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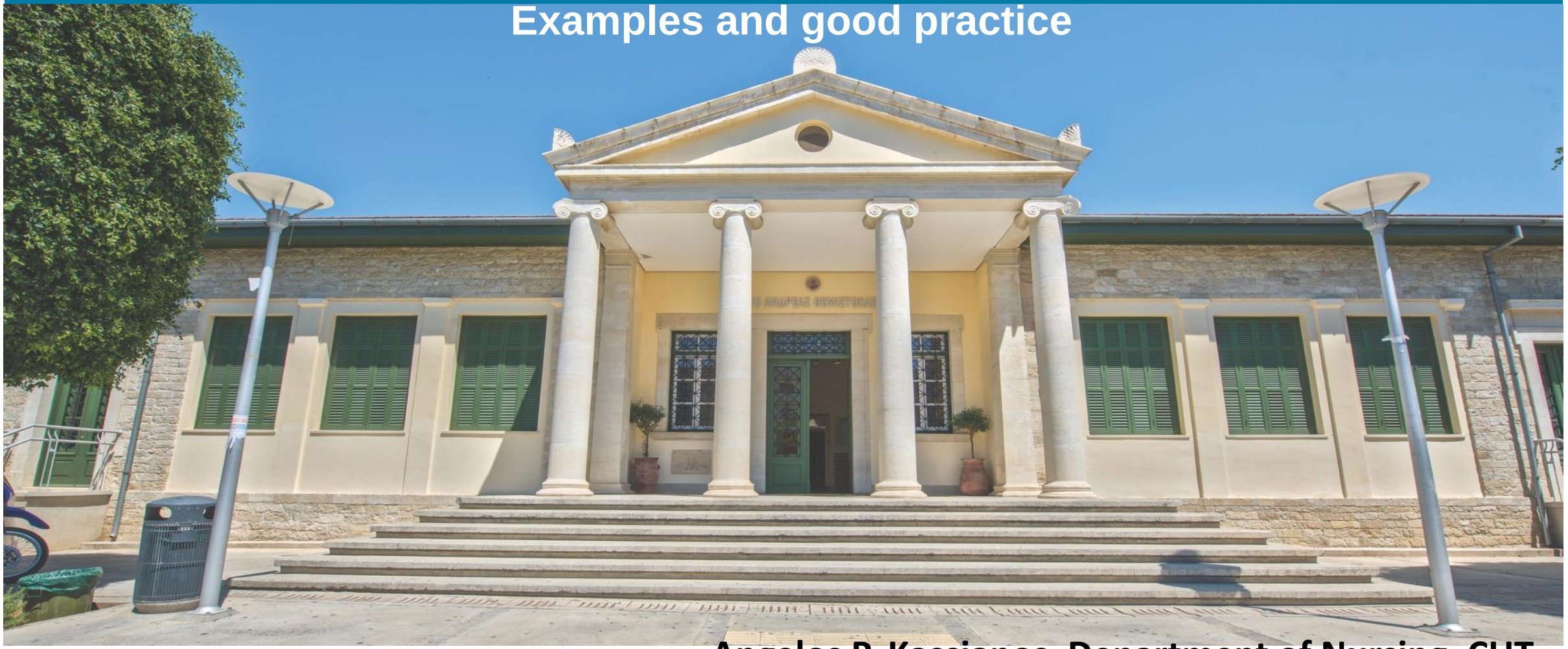
EUROPEAN UNIVERSITY OF TECHNOLOGY

INVESTORS IN PEOPLE | Silver Until 2022

ΒΙΩΣΙΜΗΣ ΑΝΑΠΤΥΞΗΣ ΣΤΟΧΟΙ
17 ΣΤΟΧΟΙ ΓΙΑ ΝΑ ΑΛΛΑΞΟΥΜΕ ΤΟΝ ΚΟΣΜΟ ΜΑΣ

Developing and evaluating evidence-based digital health interventions: Examples and good practice



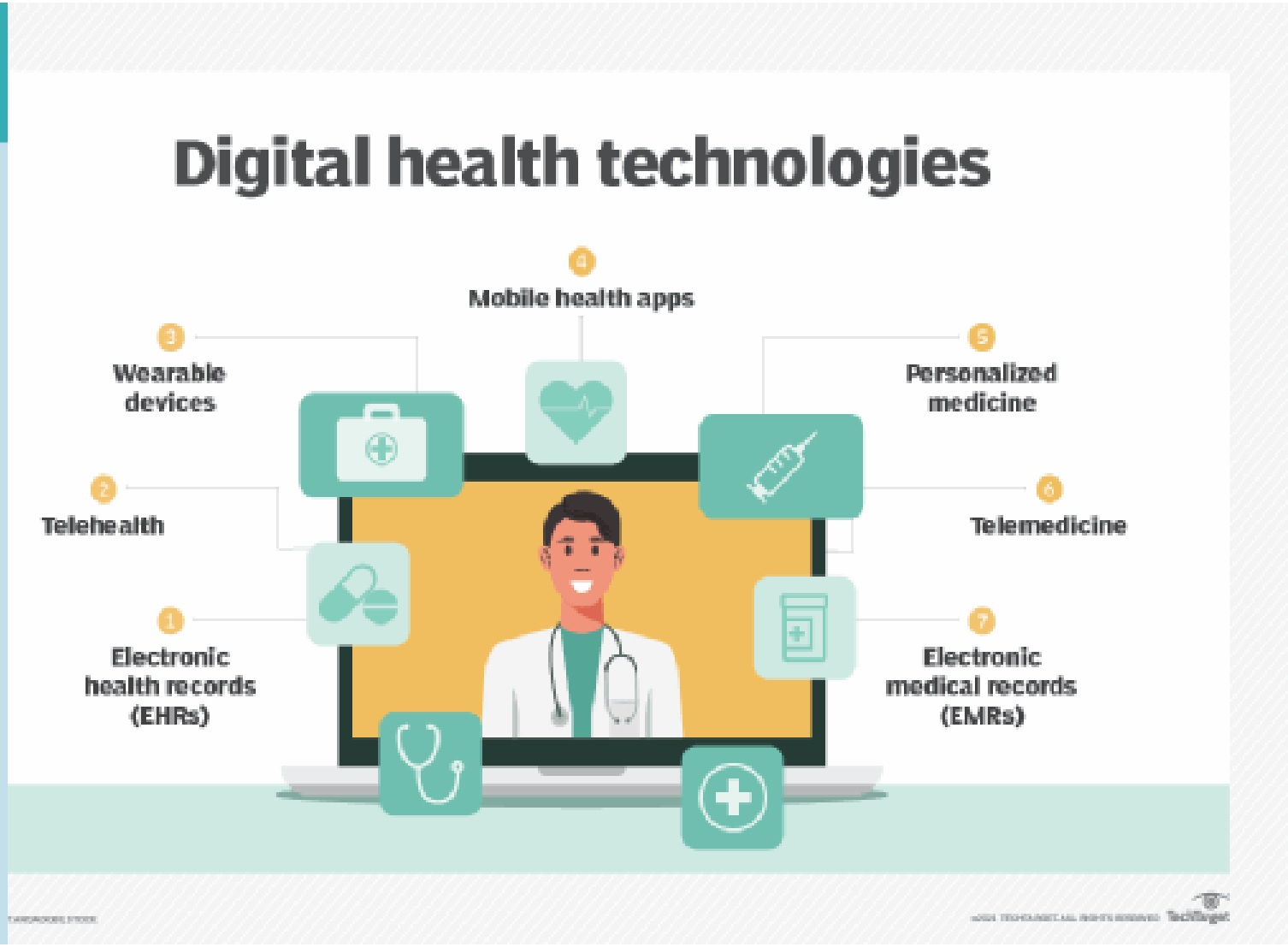
Angelos P. Kassianos, Department of Nursing, CUT

(RSU Department of Psychology Virtual Conference 2023)

Outline

- ❑ Digital Health – what it is, for whom and how to approach it
- ❑ Case Study 1: Stay On Track
- ❑ Case Study 2: eCREST
- ❑ Case Study 3: Met-Guide
- ❑ Impact – Dissemination
- ❑ Q&A

Digital Health



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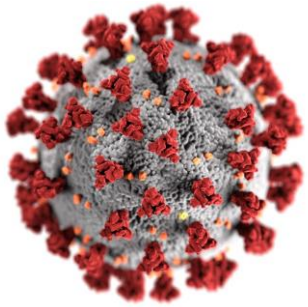
Digital Health

EUROPEAN UNIVERSITY OF TECHNOLOGY | INVESTORS IN PEOPLE Silver Until 2022 | ΒΙΩΣΙΜΗΣ ΑΝΑΠΤΥΞΗΣ ΣΤΟΧΟΙ 17 ΣΤΟΧΟΙ ΓΙΑ ΝΑ ΑΛΛΑΞΟΥΜΕ ΤΟΝ ΚΟΣΜΟ ΜΑΣ



25 recommendations to provide high quality e-mental health to clients

Psychotherapists

- Acknowledge reluctance.
- Exert caution with vulnerable clients.
- Monitor progress and tailor treatment.
- Assure personal guidance for self-help.
- Avoid excessive burden.
- Seek sufficient continuous education.
- Opt for peer intervision & supervision.
- Have protocols available for crises.
- Be aware of applicable regulations.

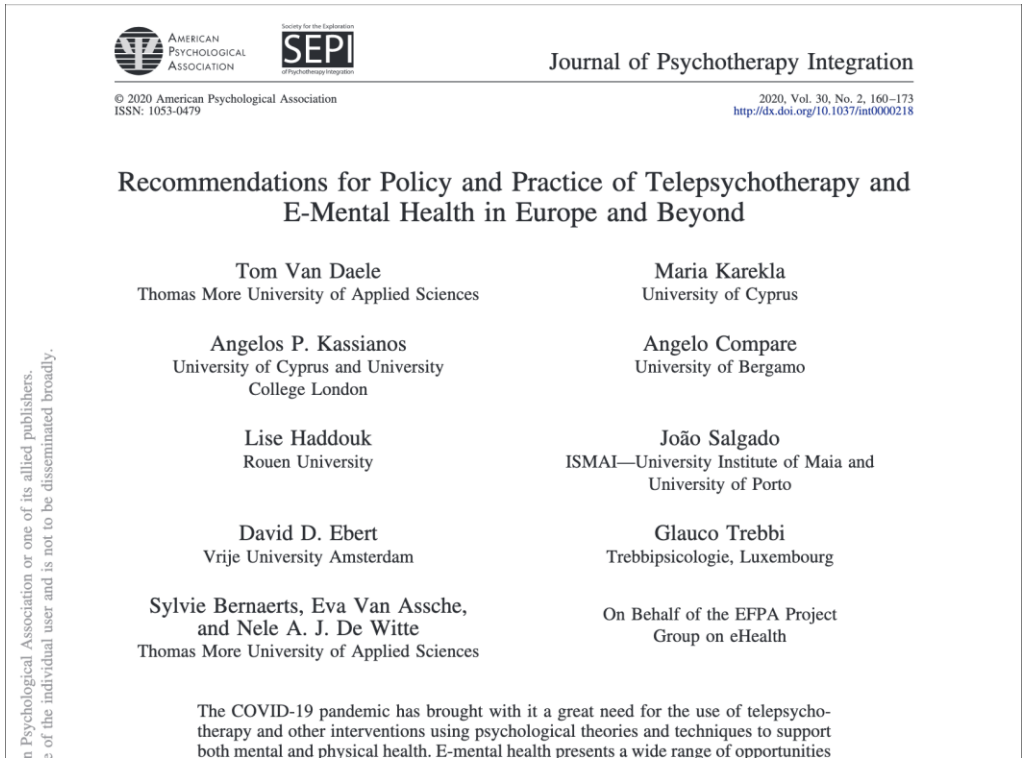
Health services and regulatory agencies

- Evaluate routine care effectiveness.
- Create (inter)national guidelines.
- Clarify who is to be held responsible.
- Make intervention switching easy.
- Provide reimbursement.
- Set quality criteria for professionals.
- Provide adequate working conditions.
- Assure continuity of IT systems.

Developers

- Develop multidisciplinary.
- Tailor to the target population.
- Comply with legal regulations.
- Maintain ethical standards.
- Involve end users.
- Consider an evidence-based approach.
- Provide robust evaluation evidence.
- Account for adoption inequalities.

Figure 1. Structured overview of 25 recommendations to provide high-quality e-mental health, in particular telepsychotherapy, to clients.



American Psychological Association | SEPI Society for the Exploration of Psychotherapy Integration

Journal of Psychotherapy Integration

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2020, Vol. 30, No. 2, 160–173
http://dx.doi.org/10.1037/int0000218

Recommendations for Policy and Practice of Telepsychotherapy and E-Mental Health in Europe and Beyond

Tom Van Daele
Thomas More University of Applied Sciences

Maria Karekla
University of Cyprus

Angelos P. Kassianos
University of Cyprus and University College London

Angelo Compare
University of Bergamo

Lise Haddouk
Rouen University

João Salgado
ISMAI—University Institute of Maia and University of Porto

David D. Ebert
Vrije University Amsterdam

Glauco Trebbi
Trebbipsicologie, Luxembourg

Sylvie Bernaerts, Eva Van Assche, and Nele A. J. De Witte
Thomas More University of Applied Sciences

On Behalf of the EFPA Project Group on eHealth

The COVID-19 pandemic has brought with it a great need for the use of telepsycho-therapy and other interventions using psychological theories and techniques to support both mental and physical health. E-mental health presents a wide range of opportunities

Van Daele, T., Karekla, M., **Kassianos, A. P.,** Compare, A., Haddouk, L., Salgado, J., ... & De Witte, N. A. (2020). Recommendations for policy and practice of telepsychotherapy and e-mental health in Europe and beyond. Journal of Psychotherapy Integration, 30(2), 160.

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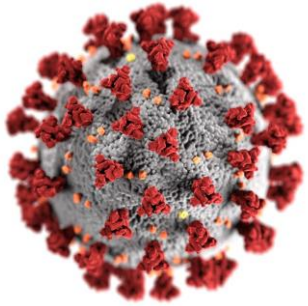
Digital Health



Textbox 1

Most frequently reported reasons for not providing online consultations prior to the COVID-19 outbreak, both as singular coded responses and in the form of categories of the UTAUT-based coding scheme. Non-specific factors are not included in most common broader categories.

Most reported singular reasons

1. I did not or do not have a need for online consultations (non-specific factors; N = 421).
2. I do not like doing online consultations (compared with face-to-face sessions) (attitude toward using technology; N = 142).
3. My organization or association has not provided sufficient support for online consultations (social influence; N = 103).
4. I have concerns about relational aspects (e.g., impersonal contact, fostering a therapeutic relationship) (performance expectancy; N = 82).
5. Clients are not interested in using online consultations (client-oriented factors - attitudes; N = 43).

Most common broader categories

1. Performance expectancy (N = 249)
2. Attitude toward using technology (N = 181)
3. Social influence (N = 106)
4. Facilitating conditions (N = 81)
5. Client-oriented factors (N = 70)

Internet Interventions 25 (2021) 100405

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journal homepage: www.elsevier.com/locate/invent

Online consultations in mental healthcare during the COVID-19 outbreak: An international survey study on professionals' motivations and perceived barriers

Nele A.J. De Witte [a], Per Carlbring [b,*], Anne Etzelmueller [c,d,e], Tine Nordgreen [f], Maria Karekla [g], Lise Haddouk [h], Angélique Belmont [i], Svein Øverland [j], Rudy Abi-Habib [k], Sylvie Bernaerts [a], Agostino Brugnera [l], Angelo Compare [l], Aranzazu Duque [m,n], David Daniel Ebert [c], Jonas Eimontas [o], Angelos P. Kassianos [g,p], João Salgado [q,r], Andreas Schwerdtfeger [s], Pia Tohme [k], Eva Van Assche [a], Tom Van Daele [a]

[a] Expertise Unit Psychology, Technology & Society, Thomas More University of Applied Sciences, Antwerp, Belgium
[b] Department of Psychology, Stockholm University, Stockholm, Sweden
[c] GET.ON Institute/HelloBetter, Hamburg, Germany
[d] Department of Clinical Psychology, Department of Clinical, Neuro-, & Developmental Psychology, Faculty of Behavioural and Movement Sciences, VU Amsterdam, Amsterdam, Netherlands
[e] Psychotherapy, Friedrich-Alexander University Erlangen-Nuremberg, Erlangen, Germany
[f] Haukeland University Hospital, University of Bergen, Bergen, Norway
[g] Department of Psychology, University of Cyprus, Nicosia, Cyprus
[h] Department of Psychology, Rouen University, Rouen, France
[i] Union Professionnelle des Psychologues Cliniciens Francophones et Germanophones, Belgium
[j] Regional Research Center for Forensic Psychiatry, St. Olavs Hospital, Trondheim, Norway
[k] Department of Social Sciences, School of Arts and Sciences, Lebanese American University, Beirut, Lebanon
[l] Department of Human and Social Sciences, University of Bergamo, Bergamo, Italy
[m] Universidad Internacional de Valencia, Valencia, Spain
[n] Cibersalud, Mallorca, Spain
[o] Institute of Psychology, Vilnius University, Vilnius, Lithuania

De Witte, N. A., Carlbring, P., Etzelmueller, A., Nordgreen, T., Karekla, M., Haddouk, L., **Kassianos A.P.,** ... & Van Daele, T. (2021). Online consultations in mental healthcare during the COVID-19 outbreak: An international survey study on professionals' motivations and perceived barriers. Internet interventions, 25, 100405

Cyprus University of Technology

Digital Health

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JOURNAL OF MEDICAL INTERNET RESEARCH Plackett et al

Review

Use of Social Media to Promote Cancer Screening and Early Diagnosis: Scoping Review

Ruth Plackett[1], PhD; Aradhna Kaushal[2], PhD; Angelos P Kassianos[1], PhD; Aaron Cross[2], MSc; Douglas Lewins[3]; Jessica Sheringham[1], PhD; Jo Waller[4], PhD; Christian von Wagner[2], PhD

[1]Department of Applied Health Research, University College London, London, United Kingdom
[2]Research Department of Behavioral Science and Health, University College London, London, United Kingdom
[3]The Policy Research Unit in Cancer Awareness, Screening and Early Diagnosis, Queen Mary University London, London, United Kingdom
[4]Cancer Prevention Group, School of Cancer and Pharmaceutical Sciences, King's College London, London, United Kingdom

Corresponding Author:
Ruth Plackett, PhD
Department of Applied Health Research, University College London
1-19 Torrington Place,
Bloomsbury
London, WC1E 7HB
United Kingdom
Phone: 44 20 3108 3242
Email: ruth.plackett.15@ucl.ac.uk

- Most evaluations of social media interventions to improve cancer screening and early diagnosis **did not report behavior change outcomes**.
- Some types of social media interventions may **improve cancer awareness** and intended and actual **uptake of screening**.
- Use of **evaluation frameworks** and **reporting guidelines** could help future researchers to plan robust evaluations of social media interventions.
- Future evaluations could also measure **who engaged** with these interventions to assess whether social media interventions for cancer screening and early diagnosis can address some health inequalities.
- Interventions focusing on cancers that have received less social media attention, such as **colorectal and lung cancer**, could help to influence social norms around help-seeking and screening uptake for these cancers, which could improve health outcomes for patients.

