

Digital health solutions in HIV: supporting a reduced visit pathway of care for people living with medically stable HIV in a UK centre

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on behalf of the EmERGE consortium

<https://www.emergeproject.eu/>

May 2015 – April 2020



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This project has received funding from the *European Union's Horizon 2020 research and innovation programme* under Grant Agreement No. 643736

26th Annual Conference of the British HIV Association
22-24th November 2020

Declaration of interest

- The EmERGE project has received funding from the European Union's Horizon 2020 research and innovation programme under Grant Agreement No. 643736
- I am a director of the not-for-profit company set up from the EmERGE project to ensure sustainability



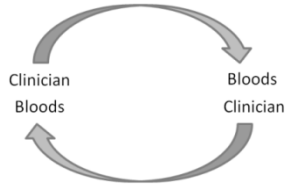
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EmERGE pathway & platform co-designed with community
& clinicians: iterative stages through project
Strong community engagement throughout project life

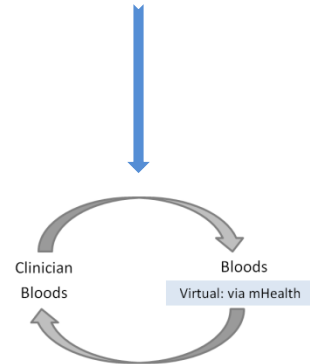
EmERGE Concept

GDPR ✓



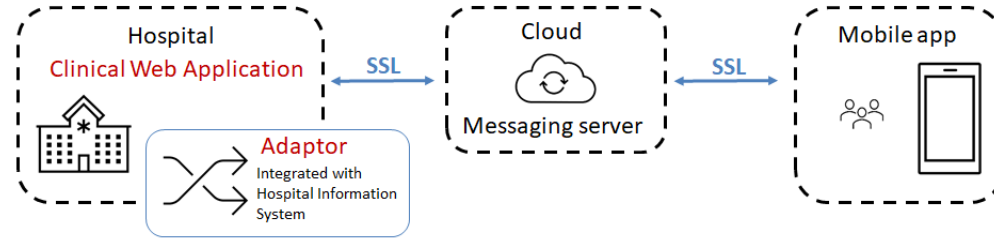
Standard of Care

PLWH seen by clinician twice a year for routine follow-up



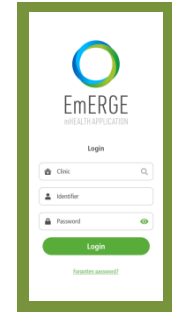
EmERGE pathway

PLWH seen routinely once a year with interim visit carried out via a co-designed mHealth platform



Results checked by a clinician

- * Results
- * Appointments
- * ARV details
- * Message from clinician
- * FAQs / clinic / health promotion info
- * Reminders and notifications



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- Background assessment
- Co-design workshops and interviews

- Prospective cohort study
- Pre-post design

Study inclusion criteria:

1. Documented HIV infection
2. Aged at least 18 years old
3. Able to give informed consent
4. In possession of a smartphone, tablet or similar technology supporting the mHealth platform
5. Clinically stable on ART*

*ART for at least 1 year; unchanged for at least 3 months; 2 undetectable VL <50 copies / ml, no current pregnancy; without any new WHO clinical stage 2, 3 or 4 events within 12 months [adapted from Waldrop, G., et al., Trop Med Int Health, 2016. 21(9): p. 1124-30]

m0 m12 (m24)

Data reported on:

- Uptake
- Patient activation (PAM-13)
- Quality of Life (EQ5D5L; PROQOL-HIV)
- Adherence (M-MASRI)
- Patient experience (PREM)
- System usability (SUS)

HIV specific PROM *Positive Outcomes Successful ageing (FRAIL)*

Model for assessment of telemedicine applications: MAST
Kidholm K, Int J Technol Assess Health Care 2012;28(1):44-51



565

Enrolment: Apr17 – Oct18

Follow-up closed Oct19

EmERGE cohort: demographics (Brighton n=565)

Median age (range)	47.0 years (20-84 years)
Median baseline CD4 (IQR)	585 cells/mm ³ (443-810)
Male	523 (92.6%)
Female	42 (7.6%)
Trans	0
Age over 50	221 (39.1%)
Non-national at site	163 (28.8%)
People who inject drugs	57 (10.1%)

Results

Brighton Cohort (2018) 2338
enrolled 565/2337

24.2%

Clinician engagement

- *Change to practice*

Patient choice

- *Miss contact with doctor*
- *No smart phone*
- *Confidentiality*

Technical aspects

Research questionnaires



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565

PAM-13 scores showed high levels of activation at baseline

Questionnaire completeness:
Baseline 95.8%; 12 months 60.0%

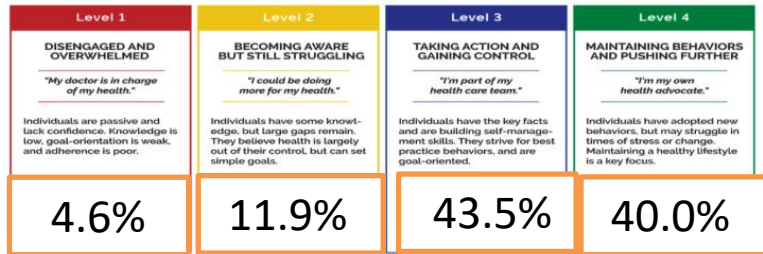
There was no evidence of a clinically important difference in overall score or level between M12 and M0 (or M24 and M0)

