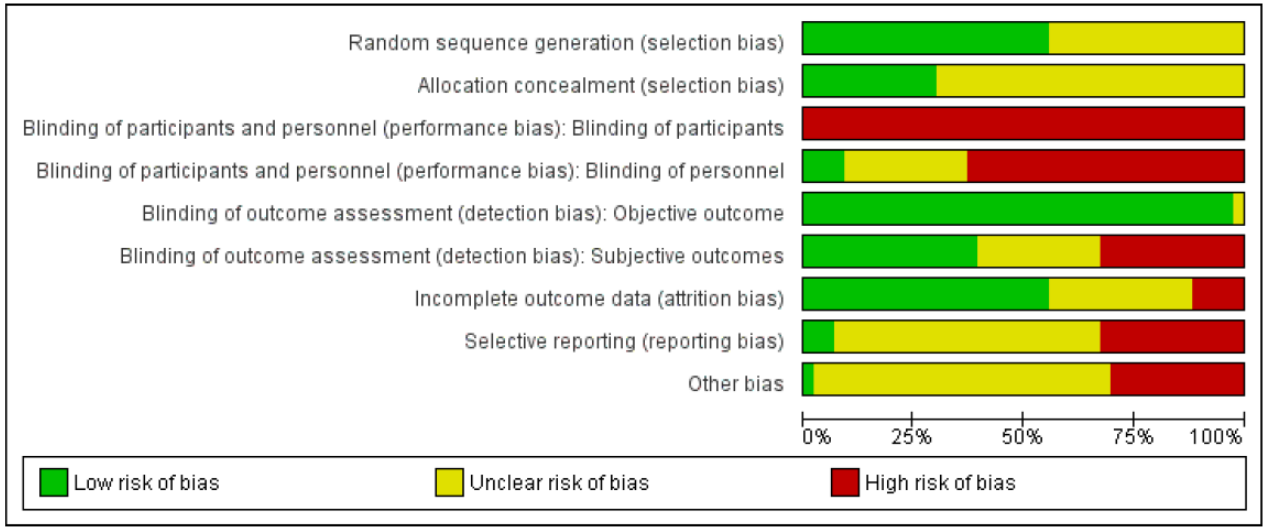
Cochrane Library

Cochrane Database of Systematic Reviews

eHealth interventions for people with chronic kidney disease (Review)

Stevenson JK, Campbell ZC, Webster AC, Chow CK, Tong A, Craig JC, Campbell KL, Lee VWS

Figure 3. Risk of bias graph: review authors' judgements about each risk of bias item presented as percentages across all included studies.



Authors' conclusions

eHealth interventions may improve the management of dietary sodium intake and fluid management. However, overall these data suggest that current evidence for the use of eHealth interventions in the CKD population is of low quality, with uncertain effects due to methodological limitations and heterogeneity of eHealth modalities and intervention types. Our review has highlighted the need for robust, high quality research that reports a core (minimum) data set to enable meaningful evaluation of the literature.

Role of (pharmacy) education

SEVENTY-FIRST WORLD HEALTH ASSEMBLY **WHA71.7**

Agenda item 12.4 **26 May 2018**

Digital health

The Seventy-first World Health Assembly,

Having considered the report on mHealth;[1]

(8) to build, especially through digital means, capacity for human resources for digital health, as appropriate, across both health and technology sectors, and to communicate areas of specific need to WHO in order to receive appropriate technical assistance;

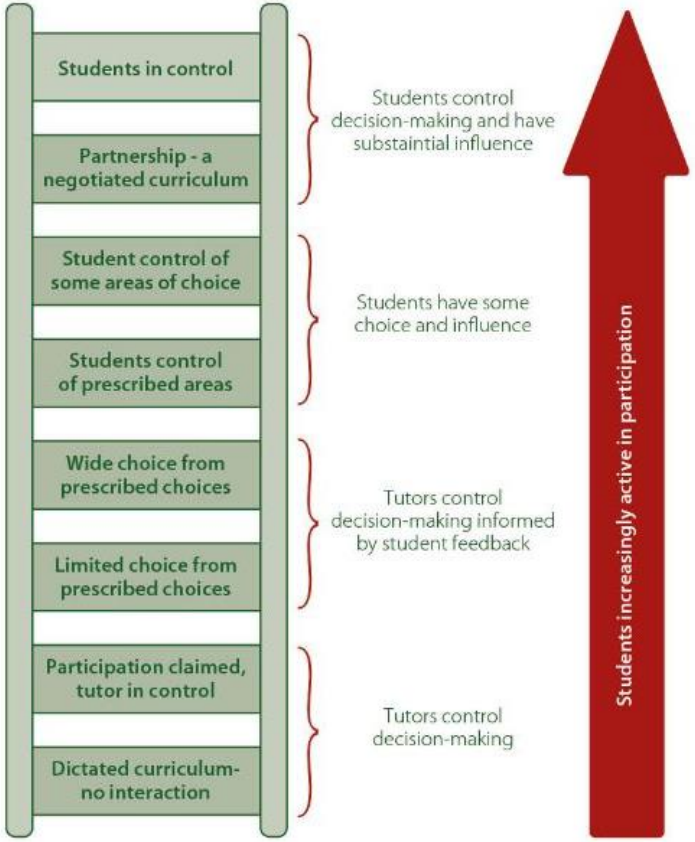
https://apps.who.int/gb/ebwha/pdf_files/WHA71/A71_R7-en.pdf?ua=1

Education needed in:

- Knowledge domains, e.g.
  - Technical aspects of new technologies
  - Health literacy

- Competencies, e.g. in
  - Leadership
  - Entrepreneurship
  - Adherence to ethical standards

Example from
Utrecht University (NL)



https://educate-it.uu.nl/en/advantages-and-considerations-of-co-creation-in-student-teacher-partnerships/

Take home messages

- Digital health technologies are plenty and there is more to come
- They can be an added value in pharmaceutical care (extended care)
- Pharmacy schools should start with education in this area now!

Pharmacoepidemiology and Clinical Pharmacology,
The people behind the division

DISCLAIMER