Plackett, R., Kaushal, A., **Kassianos, A. P.,** Cross, A., Lewins, D., Sheringham, J., ... & von Wagner, C. (2020). Use of social media to promote cancer screening and early diagnosis: scoping review. *Journal of medical Internet research*, *22*(11), e21582.

Case Study 1: The Stay On Track App

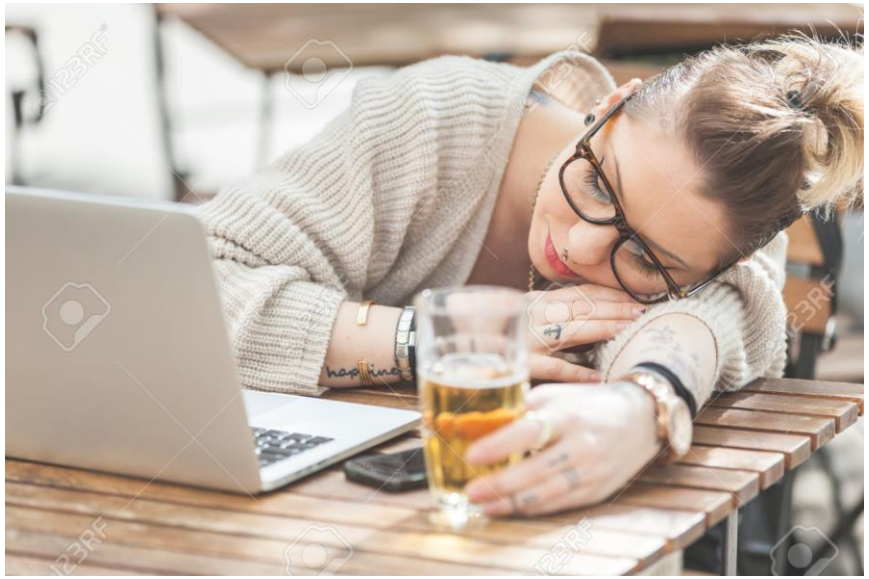
2019-2021

Stay On Track mHealth app
ΔΙΑΡΘΡΩΤΙΚΑ ΤΑΜΕΙΑ
RESEARCH & INNOVATION FOUNDATION
European Union
European Regional Development Fund
2016-2020 RESTART SEARCH
ΠΡΟΓΡΑΜΜΑΤΑ ΕΡΕΥΝΑΣ, ΤΕΧΝΟΛΟΓΙΚΗΣ ΑΝΑΠΤΥΞΗΣ ΚΑΙ ΚΑΙΝΟΤΟΜΙΑΣ

Chronic Conditions and Digital Interventions: Challenges

- Medication Non - Adherence (!) 50% in chronic conditions

- User engagement (!) 50% drop out
  - High Dropouts!
  - Adherence Planning?
  - Lack of Human contact and person-based approaches?



*"How do you make a person who is **not adhering** to their medication, to **adhere** to their medication **whilst engaging** to the application?!*

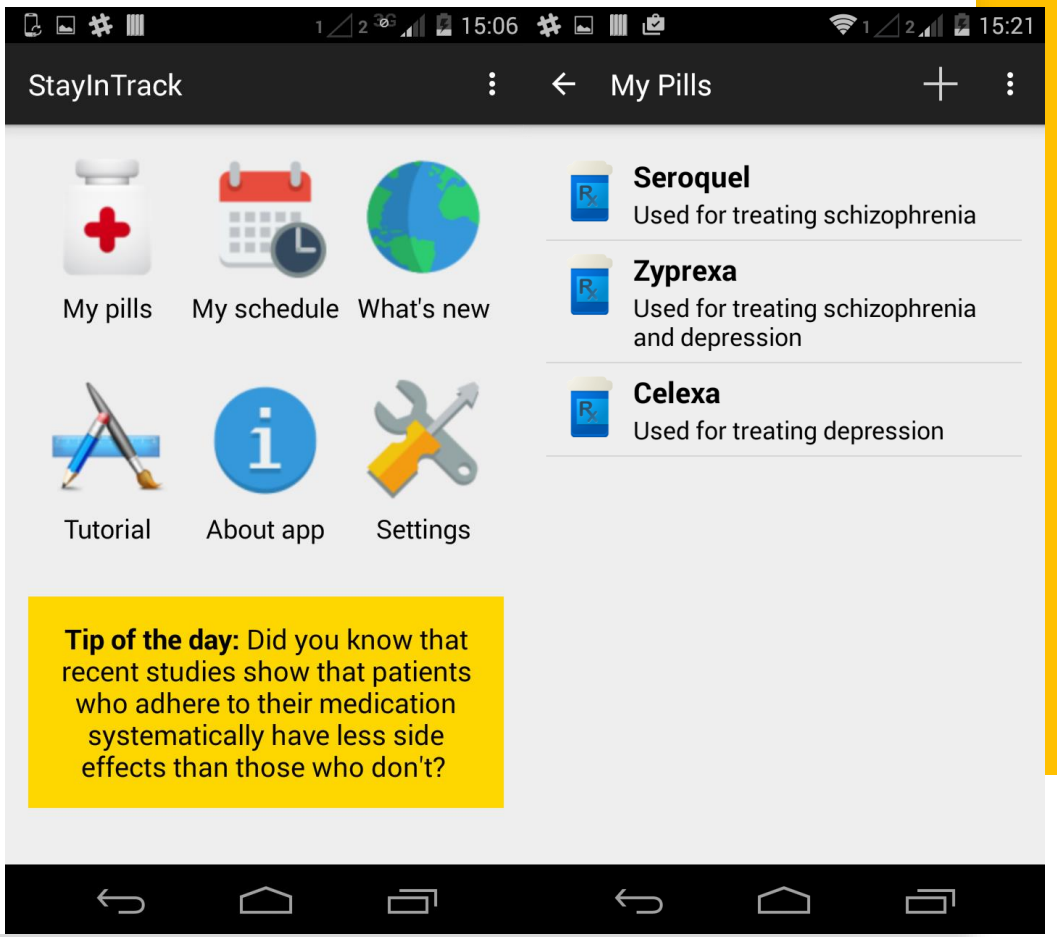
Stay On Track
mHealth app

Conceptualization

- Student idea during a Psychopharmacology course at University of Cyprus

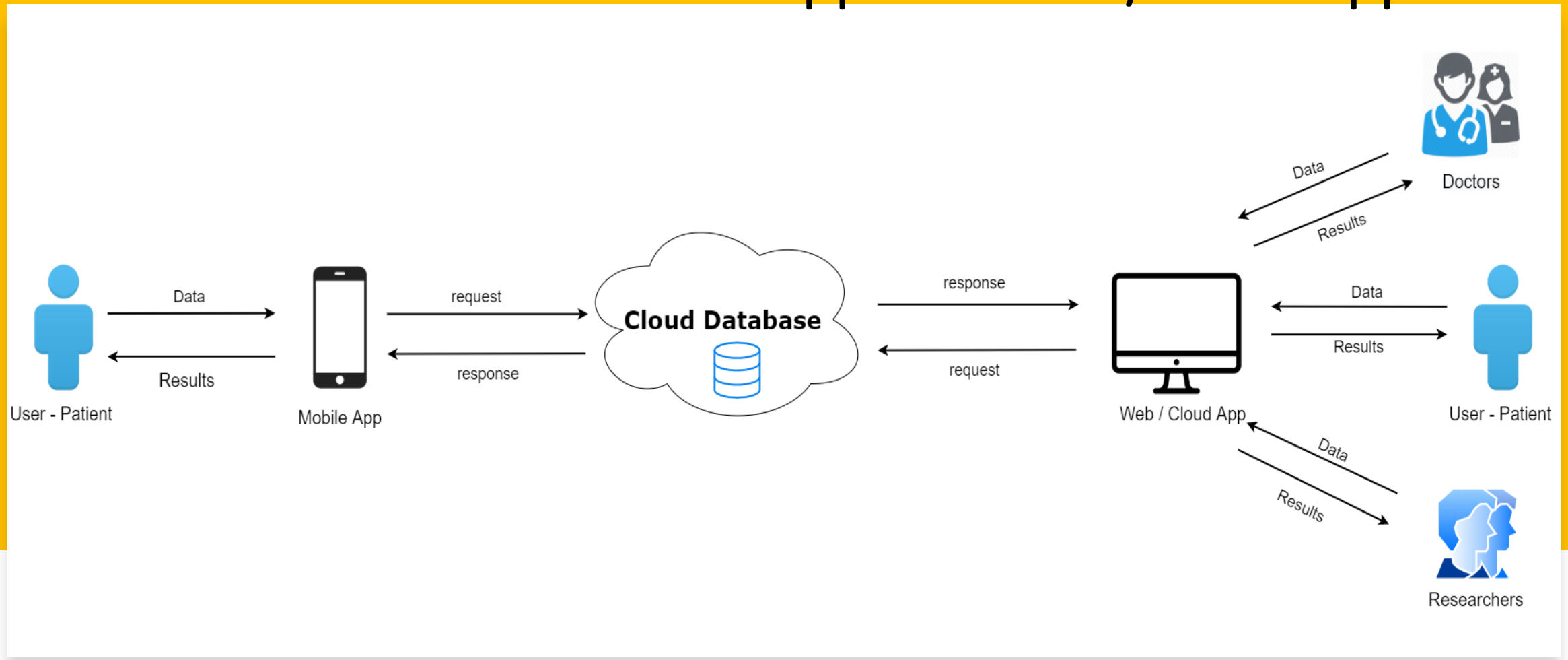
- Discussions with psychology student (G. Georgiou) and app developers (S. Nicolaou, G. Iniatis)

Nov 2015	StayInTrack start-up. Scholarship by SignalGenericX IoT Innovation Challenge in collaboration with the Founder Institute Cyprus
Oct 2015	StayInTrack start-up. Award for top-6 start-ups at the Cyprus Entrepreneurship Competition 2015



Stay On Track

Communication Mobile App with Web/Cloud App



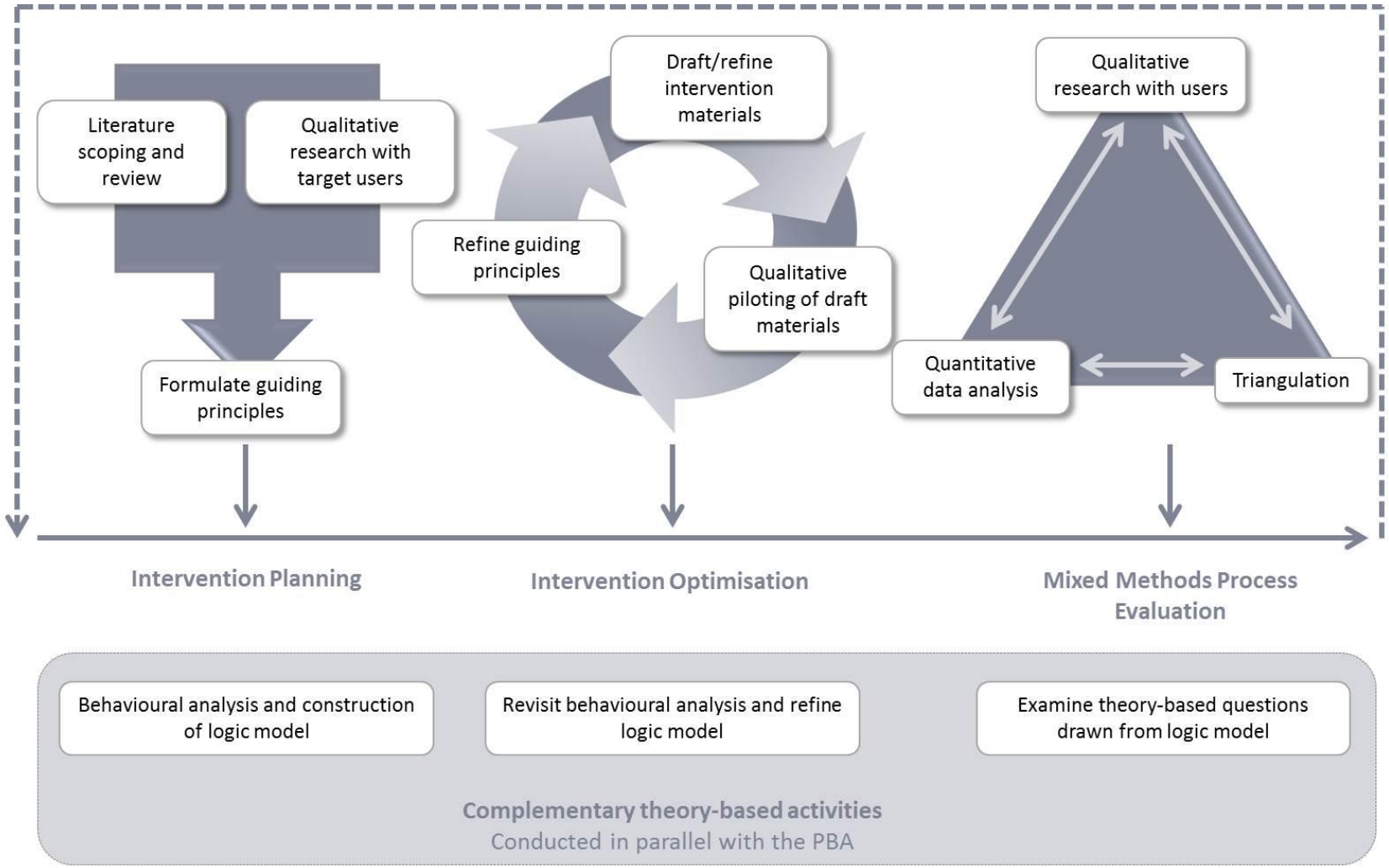
Stay On Track
mHealth app

Person-based Approach of intervention development
(Yardley et al., 2015)

- Use of term “person” instead of “user”
- Usability/acceptability/satisfaction Vs. “motivating”, “enjoyable”, “informative”, “convincing”
- Emphasis on understanding persons’ knowledge, skills, behavior, motivations, cultural background and organizational context

Person-based Approach of intervention development

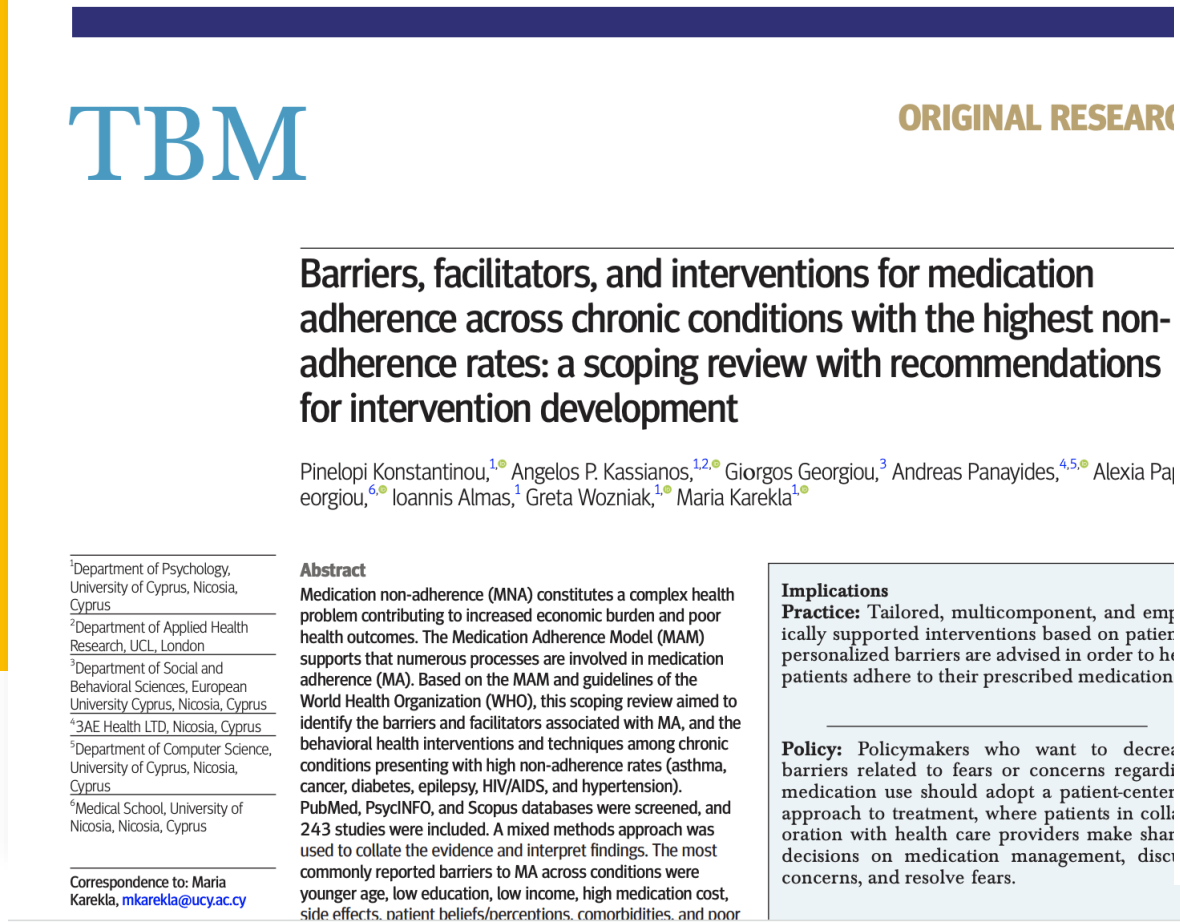
(Yardley et al., 2015)



Stay On Track mHealth app

Challenge 1: Medication Adherence barriers

Scoping Reviews



TBM

ORIGINAL RESEARC

Barriers, facilitators, and interventions for medication adherence across chronic conditions with the highest non-adherence rates: a scoping review with recommendations for intervention development

Pinelopi Konstantinou,[1] Angelos P. Kassianos,[1,2] Giorgos Georgiou,[3] Andreas Panayides,[4,5] Alexia Papageorgiou,[6] Ioannis Almas,[1] Greta Wozniak,[1] Maria Karekla[1]

[1]Department of Psychology, University of Cyprus, Nicosia, Cyprus
[2]Department of Applied Health Research, UCL, London
[3]Department of Social and Behavioral Sciences, European University Cyprus, Nicosia, Cyprus
[4]3AE Health LTD, Nicosia, Cyprus
[5]Department of Computer Science, University of Cyprus, Nicosia, Cyprus
[6]Medical School, University of Nicosia, Nicosia, Cyprus

Correspondence to: Maria Karekla, mkarekla@ucy.ac.cy

Abstract

Medication non-adherence (MNA) constitutes a complex health problem contributing to increased economic burden and poor health outcomes. The Medication Adherence Model (MAM) supports that numerous processes are involved in medication adherence (MA). Based on the MAM and guidelines of the World Health Organization (WHO), this scoping review aimed to identify the barriers and facilitators associated with MA, and the behavioral health interventions and techniques among chronic conditions presenting with high non-adherence rates (asthma, cancer, diabetes, epilepsy, HIV/AIDS, and hypertension). PubMed, PsycINFO, and Scopus databases were screened, and 243 studies were included. A mixed methods approach was used to collate the evidence and interpret findings. The most commonly reported barriers to MA across conditions were younger age, low education, low income, high medication cost, side effects, patient beliefs/perceptions, comorbidities, and poor

Implications

Practice: Tailored, multicomponent, and emp
ically supported interventions based on patier
personalized barriers are advised in order to h
patients adhere to their prescribed medication

Policy: Policymakers who want to decrea
barriers related to fears or concerns regardi
medication use should adopt a patient-center
approach to treatment, where patients in coll
oration with health care providers make shar
decisions on medication management, disc
concerns, and resolve fears.

139

Konstantinou, P., **Kassianos, A. P.,** Georgiou, G., Panayides, A., Papageorgiou, A., Almas, I., ... & Karekla, M. (2020). Barriers, facilitators, and interventions for medication adherence across chronic conditions with the highest non-adherence rates: a scoping review with recommendations for intervention development. Translational Behavioral Medicine, 10(6), 1390-1398.

ann. behav. med. (2021) XX:1–17
https://doi.org/10.1093/abm/kaab080

REGULAR ARTICLE

A Scoping Review of Methods Used to Assess Medication Adherence in Patients with Chronic Conditions

Pinelopi Konstantinou, MSc[1] · Orestis Kasinopoulos, PhD[1] · Christiana Karashiali, MSc[1] · Georgios Georgiou, PhD[2] · Andreas Panayides, PhD[3,4] · Alexia Papageorgiou, PhD[5] · Greta Wozniak, PhD[1] · Angelos P. Kassianos, PhD[1,6] · Maria Karekla, PhD[1]

Published online: 27 September 2021
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Abstract

Background Medication nonadherence of patients with chronic conditions is a complex phenomenon contributing to increased economic burden and decreased quality of life. Intervention development relies on accurately assessing adherence but no "gold standard" method currently exists.

Purpose The present scoping review aimed to: (a) review and describe current methods of assessing medication adherence (MA) in patients with chronic conditions with the highest nonadherence rates (asthma, cancer, diabetes, epilepsy, HIV/AIDS, hypertension), (b) outline and compare the evidence on the quality indicators between assessment methods (e.g., sensitivity), and (c) provide evidence-based recommendations.

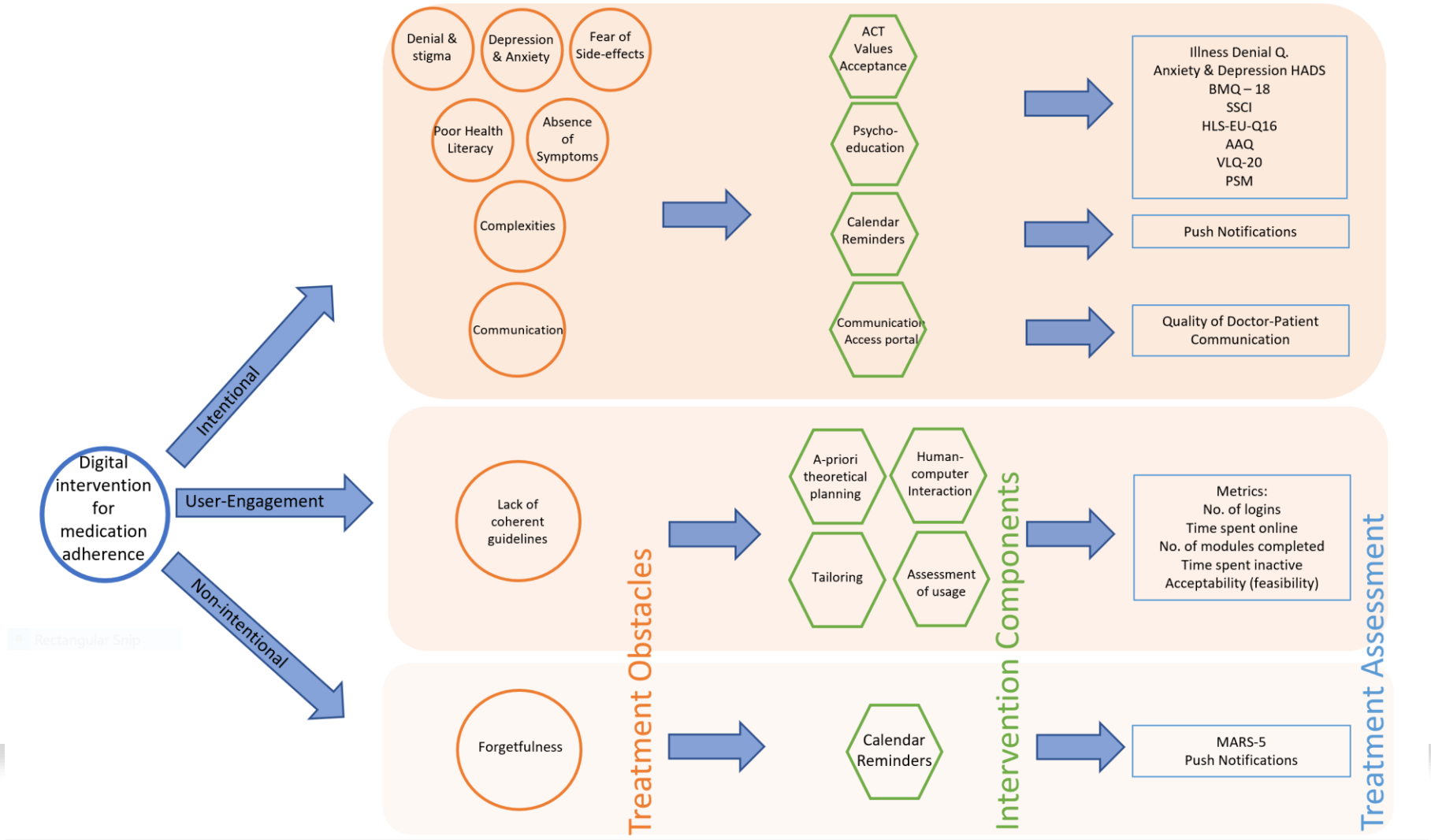
Higher MA rates were reported when assessed using self-reports compared to nonself-reports, except from pill counts.

Conclusions Professionals are advised to use a combination of self-report (like MARS-5) and nonself-report measures (like MEMS) as these were found to be the most accurate and reliable measures. This is the first review examining self and nonself-report methods for MA, across chronic conditions with the highest nonadherence rates and provides evidence-based recommendations. It highlights that MA assessment methods are understudied in certain conditions, like epilepsy. Before selecting a MA measure, professionals are advised to inspect its quality indicators. Feasibility of measures should be explored in

Konstantinou, P., Kasinopoulos, O., Karashiali, C., Georgiou, G., Panayides, A., Papageorgiou, A., **Kassianos, A.P.** & Karekla, M. (2021). A Scoping Review of Methods Used to Assess Medication Adherence in Patients with Chronic Conditions. Annals of Behavioral Medicine.

Stay On Track mHealth app

Work Flow Model



Stay On Track
mHealth app

Focus Groups:
Understanding barriers

- 4 Focus groups (4-6 users)
  - Nurses
  - Medical Students
  - Patients x2
- Open-ended questions
- Facilitators and Barriers
- Seeking feedback
- “Think Aloud” studies

Challenge 2: Engaging the User

Four-Dimensional Adherence Framework (Karekla et al., 2019)

Special Issue: Adjustment to Chronic Illness
Original Articles and Reviews

Best Practices and Recommendations for Digital Interventions to Improve Engagement and Adherence in Chronic Illness Sufferers

Maria Karekla,[1,2,3] Orestis Kasinopoulos,[1] David Dias Neto,[2,4] David Daniel Ebert,[3,5] Tom Van Daele,[3,6] Tine Nordgreen,[3,7] Stefan Höfer,[2,8] Svein Oeverland,[3,9] and Kit Lisbeth Jensen[3,10]

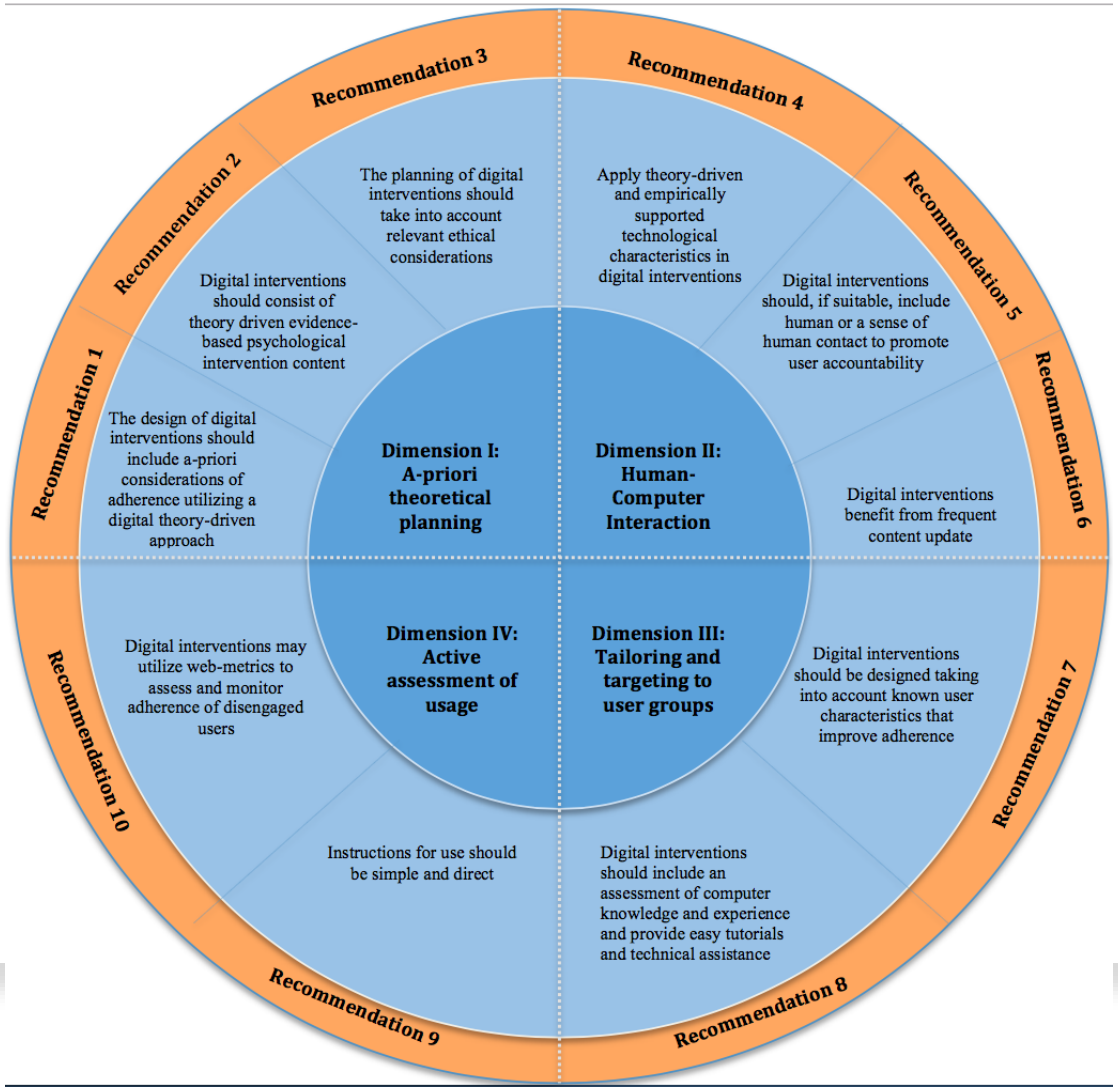
[1]Department of Psychology, University of Cyprus, Nikosia, Cyprus
[2]Psychology and Health Standing Committee of the European Federation of Psychology Associations, Brussels, Belgium
[3]e-Health Task Force of the European Federation of Psychology Associations, Brussels, Belgium
[4]APPsyCI – Applied Psychology Research Center Capabilities & Inclusion, ISPA – Instituto Universitário, Lisbon, Portugal
[5]Friedrich Alexander University, Erlangen-Nürnberg, Germany
[6]Thomas More University of Applied Sciences, Belgium
[7]Division of Psychiatry, Haukeland University Hospital, Bergen, Norway
[8]Medical University Innsbruck, Austria
[9]SuperEgo AS, Norway
[10]Clinical Psychology, Private Practice, Denmark

Abstract: Chronic illnesses cause considerable burden in quality of life, often leading to physical, psychological, and social dysfunctioning of the sufferers and their family. There is a growing need for flexible provision of home-based psychological services to increase reach even for traditionally underserved chronic illness sufferer populations. Digital interventions can fulfill this role and provide a range of psychological services to improve functioning. Despite the potential of digital interventions, concerns remain regarding users' engagement, as low engagement is associated with low adherence rates, high attrition, and suboptimal exposure to the intervention. Human–computer interaction (e.g., theoretical models of persuasive system design, gamification, tailoring, and supportive accountability) and user characteristics (e.g., gender, age, computer literacy) are the main identified culprits contributing to engagement and adherence difficulties. To date, there have not been any clear and concise recommendations for improved utilization and engagement in digital interventions. This paper provides an overview of user engagement factors and proposes research informed recommendations for engagement and adherence planning in digital intervention development. The recommendations were derived from the literature and consensualized by expert members of the European Federation of Psychology Associations, Psychology and Health Standing Committee, and e-Health Task Force. These recommendations serve as a starting point for researchers and clinicians interested in the digitalized health field and promote effective planning for engagement when developing digital interventions with the potential to maximize adherence and optimal exposure in the treatment of chronic health conditions.

Keywords: digital interventions, e-health, recommendations, adherence, engagement

The Need for Digital Interventions for Chronic Health Conditions

Chronic health illnesses cause considerable burden to individuals, families, and society, with significant impact on physical, emotional, and social functioning (Breivik, Collett, Ventafridda, Cohen, & Gallacher, 2006; Sprangers et al., 2000). Although there is a growing body of evidence that pharmacological and psychosocial interventions can effectively treat illness-related interference in daily life, numerous chronic illness sufferers remain untreated or inadequately treated. This is partly a result of access, mobility, and transportation problems (Jerant, von Friederichs-Fitzwater, & Moore, 2005); financial barriers; reluctance to seek treatment; and paucity of clinicians trained in evidence-based multidisciplinary treatments (Breivik et al.,



Stay On Track mHealth app

Challenge 2: Engaging the User

Challenges with health apps

REVIEW ARTICLE

BJD
British Journal of Dermatology

Smartphone applications for melanoma detection by community, patient and generalist clinician users: a review

A.P. Kassianos,[1] J.D. Emery,[1,2] P. Murchie[3] and F.M. Walter[1,2]

[1]The Primary Care Unit, Department of Public Health & Primary Care, University of Cambridge, Cambridge CB1 8RN, U.K.
[2]General Practice and Primary Care Academic Centre, University of Melbourne, Parkville, Vic., Australia
[3]Division of Applied Health Science, Centre of Academic Primary Care, University of Aberdeen, Polwarth Building, Foresterhill, Aberdeen AB25 2ZD, U.K.

Summary

Smartphone health applications ('apps') are widely available but experts remain cautious about their utility and safety. We reviewed currently available apps for the detection of melanoma (July 2014), aimed at general community, patient and generalist clinician users. A proforma was used to extract and assess each app that met the inclusion criteria, and we undertook content analysis to evaluate their content and the evidence applied in their development. Thirty-nine apps were identified with the majority available only for Apple users. Over half (n = 22) provided information or education about melanoma, ultraviolet radiation exposure prevention advice, and skin self-examination strategies, mainly using the ABCDE (A, Asymmetry; B, Border; C, Colour; D, Diameter; E, Evolving) method. Half (n = 19) helped users take and store images of their skin lesions either for review by a dermatologist or for self-monitoring to identify change, an important predictor of melanoma; a similar number (n = 18) used reminders to help users monitor their skin lesions. A few (n = 9) offered expert review of images. Four apps provided a risk assessment to patients about the probability that a lesion was malignant or benign, and one app calculated users' future risk of melanoma. None of the apps appeared to have

Correspondence
Fiona M. Walter.
E-mail: fmw22@medschl.cam.ac.uk

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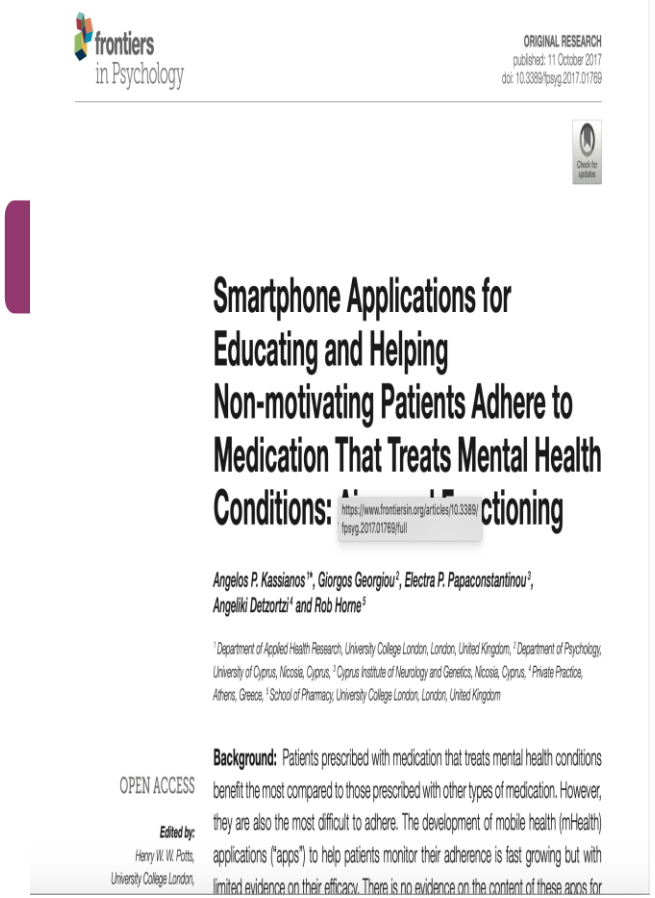
Conflicts of interest
None declared.

The views expressed in this publication are those of the authors and not neces-



frontiers in Psychology

ORIGINAL RESEARCH
published: 11 October 2017
doi: 10.3389/fpsyg.2017.01769

Smartphone Applications for Educating and Helping Non-motivating Patients Adhere to Medication That Treats Mental Health Conditions: Aims and Functioning

Angelos P. Kassianos[1], Giorgos Georgiou[2], Electra P. Papaconstantinou[3], Angelliki Detzortzi[4] and Rob Horne[5]*

[1] Department of Applied Health Research, University College London, London, United Kingdom, [2] Department of Psychology, University of Cyprus, Nicosia, Cyprus, [3] Cyprus Institute of Neurology and Genetics, Nicosia, Cyprus, [4] Private Practice, Athens, Greece, [5] School of Pharmacy, University College London, London, United Kingdom

Background: Patients prescribed with medication that treats mental health conditions benefit the most compared to those prescribed with other types of medication. However, they are also the most difficult to adhere. The development of mobile health (mHealth) applications ("apps") to help patients monitor their adherence is fast growing but with limited evidence on their efficacy. There is no evidence on the content of these apps for

https://www.frontiersin.org/articles/10.3389/fpsyg.2017.01769/full

OPEN ACCESS

Edited by:
Henry W. W. Potts,
University College London,

A/A	Name	Assessment criteria													
		Information about medicine and its side effects	Information about alternative treatments	Information about clinicians and/or pharmacies near the user	Use of Psycho-educational approaches	Medication logs	Other logs (see Table 4 for details)	Medication reminders	Appointment reminders	Dose tracking	Tailoring features	Medication logs available to clinicians	Interaction features	Availability in multiple platforms	Availability in other languages
1	Intervention911			♦[a]		♦	♦	♦	♦	♦		♦[b]		♦	
2	TARA: Mental Health Nurse				♦[c]	♦	♦	♦		♦		♦	♦[d]	♦	
3	My Mind Western Trust	♦	♦	♦[e]				♦	♦					♦	
4	LIFE:)					♦	♦	♦				♦[f]		♦	
5	Life Reboot - Fight Depression						♦	♦							
6	Medica Reminders				♦[g]	♦	♦	♦	♦	♦		♦		♦	
7	ADDA Health Storylines				♦[h]	♦	♦	♦	♦		♦[i]		♦	♦	
8	KnKt'd Behavioral Health					♦	♦	♦	♦		♦	♦	♦		
9	Booster Buddy		♦[j]		♦[k]	♦	♦	♦	♦	♦				♦	
10	Mood Tracker By: CTHF		♦[l]			♦	♦	♦		♦		♦	♦[m]	♦	
11	Your Medicine 1-2-3 pro					♦	♦	♦		♦	♦	♦[n]		♦	
12	uMotif					♦	♦	♦	♦	♦	♦	♦[o]	♦[p]	♦	
13	Start - medication manager for depression	♦			♦[q]	♦	♦	♦							
14	Mental wellness everyday		♦[r]		♦[s]	♦	♦	♦	♦	♦				♦	
15	ADHD Adults				♦[t]	♦	♦	♦		♦		♦	♦		♦[u]
16	ADHD Kids				♦[t]	♦	♦	♦		♦	♦[v]	♦	♦		♦[u]
Total N (%)		2/16 (12.5)	4/16 (25)	2/16 (12.5)	8/16 (50)	14/16 (87.8)	15/16 (93.8)	16/16 (100)	8/16 (50)	10/16 (62.3)	5/16 (31.3)	10/16 (62.3)	7/16 (43.8)	11/16 (68.8)	2/16 (12.5)

[a] Local support services, [b] Ability to get report about recovery process, [c] Rewarding points, graphs, quiz questions, worsening warnings, mood graph, daily quiz, points for daily check in, notification if mood/anxiety/sleep threshold worsens [d] Request for appointment with the clinician, ability for the clinicians to pull up the information of the patient through their app, [e] Western trust area, [f] Ability to email reports to health professionals, [g] Feature for audio-recording clinician's medical instructions, [h] Motivation features to complete typically mundane tasks by documenting achievements, [i] Record weights and other "vitals," [j] Self-care routines and "real-life socialization," [k] Rewarding and worsening points, [l] Relaxation and stress-relief meditation techniques, [m] Email option for exporting graphs and reports to share with clinician, [n] The accumulated information can be emailed to your doctor, [o] Caregiver provides password for the patient and the patient can show a health report, [p] Not immediate, [q] Helpful tips from pharmacists and expert patients, progress reports for monitoring purposes, [r] Comparison of different types of antipsychotics on efficacy, durability and compliance with dosage, [s] "Knowing about schizophrenia" section, targets for self-improvement, badges, [t] Treatment results measurement, status analysis using self-assessment questionnaires, medication related charts, [u] Spanish, [v] Height and weight monitoring graph.

Kassianos, A. P., Georgiou, G., Papaconstantinou, E. P., Detzortzi, A., & Horne, R. (2017). Smartphone applications for educating and helping non-motivating patients adhere to medication that treats mental health conditions: aims and functioning. Frontiers in psychology, 8, 1769.

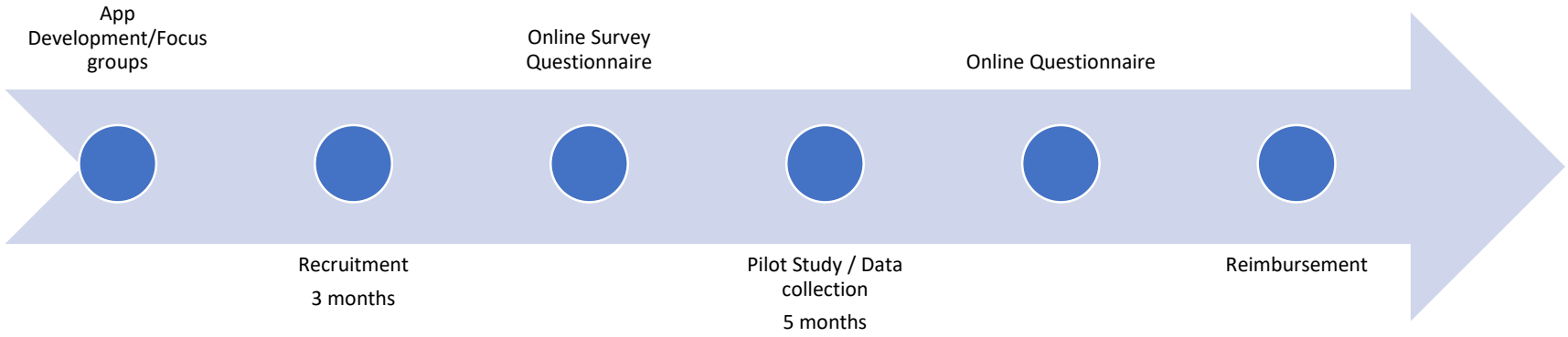
Kassianos, A. P., Emery, J. D., Murchie, P., & Walter, F. M. (2015). Smartphone applications for melanoma detection by community, patient and generalist clinician users: a review. British Journal of Dermatology, 172(6), 1507-1518.

Evidence-Based Approach

Acceptance and Commitment Therapy elements
(Hayes, Strosahl & Wilson 2010)

Acceptance & Values

Pilot Study



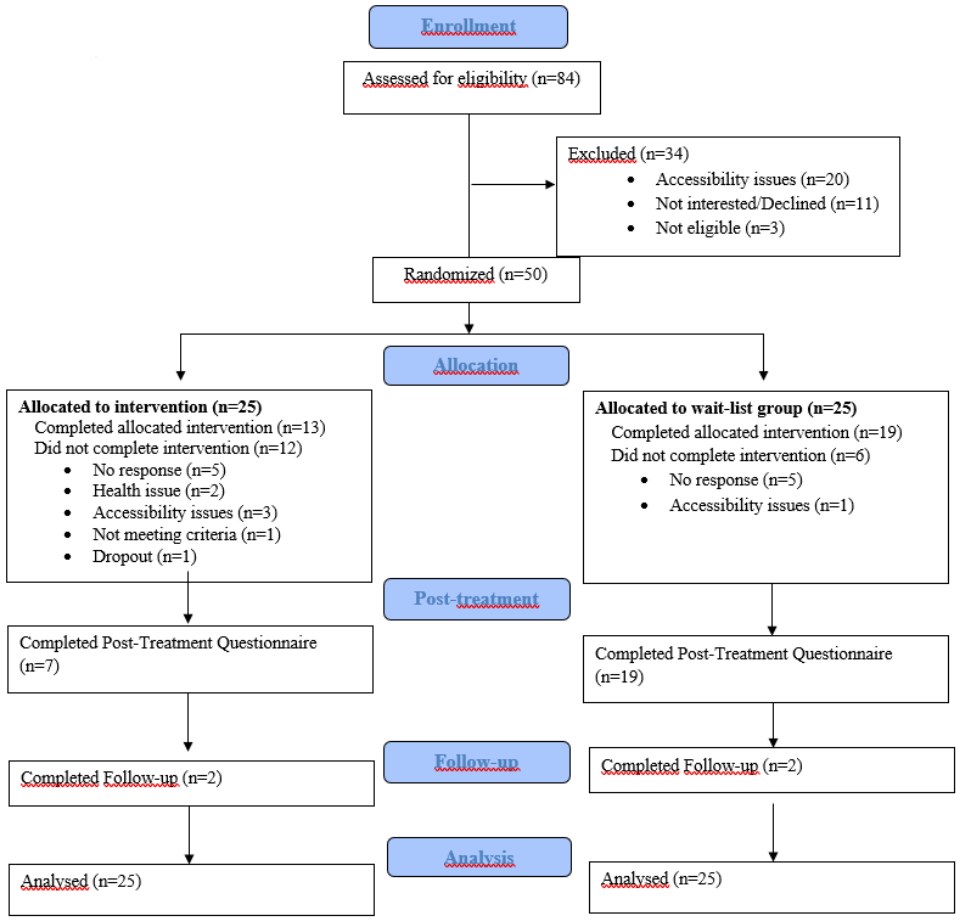
Duration: 5 months

54 eligible participants (asthma, hypertension, cancer, diabetes)

Randomized into two groups (intervention Vs control)

1 month usage

Pilot Study



Within-group comparisons of participants completing both pre and post-treatment phases

Measure	Intervention (n=7)		*t-test*	Wait-list control (n=19)		*t-test*
	Pre-treatment	Post-treatment		Pre-treatment	Post-treatment	
MARS-5 total score, *Mean* (SD)[1]	22.29 (2.43)	21.29 (2.29)	1.73	21.53 (3.31)	21.21 (3.79)	.81
BMQ, *Mean* (SD)						
Specific-Necessity[2]	21.00 (4.55)	22.43 (3.55)	-1.70	21.47 (3.88)	20.32 (4.70)	3.76*
Specific-Concern[3]	13.00 (5.54)	13.57 (4.86)	-.24	13.05 (4.80)	13.47 (5.79)	-.37
General-Overuse[4]	12.14 (2.12)	11.57 (2.88)	.66	11.26 (3.16)	11.89 (3.02)	-1.11
General-Harm[5]	9.71 (2.98)	9.00 (2.31)	.61	8.32 (3.58)	9.11 (2.38)	-1.23
IDQ, *Mean* (SD)[6]						
Denial	3.29 (1.60)	2.71 (2.36)	1.33	4.00 (2.29)	3.58 (2.32)	1.00
Resistance	3.71 (2.29)	3.29 (2.14)	.34	4.21 (1.87)	3.74 (2.42)	.95
Avoidance	1.57 (1.27)	2.14 (2.41)	-1.08	2.47 (2.20)	2.16 (2.27)	.97
SSCI total score, *Mean* (SD)[7]	14.86 (4.78)	15.71 (5.31)	-.47	12.21 (3.85)	11.53 (3.27)	1.16
PSYFLEX total score, *Mean* (SD)[8]	37.57 (3.10)	37.00 (4.28)	.62	36.05 (6.25)	36.37 (6.46)	-.27
VQ, *Mean* (SD)[9]						
Progress	18.86 (6.54)	16.43 (11.39)	1.03	20.95 (4.92)	18.84 (7.10)	1.35
Obstruction	8.86 (6.99)	8.71 (5.22)	.07	13.74 (8.00)	11.74 (8.05)	1.51
MHLC, *Mean* (SD)[10]						
Chance	17.14 (3.34)	17.29 (5.59)	-.07	21.58 (5.63)	20.05 (5.29)	1.15
Powerful Others	19.14 (6.28)	22.14 (5.18)	-1.59	24.11 (5.14)	23.32 (7.06)	.61
Internal	21.71 (4.68)	23.86 (2.91)	-1.51	24.58 (4.77)	25.00 (4.78)	-.31

Note. *p<.05; BMQ= Beliefs about Medicines; IDQ= Illness Denial Questionnaire; MARS-5=Medication Adherence Report Scale; MHLC= Multidimensional Health Locus of Control; SSCI= Stigma Scale for Chronic Illness; VQ=Valuing Questionnaire.
[1]Scores range from 1 to 25 with higher scores showing higher medication adherence; [2]Scores range from 5 to 25 with higher scores showing stronger perceptions of personal need for the medication; [3]Scores range from 5 to 25 with higher scores showing stronger concerns on the negative effects of the medication; [4]Scores range from 4 to 20 with higher scores showing more negative views on medication prescription; [5]Scores range from 4 to 20 with higher scores showing more negative views about medications; [6]Higher scores in each subscales indicate higher illness denial, resistance to change and conscious avoidance; [7]Higher scores indicate higher perceived stigma; [8]Higher scores indicate higher psychological flexibility; [9]Scores in each subscale range from 0 to 30 with higher scores in progress subscale representing a closer alignment to one's values whereas a higher score in obstruction represent more interference with living consistently with one's values; [10]Scores in each subscale range from 6 to 36 with higher scores indicating stronger beliefs in the control attributed to the particular dimension assessed by the subscale.

Angelos P. Kassianos, Pinelopi Konstantinou, Orestis Kasinopoulos, Christiana Karashiali, Giorgos Georgiou, Maria Antoniade, Afroditi Kkamari, Andreas Panayides, Greta Wozniak, Alexia Papamichael, Constantinos Pattichis, Maria Karekla (in preparation). **Developing a digital health intervention for helping chronic patients adhere to their prescribed medication: The Stay-On-Track (SoT) tool**

Stay On Track
mHealth app

Short Demo

Stay On Track
mHealth app

electronic Clinical Reasoning Skills Educational Simulation Tool (eCREST):

Case Study 2: Using online simulations to teach medical students clinical reasoning applied to tasks faced in primary care

Dr Angelos Kassianos, on behalf of co-authors:

Jessica Sherigham, Ruth Plackett, Patricia Schartau, Sarah Bennett, Christopher Valerio, Jenny Hopwood, Natasha Kay, Sophie Mylan, Willie Hamilton, Stephen Duffy, Rosalind Raine

Policy Research Unit in Cancer Awareness, Screening and Early Diagnosis

This research is part of the programme of **Policy Research Unit in Cancer Awareness, Screening and Early Diagnosis**. The Policy Research Unit in Cancer Awareness, Screening, and Early Diagnosis receives funding for a research programme from the Department of Health Policy Research Programme.

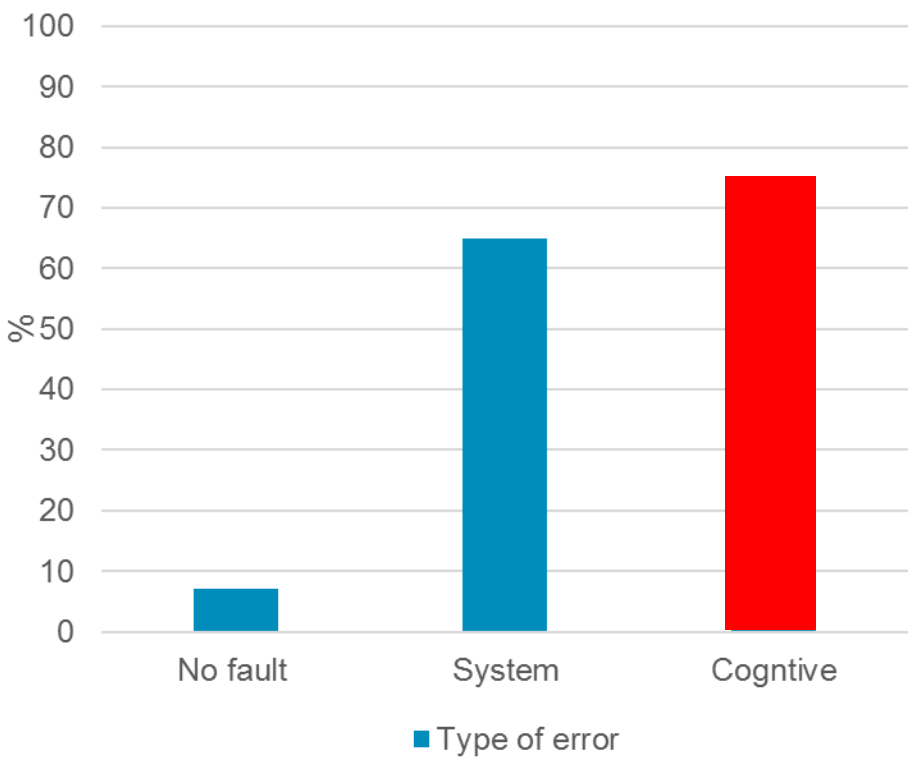
RR and JS are supported by the **National Institute for Health Research (NIHR) Collaboration for Leadership in Applied Health Research and Care North Thames** at Barts Health NHS Trust. The views expressed are those of the authors and not necessarily those of the NHS, the NIHR or the Department of Health.

RP is funded by a studentship from **The Health Foundation**.

The problem

Missed opportunities in diagnosis in primary care can delay treatment & harm patients (Institute of Medicine, 2015)

Causes of diagnostic error (Graber et al., 2005)

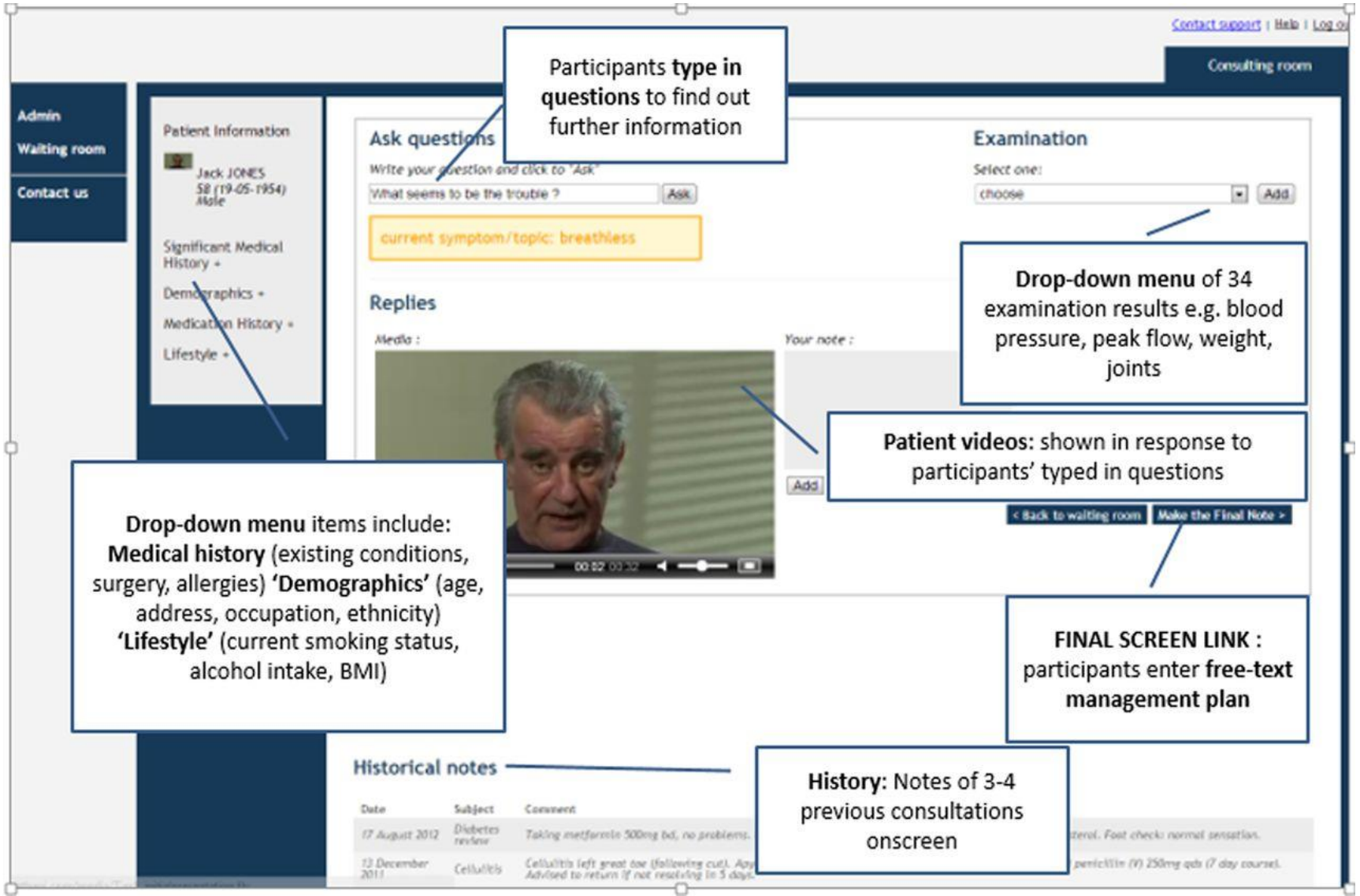


No fault errors: e.g. patient delay presenting to health professional

System errors: Technical failures, organisational problems

Cognitive/ clinical reasoning errors: knowledge, data gathering and interpretation

Factorial vignettes study into GP decisions for possible lung cancer



Study findings

- GPs decided to investigate lung cancer in 74% (1000/1348) of vignettes. Investigation likelihood did not increase with cancer risk.

- Investigations were more likely when GPs requested information on relevant symptoms that 'patients' had but did not volunteer. However GPs omitted to seek this information in 42% (570/1348) of cases.

➢ **Proposed an online tool that addressed the problems identified in the research study**

Sheringham et al. BMJ Qual Saf doi:10.1136/bmjqs-2016-005679

Cognitive biases

- Evidence from experimental studies shows that clinicians' decisions are affected by cognitive biases which lead to diagnostic errors (Kostopoulou et al., 2012, Sheringham et al., 2016).

Confirmation bias: tendency to seek information to confirm a hypothesis rather than refute it

Anchoring: tendency to stick to an initial hypothesis despite new contradictory information

The unpacking principle: tendency to not elicit all the necessary information to make an informed judgement

Definitions

- **Clinical decision-making**: “a contextual, continuous, and evolving process, where data are gathered, interpreted, and evaluated in order to select an evidence-based choice of action” (Tiffen et al., 2014).

- **Clinical reasoning** is part of the process of clinical decision-making: “cognitive processes and mental structures employed in diagnostic reasoning” (Higgs et al., 2008).

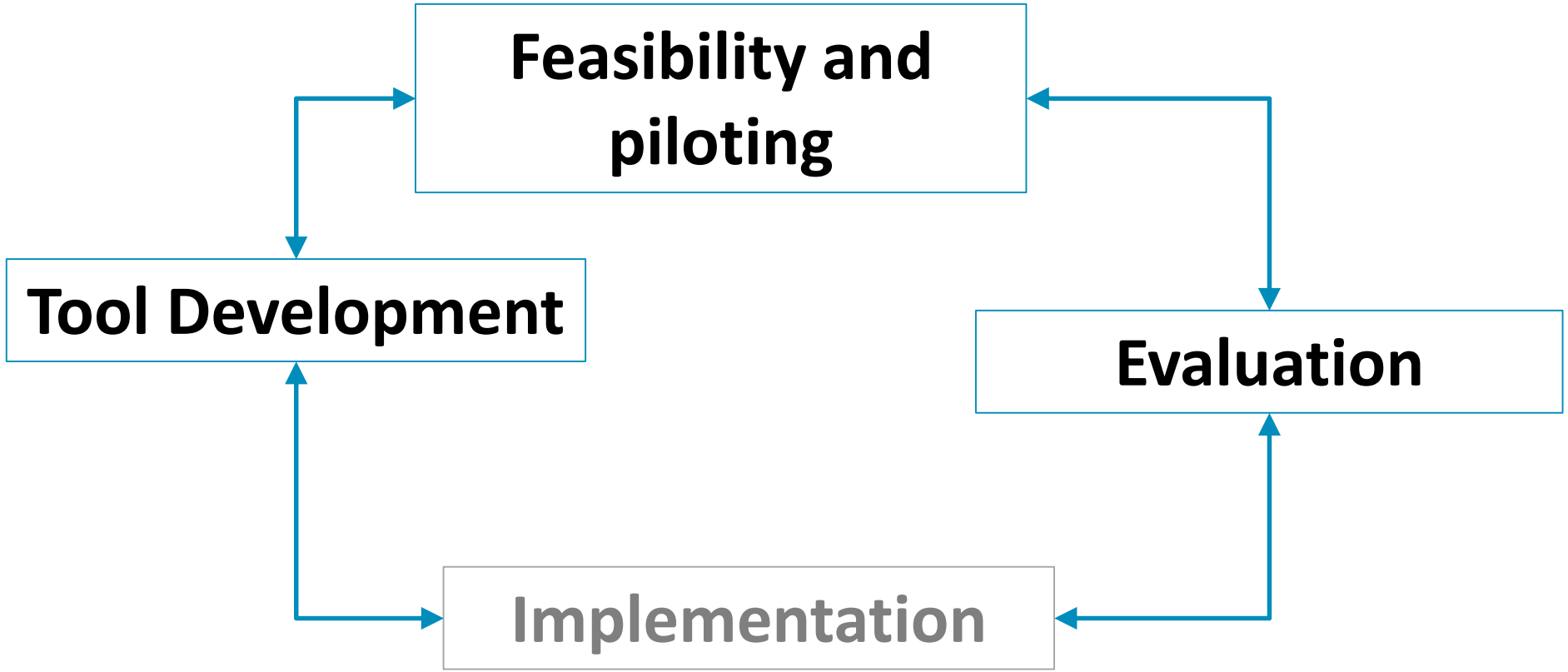
How online simulations apply on analytical clinical reasoning?

- **Reflection** (Mamede et al., 2008)
  - Awareness of reasoning
  - Notice inconsistences in evidence
  - and thinking
  - Consider alternative hypotheses.
- **Feedback** (Mamede et al., 2008)
  - Prompts reflection
  - Awareness of errors and gaps in skills and knowledge.

Two reviews found that the most effective way of reducing diagnostic errors, was by using reflection, particularly for complex cases (Lambe et al., 2016, Norman et al., 2016)

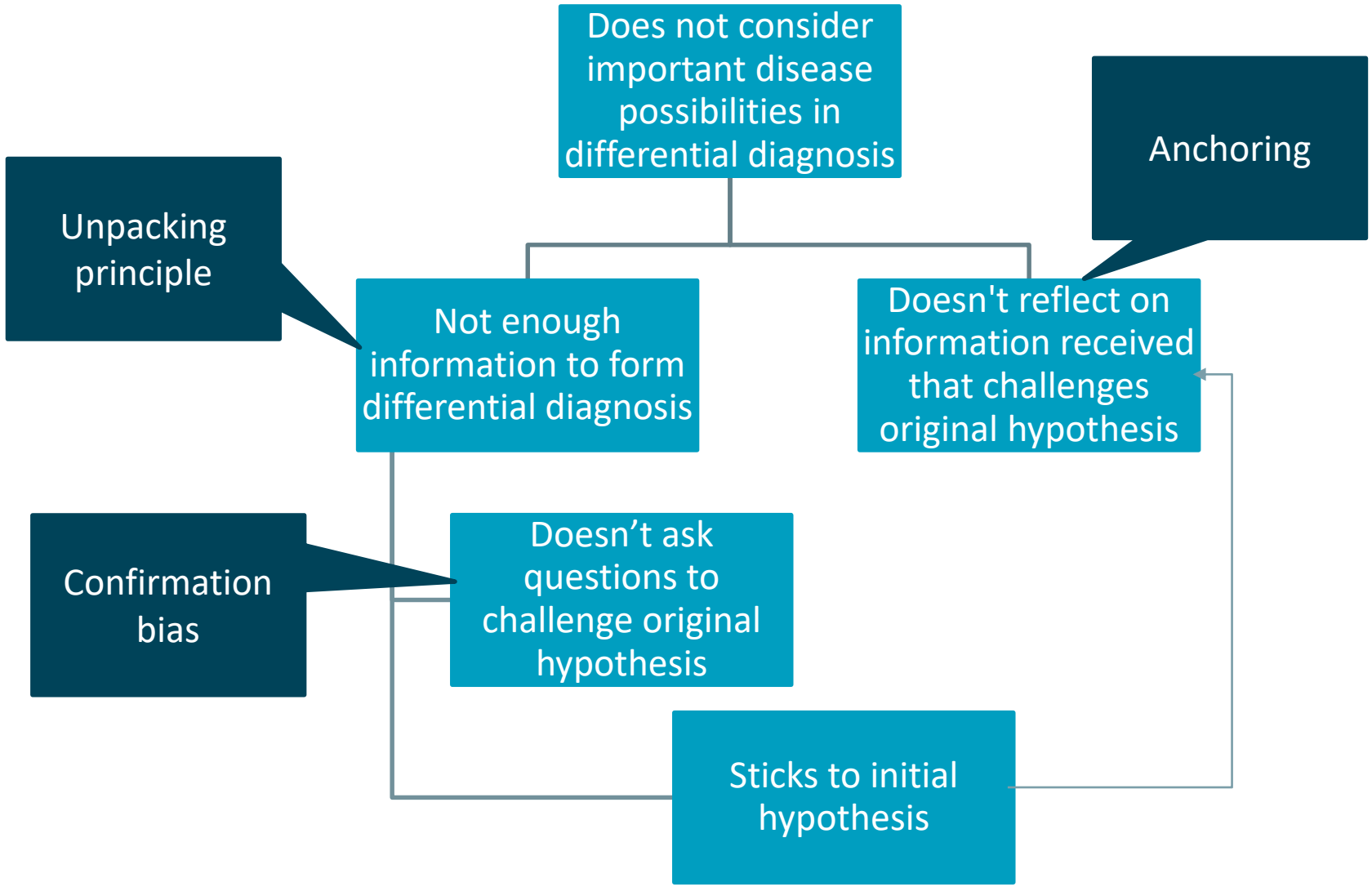
eCREST (electronic Clinical Reasoning Educational Simulation Tool)

- Developed using an iterative process (July 2016-March 2017) with multiple stages of feedback involving:
  - Experts (medical school faculty from primary care and respiratory medicine, primary care diagnostics, psychology, education, lay advisor)
  - 'End-users': Medical students
  - Web developers: Silver District
  - Content developers: GP registrars
- Based on content created for research tool examining management of respiratory symptoms (Sheringham et al., 2016)

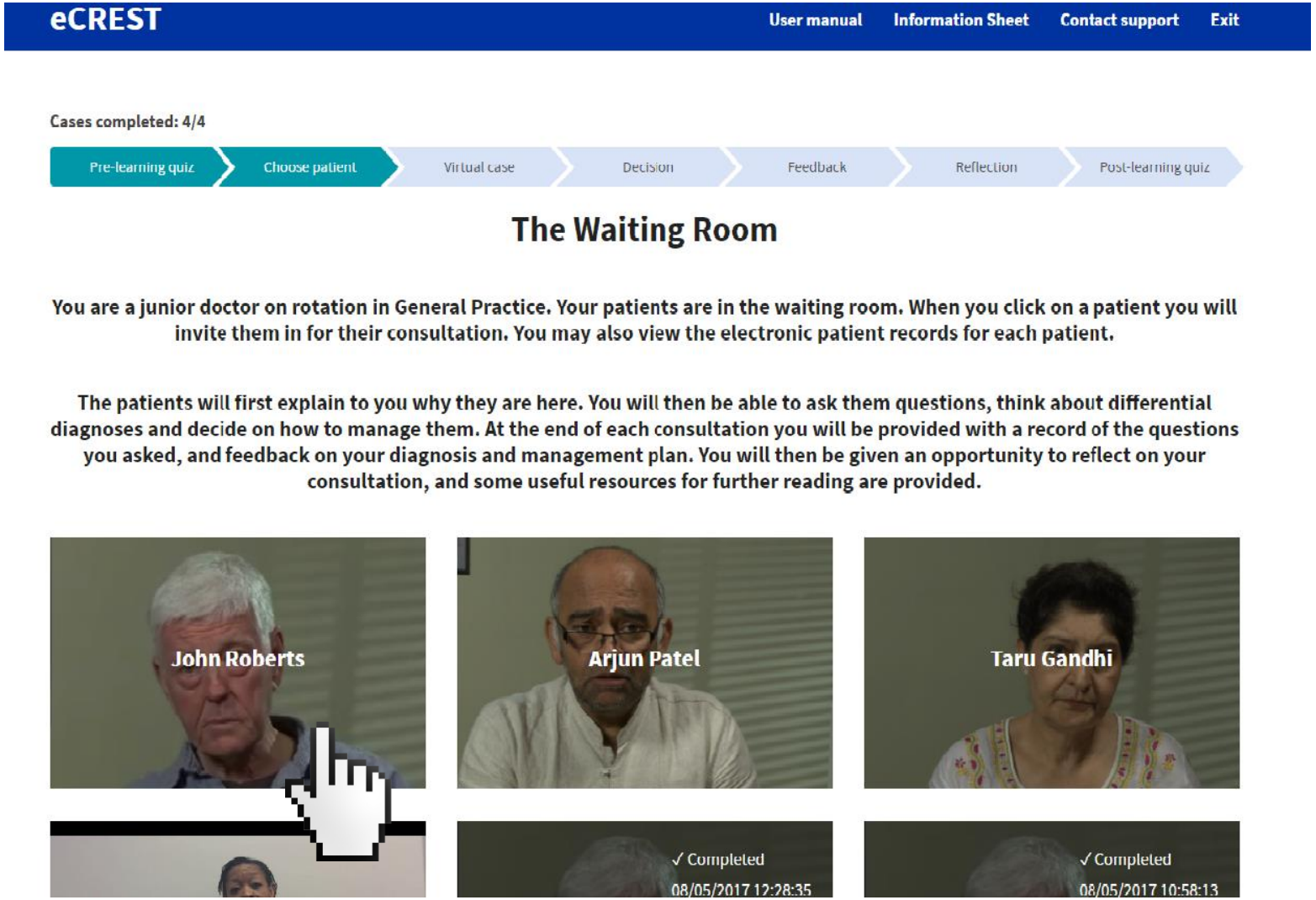


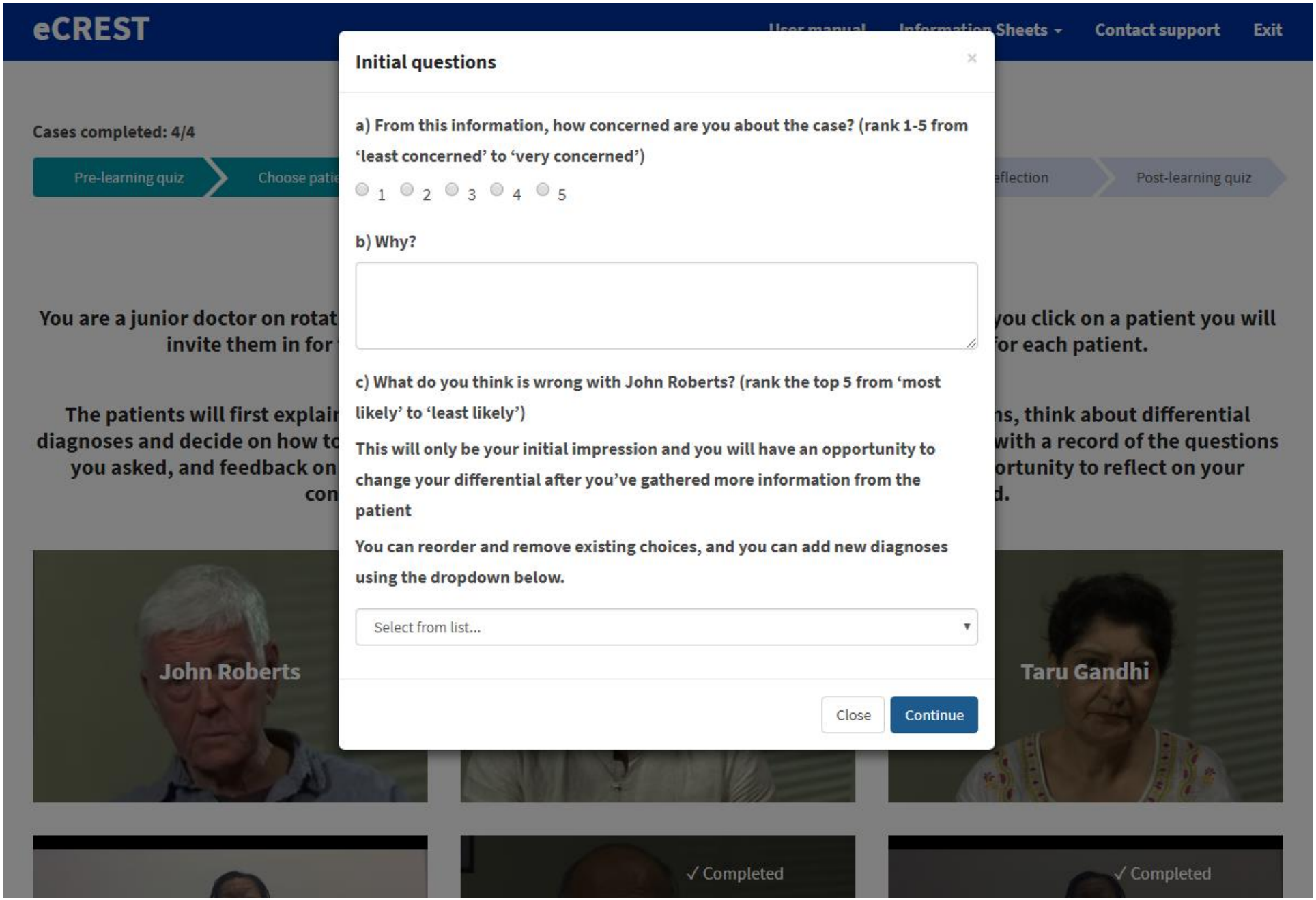
MRC framework for evaluating complex interventions: development and evaluation process (Craig et al. BMJ)

The problem


Does not consider important disease possibilities in differential diagnosis
Anchoring
Unpacking principle
Not enough information to form differential diagnosis
Doesn't reflect on information received that challenges original hypothesis
Confirmation bias
Doesn’t ask questions to challenge original hypothesis
Sticks to initial hypothesis

eCREST


eCREST
User manual
Information Sheet
Contact support
Exit
Cases completed: 4/4
Pre-learning quiz
Choose patient
Virtual case
Decision
Feedback
Reflection
Post-learning quiz
The Waiting Room
You are a junior doctor on rotation in General Practice. Your patients are in the waiting room. When you click on a patient you will invite them in for their consultation. You may also view the electronic patient records for each patient.
The patients will first explain to you why they are here. You will then be able to ask them questions, think about differential diagnoses and decide on how to manage them. At the end of each consultation you will be provided with a record of the questions you asked, and feedback on your diagnosis and management plan. You will then be given an opportunity to reflect on your consultation, and some useful resources for further reading are provided.
John Roberts
Arjun Patel
Taru Gandhi
✓ Completed
08/05/2017 12:28:35
✓ Completed
08/05/2017 10:58:13


eCREST
User manual
Information Sheets
Contact support
Exit
Cases completed: 4/4
Pre-learning quiz
Choose patie
eflection
Post-learning quiz
You are a junior doctor on rotat
invite them in for
you click on a patient you will
or each patient.
The patients will first explain
diagnoses and decide on how to
you asked, and feedback on
con
ns, think about differential
with a record of the questions
ortunity to reflect on your
d.
John Roberts
Taru Gandhi
✓ Completed
✓ Completed
Initial questions
a) From this information, how concerned are you about the case? (rank 1-5 from 'least concerned' to 'very concerned')
1 2 3 4 5
b) Why?
c) What do you think is wrong with John Roberts? (rank the top 5 from 'most likely' to 'least likely')
This will only be your initial impression and you will have an opportunity to change your differential after you've gathered more information from the patient
You can reorder and remove existing choices, and you can add new diagnoses using the dropdown below.
Select from list...
Close
Continue

Please select the first questions that you would like to ask the patient from the squares below. You may ask as many questions as you like. After having asked 6 questions, you will be prompted to answer a few questions yourself. These 6 can come from any square. You may use the notepad at the bottom of the screen to take notes. When you have gathered enough information, please click on the 'Review diagnosis' button to examine the patient.

Review diagnosis

You can also access the patient's electronic records.

Electronic patient records

History of Presenting Complaint | The Patient Perspective | Background Information

History of Presenting Complaint

When did your cough start?

Can you describe your cough?

Does your cough worsen on exercise?

Does your cough worsen on lying down?

Are you coughing anything up?

Have you coughed up blood?

Does your cough worsen on movement?

Notepad

Had cough for 3 we

1. What do you think you did well?

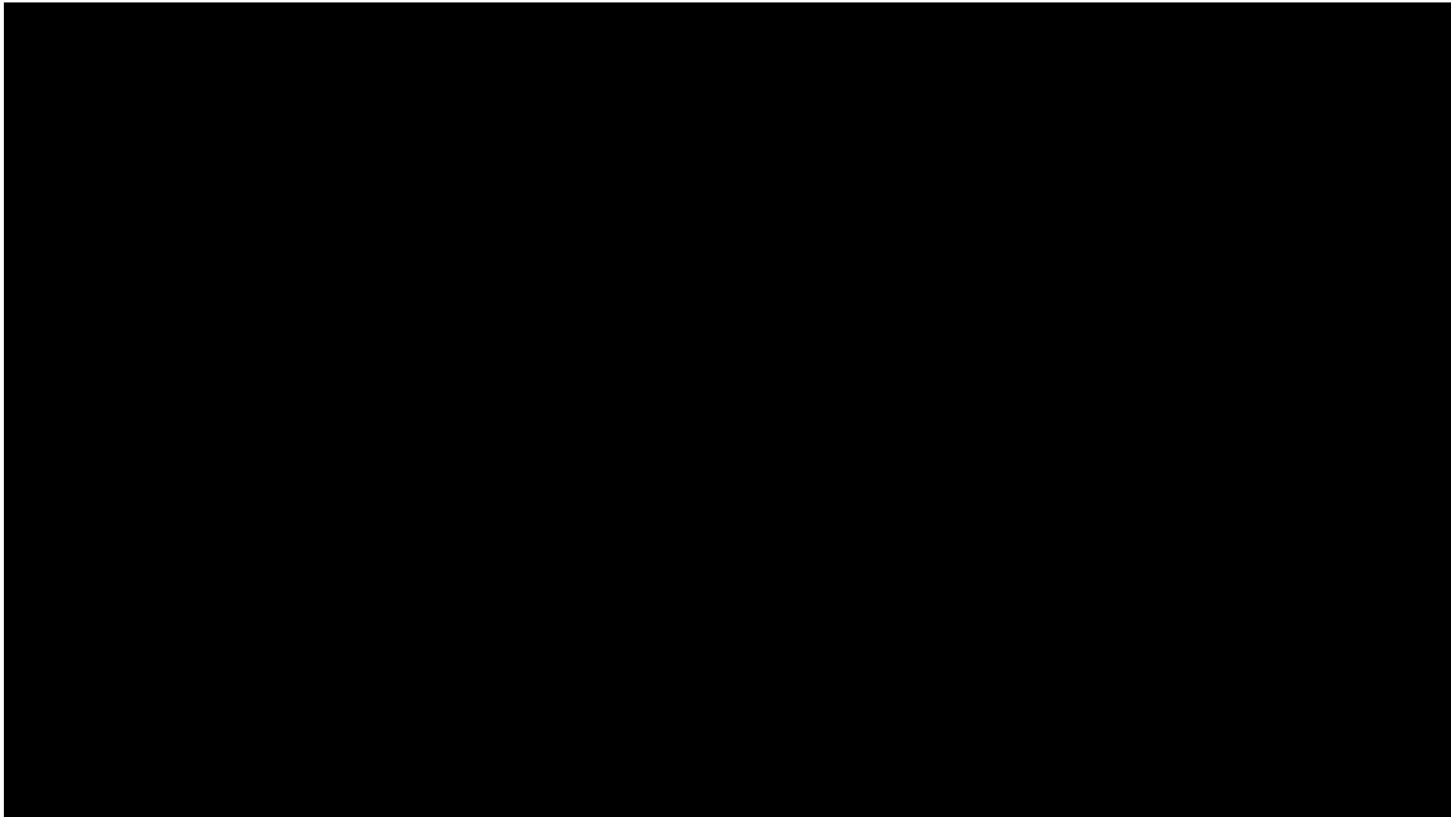
2. What do you think you need to improve?

3. What changed during the module? (e.g. did you change your approach to reaching a differential diagnosis?)

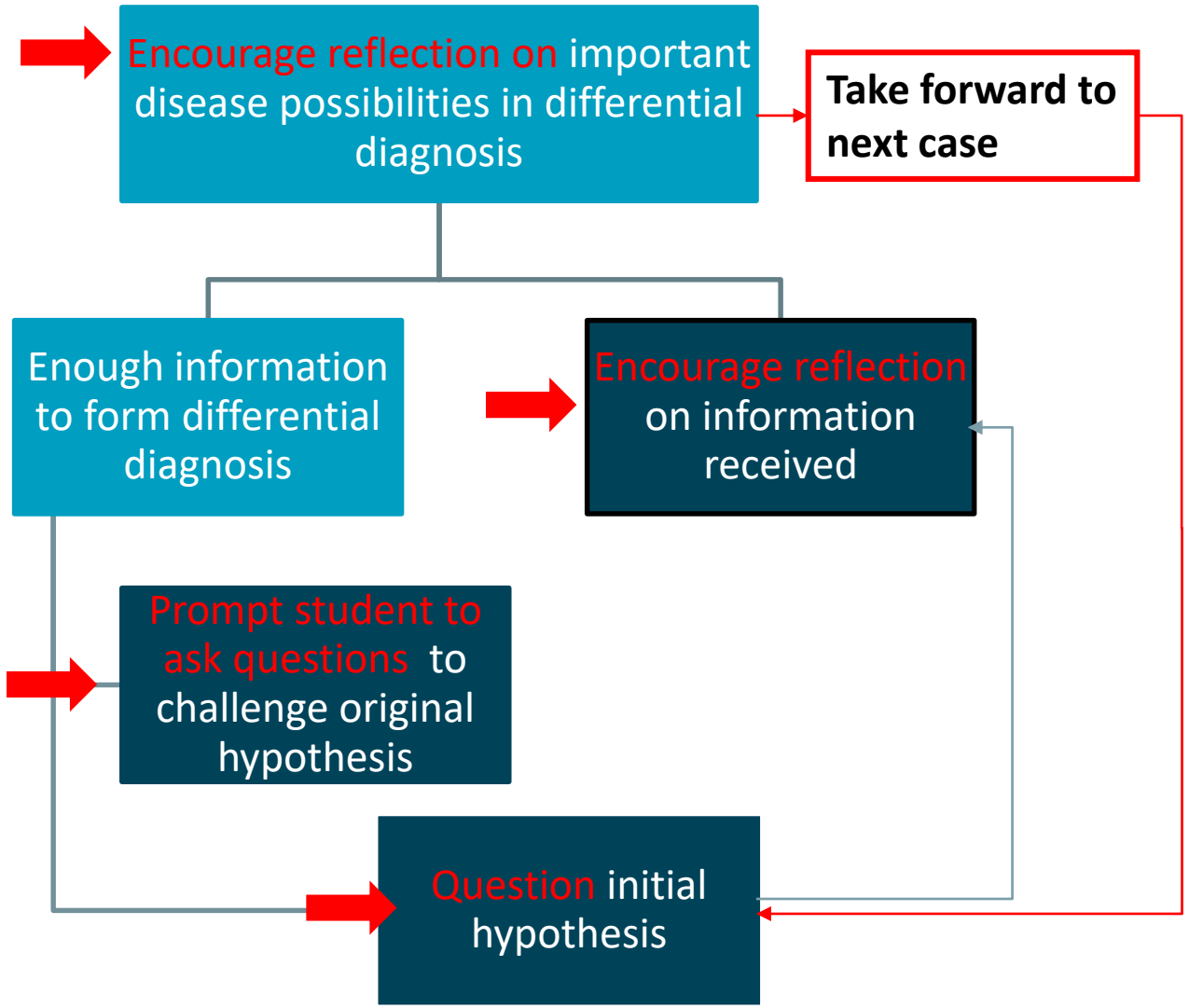
Reflections page

- Did well?
- Need to improve?
- Changes during the module?
- Take forward to clinical work?

Short Demo



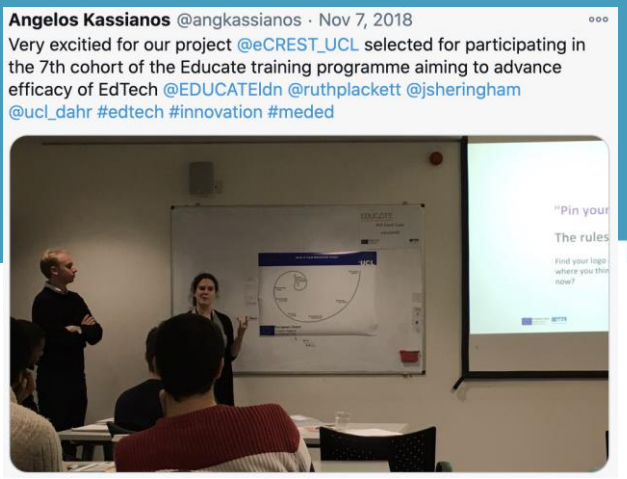
eCREST: targets for learning – on each case



eCREST

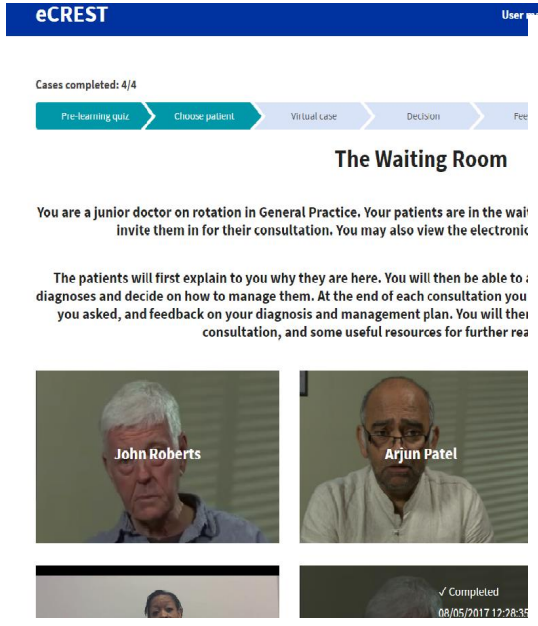
Electronic Clinical Reasoning Educational Simulation Tool

Development 2015-18



UCL Global Engagement funding 2016-17

Adaptability in Turkey (KUSOM)



Collaborating on resource development in Turkey

Dr Angelos Kassianos (UCL Department of Applied Health Research) conducted a study visit at the Koc University School of Medicine in Turkey. His team collected feedback from students who have used an online educational resource developed by the UCL department and used by the UCL Medical School as a 'Case of the Month'.

Commenting on the importance of UCL's continued provision of support and funding for international collaboration, Dr Kassianos said: "A study visit is worth a thousand emails. I spent a very productive three days with discussions, future planning and establishment of an excellent understanding of each other's needs."

Following the study, Dr Kassianos and his team are incorporating feedback and utilising collected data to make improvements to the learning resource.

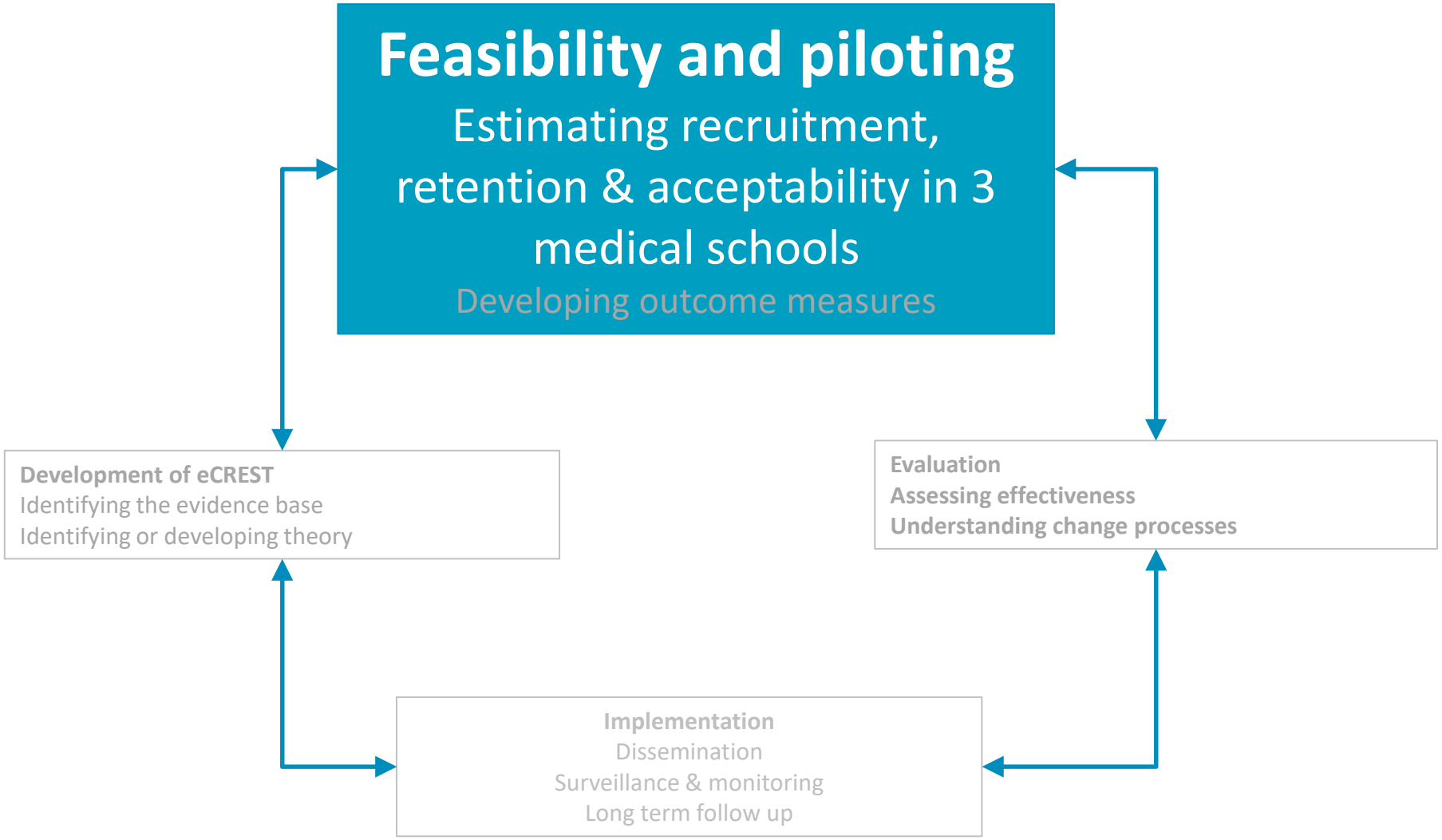
Global Use of eCREST (since 2017)

Turkey (KUSOM) Cyprus (UNIC) Spain (Barcelona)

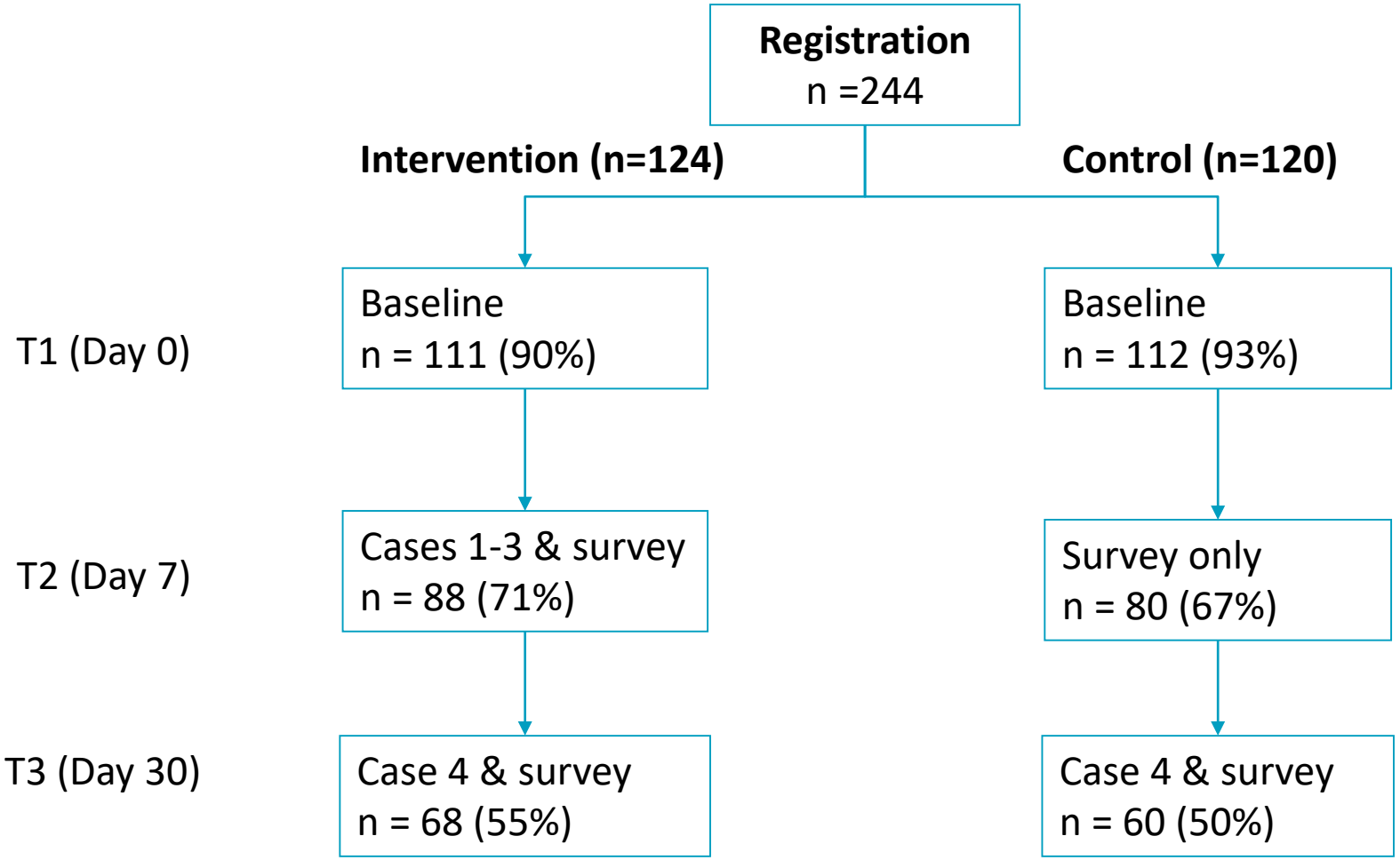
e-CREST Project: 'An evaluation of an online patient simulation training tool (e-CREST) to improve the clinical decision-making skills of medical students'

September 2019

The University of Nicosia Medical School is pleased to announce its participation in the project **'An evaluation of an online patient simulation training tool (e-CREST) to improve the clinical decision-making skills of medical students'** designed and implemented at University College London, UK, since the academic year 2017-2018. The study was also implemented in final year medical students at the following medical schools: Barts School of Medicine, Queen Mary University, London, UK (2017-2018), University of East Anglia Medical School, Norwich, UK (2017-2018) and Koc University School of Medicine, Istanbul, Turkey (2016-2018).


Feasibility and piloting
Estimating recruitment, retention & acceptability in 3 medical schools
Developing outcome measures
Development of eCREST
Identifying the evidence base
Identifying or developing theory
Evaluation
Assessing effectiveness
Understanding change processes
Implementation
Dissemination
Surveillance & monitoring
Long term follow up

Uptake and completion



Of the intervention group that completed the baseline measures, 79% completed cases 1-3 and 61% completed all cases

Acceptability and self-reported learning (n=88)

Statement	Agree/ strongly agree (%)	Neither agree or disagree (%)	Dis-agree (%)
It was easy to navigate through eCREST	98	1	1
The level of difficulty of the material was appropriate	97	3	0
I would use eCREST in the future without an incentive	83	12	5
eCREST should be used to supplement traditional teaching	89	10	1
eCREST helped me to learn clinical reasoning skills to apply to clinical work	80	17	3
Overall, using eCREST enhanced my learning	85	14	1

Assessing clinical reasoning

Measured	Dimension	How was this measured?
Measure over time (between case 1-3) and between groups (case 4)	1. Did they take a focused & relevant history?	% of relevant questions asked / Number of questions asked
	2. Did they gather necessary information?	% of essential questions asked / Number of essential questions available
	3. Did they adapt a diagnosis according to new information?	Number of times they changed their diagnosis

Dimension	Target	Measure
1. Take a focused & relevant history	Unpacking principle	[Σ relevant questions & examinations asked] / [Σ total questions asked]
2. Gather necessary information	Unpacking principle	[Σ essential questions & examinations asked] / [Σ all essential examinations & questions]
3. Adapt a diagnosis according to new information	Anchoring	% that changed their diagnosis list or order at least once
	Confirmation bias	number of "correct" diagnoses at initial vs final diagnosis
4. Prioritise differential diagnoses	Anchoring Confirmation bias	% that changed diagnosis order at least once
5. Consider lung cancer in differential diagnosis	Confirmation bias	% that considered lung cancer at initial differential diagnosis % that considered lung cancer at final diagnosis

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Research article | Open Access | Published: 31 July 2020

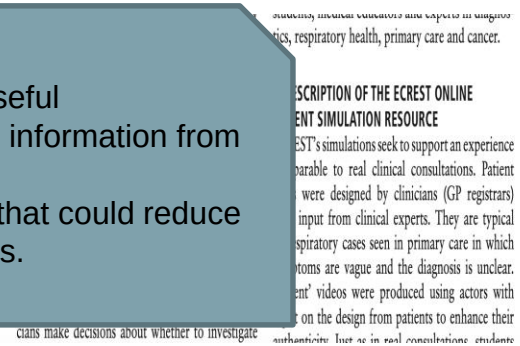
Online patient simulation training to improve clinical reasoning: a feasibility randomised controlled trial

Ruth Plackett, Angelos P. Kassianos, Maria Kambouri, Natasha Kay, Sophie Mylan, Jenny Hopwood, Patricia Schartau, Shani Gray, Jessica Timmis, Sarah Bennett, Chris Valerio, Veer Rodrigues, Emily Player, Willie Hamilton, Rosalind Raine, Stephen Duffy & Jessica Sheringham

BMC Medical Education **20**, Article number: 245 (2020) | Cite this article

349 Accesses | **11** Altmetric | Metrics

- Acceptable and useful
- It helped them gather essential information from the 'patients'
- Improved data gathering skills that could reduce diagnostic errors.



tics, respiratory health, primary care and cancer.

SCRIPTION OF THE ECREST ONLINE
ENT SIMULATION RESOURCE

EST's simulations seek to support an experience parable to real clinical consultations. Patient were designed by clinicians (GP registrars) input from clinical experts. They are typical spiratory cases seen in primary care in which toms are vague and the diagnosis is unclear. ent' videos were produced using actors with on the design from patients to enhance their

cians make decisions about whether to investigate

JOURNAL OF MEDICAL INTERNET RESEARCH Plackett et al

Original Paper

Using Virtual Patients to Explore the Clinical Reasoning Skills of Medical Students: Mixed Methods Study

Ruth Plackett[1], PhD; Angelos P Kassianos[1], PhD; Jessica Timmis[1], MBBS; Jessica Sheringham[1], PhD; Patricia Schartau[2], MBBS, PhD; Maria Kambouri[3], PhD

[1]Department of Applied Health Research, University College London, London, United Kingdom
[2]Primary Care and Population Health Department, University College London, London, United Kingdom
[3]Institute of Education, University College London, London, United Kingdom

Corresponding Author:
Ruth Plackett, PhD
Department of Applied Health Research
University College London
1-19 Torrington Place
London, WC1E 7HB
United Kingdom
Phone: 44 20 7679 3291
Email: ruth.plackett.15@ucl.ac.uk

e-CREST Project: 'An evaluation of ar
improve the clinical decision-making

September 2019

The University of Nicosia Medical School is pleased to announce
CREST) to improve the clinical decision-making skills of medic
2017-2018. The study was also implemented in final year medica
London, UK (2017-2018), University of East Anglia Medical Scho
2018).

- Students in the intervention group were more thorough than those in the control group when gathering data (21/78, 27% vs 6/70, 9%) and less likely to display a Succinct pattern (13/78, 17% vs 20/70, 29%; $\chi 2$ =9.9; 3
- P=.02).
- eCREST promoted thoroughness by prompting to continuously reflect and practicing managing uncertainty

Summary

- eCREST was acceptable and appropriate
- Uptake and retention were good (especially as volunteers)
- Indications that eCREST had a positive impact on clinical reasoning skills

Interviews with Medical Educators

- We adapt an implementation science framework to understand from medical educators' perspectives on what influences the adoption of clinical reasoning SBME methods in medical schools.
- Qualitative study with thirteen (n=13) interviews with medical educators in the UK

Findings:

- Opportunities for SBME methods to be adopted (e.g. limited exposure to real patients)
- SBME limited adoption can be influenced by medical schools' readiness to adopt (i.e. inflexibility in curricula changes, experience with SBME methods)
- Innovations need to come with resources such as adaptability, trialability, clear evidence-based and a support network to help with adoption especially during the first stages.
- Finally, SBME innovation decision-making process is important with adoption more likely when changes in curricula are made quickly and positioned at small scale.

Overall, the decisions to adopt do not solely depend on the teaching innovation nor on the context or individual attitude alone but on the interactions between the innovation, the context and the individual (educator) attitude and experience.

Paper under review in BMC Medical Education

Knowledge Exchange and Innovation funding (2021)

- Connects UCL teams with communities beyond the university to exchange ideas, evidence and expertise.
- Emphasizes a two-way exchange of learning.

Funding: 1 June - 1 December 2021

PHASE I

Participants:

In an effort to understand the market we conducted interviews with a wide-range of medical health professionals and trainees:

- Medical educators and trainers (x5) [4 Physician Associates; 1 Pharmacist]
- GP trainees (x2)
- Pharmacists (Prescribing course) (x4)
- Physician associate trainees (x2)

Methods:

- Semi-structured interview guide [developed with the in-put and feedback from our partners, trainees and trainers]
- 40- 60 minute Interviews
- Audio recorded & Transcribed

Data Analysis:

- Data analysed using principles of thematic analysis
- Top down coding

MAIN FINDINGS/THEMES

- Strengths of the eCREST software

2. Potential Improvements to eCREST to enhance user experience

3. Possible Uses and applications of the software

Strengths of the eCREST software

Strengths of the eCREST software	GP Trainees	Physician Associate Trainees	Pharmacist Trainees	Educators/Trainers (Including – Pharmacists & Physician Associates)
	Intuitive Software	Strong Case Content (e.g., Actors Very Authentic)	Safe Approach to Learning	Independent Learning
	Easy To Use	Well Rounded -Good Learning Tool	Clear Structure/Process	Reinforces Classroom Learning
	Good Quality of Cases	Skill-based Learning	Visual Cues Help Eliminate Assumptions That Can Be Formed from Reading Text Only	High Quality of Cases
	Great Practice	Unique Software That Supplements Training	Helps In Building Experience	Reflections Very Powerful
	Strengthens Reflective Learning	GP Feedback Very Useful	Triggers Thinking	Nice Mechanism to Prompt Clinical Reasoning
	Includes Diverse Audience	Instils Confidence in Diagnosis	Replace Case Study Practice in Learning Sessions	Builds Confidence
	Video Cues add Authenticity		Exposure To New Things	Post-Case Quiz Very Helpful
	Intuitive Software		Reinforces Learning	Structured Feedback
	Easy To Use		Promotes Independent Thinking	Fits In with Current Online Training Needs and Standards
	Good Quality of Cases			Minimizes Risks - Safe Environment
	Great Practice			Equal/Standardized Opportunity for Everyone to Use
	Strengthens Reflective Learning			

eCREST

Potential Improvements to eCREST to enhance user experience

GP Trainees	Physician Associate Trainees	Pharmacist Trainees	Educators/Trainers (Including – Pharmacists & Physician Associates)
Too Many Quizzes and Reflective Sessions	Get Best-Care Information at The End	Limited Cases	Needs Endorsement
Increase In Number of Cases	Provide Definitions Within the Software	Limited Selection of Questions Limits Learning	Increase The Number of Cases
Increase In Complexity of Cases	Expand On number of Cases	Medical Jargon	Group Study
Different Modes (Practice Mode & Teaching Mode)	Individual Subscription Model	More Feedback About Examinations and Tests	Differential Diagnosis process needs to be flexible
Flexible Number of Differential Diagnoses		Initially Time Consuming	Needs Added Complexity for Professional Users
Endorsement		Pre-Learning Questions Can Be Vague	Pages Numbered
Build On Assessment Section		Create A Virtual Community for Users	Expand To Other Groups Such as Nursing and Physiotherapy
Provide More Tests		Not Being Able to Go Back/Navigate Through the Pages	For Students - Provide Feedback Regarding Best Diagnosis and Examination
Provide Gold Standard of Treatment at End of Case		Being Given a Gold Standard Treatment	X-Rays And Scans Should Be Included
Group Study			Provide Reasoning and Justification for More Than the Selected Diagnosis
			For Students Needs Greater Details Regarding Examination Results
			Need for greater choice (selecting Qs/Differential Diagnosis)
			Ability to monitor students' progress

Possible Uses and applications of the software

Possible Uses and applications of the software	GP Trainees	Physician Associate Trainees	Pharmacist Trainees	Educators/Trainers (Including – Pharmacists & Physician Associates)
	Fills Gap in Training	Fills Gap in Training	Fills Gap in Training	Exam Revision
	Reinforcing Information and Practice	Embedding Knowledge	Reinforces Existing Learning	Reflection Is Best Done Alone – Professionals
	Practice Of Data Gathering	Replacing Case Simulations in Class	CPD	Recertification
	Personal Development	Could Potentially Enable Learning Across Disciplines	Qualification Exam Practice	Potentially Practice Across Specialities
	Case Management - However Not a Core Feature	Tool For Redefection	Group Discussions	Provide Practice for Senior Practitioners Facing an Incident Or Complaint
	Personal Study		Practice For Online Consultations	Professionals And Students Can Work on Weak Areas
			Support Proof of Competency	Used For Discussion in Professional Meetings
			Help With Shortage of DPPs	Could Be Used for Recruitment
				Reflections Can Be Added to Student's Portfolio

Case Study 3: Guiding metastatic breast cancer women after diagnosis to meet unmet needs: an avatar-based web platform (MET-GUIDE)

Funded by Union for International Cancer Control (UICC)
2019-2021

Guiding metastatic breast cancer women after diagnosis to meet unmet needs: an avatar-based web platform (MET-GUIDE)

Project description

The proposed project aimed to support women with MBC following their diagnosis by developing an avatar-based web tool (named MET-GUIDE)

Objective 1 (O1): Understand which of the unmet needs identified are the most challenging and necessary for the women and why they are such challenges. It will also examine potential solutions identified by patients themselves

Objective 2 (O2): Design and pilot an avatar-based web tool (MET-GUIDE) that can provide women with information on care pathway embedded with coping techniques for managing symptoms and optimize quality of life.

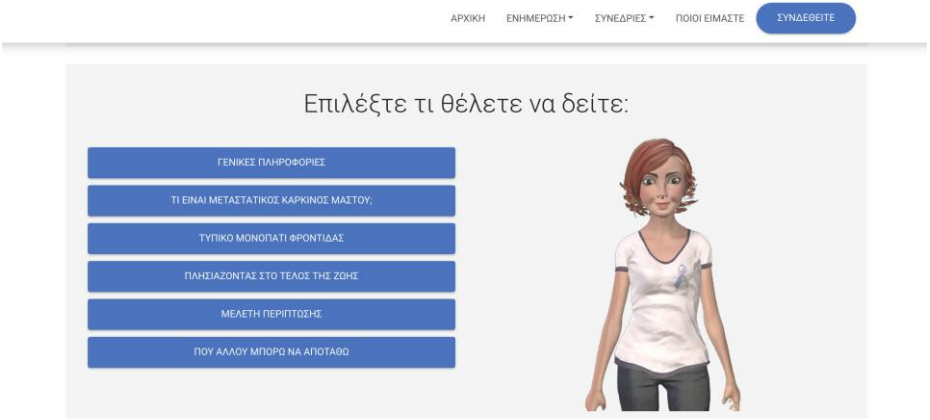
Objective 3 (O3): Measure women's unmet needs and quality of life after the initiation of the awareness campaign and pilot of the avatar web tool.

Objective 4 (O4): Organise interactive seminars and an awareness campaign lobbying for the wider use of tools like MET-GUIDE and to meet the unmet needs of women with MBC.

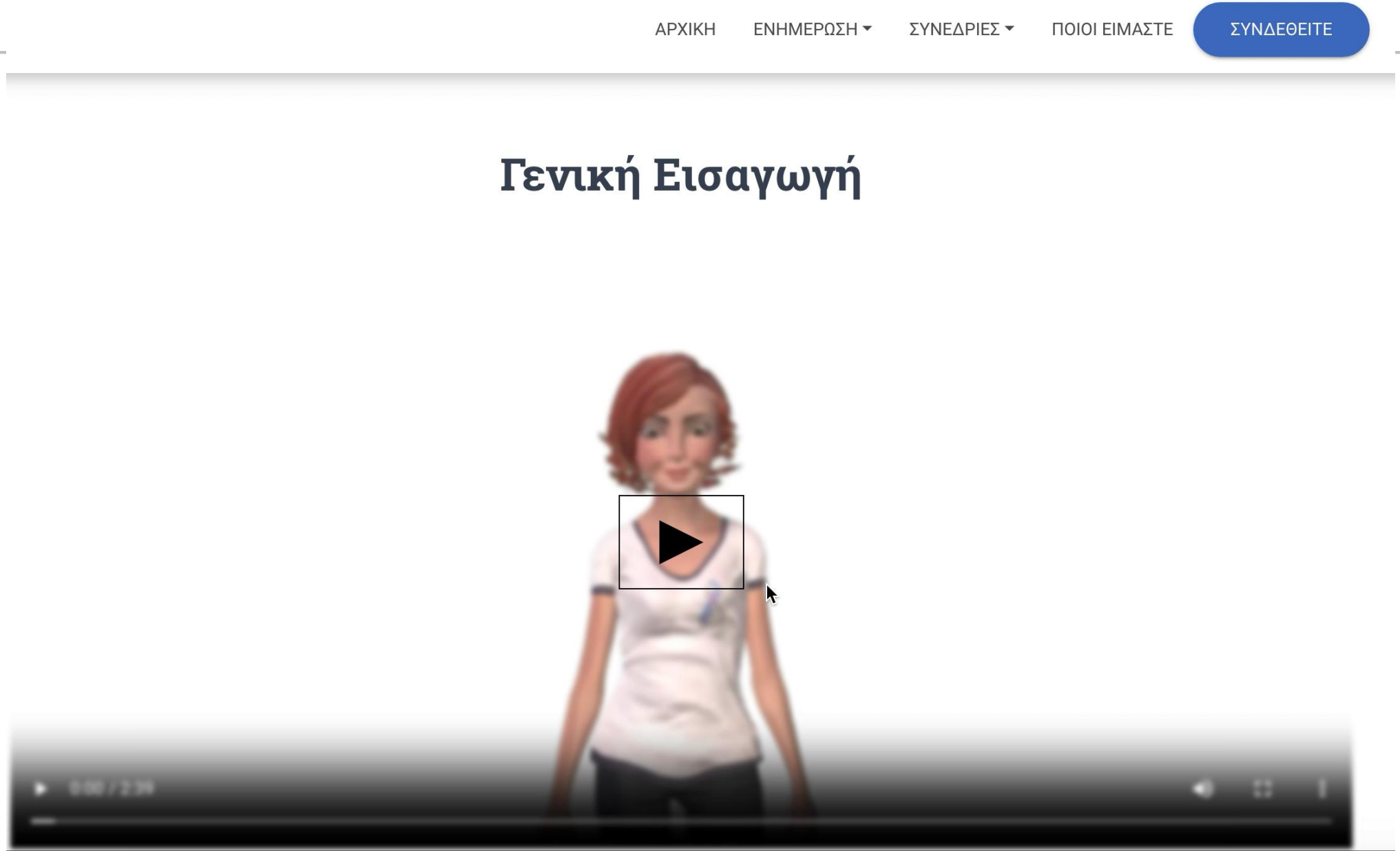
Main achievements and impact

https://met-guide.com/

Reached more than 100 MBC women with their satisfaction of care and QOL improved



Guiding metastatic breast cancer women after diagnosis to meet unmet needs: an avatar-based web platform (MET-GUIDE)



Guiding metastatic breast cancer women after diagnosis to meet unmet needs: an avatar-based web platform (MET-GUIDE)

What's next

- Plans to obtain a research grant to test the implementation of the tool and its impact in a real life setting
- Discussions to fund English translation and seek collaborations to use the tool in other contexts/counties

Learning

'Using our input and ideas from the beginning… well it is something we appreciate. It shows that you really care. And that you want to really make a change'

MBC patient during focus groups – Co-develop resources to just impose them to patients!

Challenges

Health system integration

We have ensured to get access to local providers from the beginning (e.g. Europa Donna Cyprus) and work closely with them and their patients during development. Furthermore, we have tried to use the links of the University with stakeholders such as the Parallel Parliament to lobby for the use of tools like MET-GUIDE to prioritise the care for MBC women.

Supportive care and the pandemic

First, we need to ensure that when developing digital means of support we don’t leave patients out that don’t have access to the internet. Second, we need to develop tools that are easy to use and access and are provided by local stakeholders and care providers to their patients in a ‘blended’ format.

Addressing inequity in breast cancer care

"We are deeply honoured that we are one of the eleven organizations around the world selected in 2019 to benefit from this program and to have joined the international SPARC network by more than 50 organizations. It's really a great opportunity for us because we managed to increase our impact with MET-GUIDE on ensuring that women with metastatic breast cancer in Cyprus receive the attention they deserve. Digital tools are the future and we need a patient-centred approach in developing and implementing them ensuring that all MBC women have the right information at hand and the psychosocial support they deserve. "

University of Cyprus
ACT Healthy Lab

Avatar-based platform

Ανακοίνωση Τύπου
προς δημοσίευση

Πανεπιστήμιο Κύπρου

Γραφείο Τύπου και Δημοσίων Σχέσεων Τομέας Προώθησης και Ποοβολής

Τηλέφωνο: 22894304
Ηλ. Διεύθυνση: prinfo@ucy.ac.cy
Ιστοσελίδα: www.ucy.ac.cy/pr

23 Οκτωβρίου 2019

Πρωτοβουλίες του Πανεπιστημίου Κύπρου για τη στήριξη των ασθενών με καρκίνο του μαστού

University of Cyprus
The Breast Center of Cyprus
Creating an avatar-based platform to serve MBC patients across the country

Το Πανεπιστήμιο Κύπρου ανακοινώνει ότι, κατά το μήνα Οκτώβριο που έχει καθιερωθεί διεθνώς ως ο μήνας ενημέρωσης και πρόληψης του καρκίνου του μαστού, έχει επιλεγεί για να λάβει επιχορήγηση στο πλαίσιο ενός διεθνούς προγράμματος που στοχεύει στην κάλυψη των αναγκών γυναικών με μεταστατικό καρκίνο του

Το πρωτοποριακό έργο με τίτλο "***Guiding metastatic breast cancer women after diagnosis: an avatar-based platform***" του Τμήματος Ψυχολογίας του Πανεπιστημίου Κύπρου επιλέγηκε για το βραβείο SPARC MBC Challenge για την ανάπτυξη ενός καινοτόμου εργαλείου με χρήση avatar που θα παρέχει πληροφορίες σε γυναίκες με μεταστατικό καρκίνο του μαστού, θα τις καθοδηγήσει και θα παρέχει σύντομες παρεμβάσεις που θα τις βοηθήσουν να αναπτύξουν μηχανισμούς αντιμετώπισης. Για να επιτευχθεί αυτός ο στόχος, οι γυναίκες θα κληθούν να συμμετάσχουν σε ομάδες εστίασης και να βοηθήσουν στη συνδημιουργία και την πιλοτική εφαρμογή του εργαλείου. Πρόκειται για συνεργασία μεταξύ του Τμήματος Ψυχολογίας του Πανεπιστημίου Κύπρου (Δρ. Μαρία Καρεκλά, Δρ. Άγγελος Κασσιανός), της Ιατρικής Σχολής (Δρ. Αναστασία Κωνσταντινίδου) και των συνεργατών του the Breast Center of Cyprus, της Europa Donna, του Παγκύπριου Συνδέσμου Καρκινοπαθών και Φίλων και της εταιρίας Silversky3d.

University of Cyprus
ACT Healthy Lab

Avatar-based platform

«Μας τιμά βαθιά το γεγονός ότι είμαστε μία από τις έντεκα οργανώσεις σε όλο τον κόσμο που επελέγησαν το 2019 για να επωφεληθούν από αυτό το πρόγραμμα και να ενταχθούν στο διεθνές δίκτυο SPARC από περισσότερους από 50 οργανισμούς. Είναι πραγματικά μια μεγάλη ευκαιρία για εμάς να αυξήσουμε τον αντίκτυπό μας στη διασφάλιση ότι οι γυναίκες με μεταστατικό καρκίνο του μαστού στην Κύπρο θα λάβουν την προσοχή που τους αξίζει», δήλωσε ο Δρ Άγγελος Κασσιανός, ερευνητής και επικεφαλής του έργου.

Summary

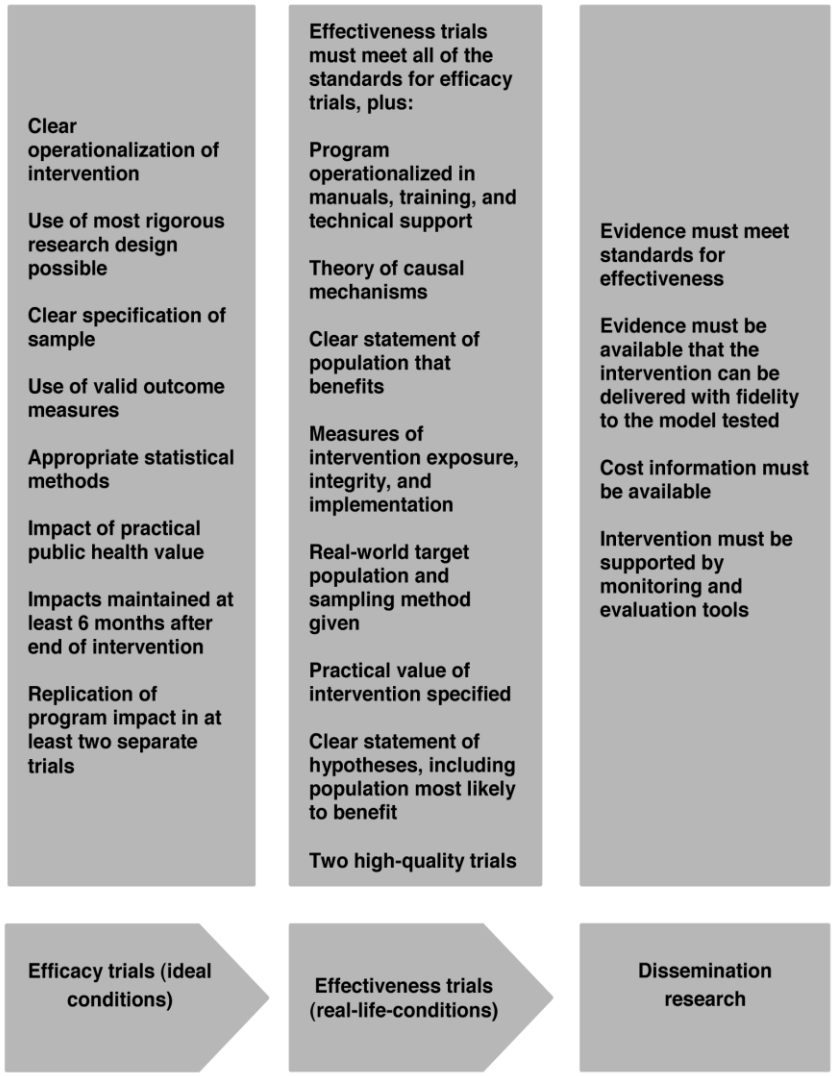
Key recommendations for digital health

1. systems need to be **interoperable** with eHealth systems
2. Use of **available standards** (i.e. Digital Imaging and Communications in Medicine (DICOM) standard for the exchange of medical images
3. should take a **participatory** approach
4. should promote **equity** in health
5. programmes need to be **sustainable**
6. need to **focus** on health not on the technology
7. needs to develop an **evidence** base

… Also:
8. Need to be in line with **evidence-based medicine**

Very few are evaluated (Fiordelli et al, 2013)

Source: Van Heerden et al: http://www.who.int/bulletin/volumes/90/5/11-099788.pdf



Implementation dependent on the completion of
(a) two high quality efficacy trials,
(b) two high quality effectiveness trials, followed by
(c) dissemination research that has established that the intervention can be delivered with fidelity to the model being tested
(d) information about the intervention's costs.

There are currently no digital health interventions that meet all these standards

The Evidentiary Standards Model
(Society for Prevention Research)

Key messages

Digital Health can be useful if **co-creation strategies** are followed to increase uptake (‘a lot of great innovations sit in the shelf’)	Digital Health needs to be based on **scientific evidence – therefore regulations need to be followed on implementation**
High quality research is needed so an emphasis on funding should be prioritised.	**Digital Health should minimize health inequalities rather than increasing them.**

@EHPSDigiHealth
ehpsdigitalhealth@gmail.com

Many great collaborators!















Thank you for listening!

Any Questions?

Angelos P. Kassianos

angelos.kassianos@cut.ac.cy

@angeloskasi

Angelos Kassianos