Median PAM-13 scores at baseline:
70.2 (IQR 58.1 to 80.9)

451/540 (83.5%) with level 3 or 4

The most common level was '3'
(individuals appear to be taking action but may lack the confidence & skill to support their behaviours)

followed by '4'
(individuals have adopted many of the behaviours needed to support their health).



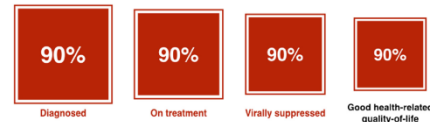
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Health Related Quality of Life

EQ-5D-5L; PROQOL-HIV

‘the 4th 90’



EQ-5D-5L

- EQ-5D-5L median index score 0.973 (IQR 0.86-1.00)
- 1/3rd reported some problems with pain/discomfort;
- 41% with anxiety/depression at baseline

Table 1: PROQOL-HIV domains	n	Median (IQR)	
Physical Health and Symptoms	530	83.3	(66.7 to 97.2)
Body Change	537	87.5	(68.8 to 100)
Social Relationships	545	100.0	(75.0 to 100.0)
Intimate Relationships	537	83.3	(50.0 to 100.0)
Stigma	540	75.0	(50.0 to 100.0)
Emotional Distress	542	93.8	(68.8 to 100.0)
Health Concerns	547	81.3	(62.5 to 100.0)
Treatment Impact	529	92.5	(85.0 to 97.5)
General Health (n=523): very good 251 (48.0%); good 188 (35.9%); fair 67 (12.8%); poor 16 (3.2%); very poor 1 (0.2%)			

Lazarus et al. BMC Medicine (2016) 14:94

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565

- HIV viral load outcomes remained excellent
- 523/525(99.6%) at 12m; 174/175(99.4%) at 24m
- No SAEs related to the pathway or platform
- Helps clinics to manage outpatient capacity – reducing f2f outpatient visits (up to 30%) for people living with medically stable HIV
- 18% took time off work to attend clinic
- Return trip to clinic median 1.5h (IQR 1.0-2.0h); median cost £5 (IQR £0-£6)

“The EmERGE service is helpful to be able to live as normal life as possible and mean minimal time for needing appointments but feel support for my health care is always there.”

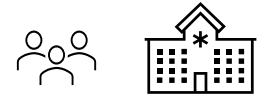
- Usability & patient experience good
 - > median SUS score 80
 - > 93.9% would recommend to a friend



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Conclusions



- Feasible & acceptable option in the menu of care for PLWH
- Virological outcomes remained excellent
- Highly activated population; some QOL domains remain a concern '4th 90'

- Digital health (particularly now) offers solutions however...
Person-centred care is essential – digital health as a **choice** not a panacea

- Importance of co-design in delivering new services / particularly as we reset



The EmERGE Consortium



Community groups and participants at each site:

- Zagreb
- Antwerp
- Barcelona
- Lisbon
- Brighton



Prof Martin Fisher
1964 - 2015

Acknowledgements

EmERGE Consortium

Jenny Whetham, Duncan Fatz, Gemma Weir, Jaime Vera Brighton and Sussex University Hospitals NHS Trust, United Kingdom, j.whetham@nhs.net; Margarida Borges, Goncalo Rodrigues, Ana Cunha, Eugenio Teofilo, Centro Hospitalar De Lisboa Central, EPE, Portugal, borges.margarida@chlc.min-saude.pt; Brian West, Maria Dutarte, Ann Isabelle von Lingen, Fiona Greenhalgh, Koen Block, European Aids Treatment Group, Belgium, projects@eatg.org; Chris Fisher, Stephen Beaumont, EmERGE mHealth Ltd, United Kingdom, steve@emergemhealth.com; Felipe Garcia, David Garcia, Rosa Munoz Pina, Agathe Leon Fundacio Privada Clinic Per A La Recerca Biomedica, Spain, FGarcia@clinic.cat; Ludwig Apers, Lisbet Mertens, Steven Hoornaert, Institute of Tropical Medicine Antwerp, Belgium, lapers@itg.be; Josip Begovac, Sime Zekan, Ivana Benkovic, Klinika Za Infektivne Bolesti Dr. Fran Mihaljevic, Croatia, josip.begovac@gmail.com; Jerry Wyatt, Morgan Fraser, Modus Research and Innovation, United Kingdom, emerge@modus.ltd; Eddy Beck, Sundhiya Mandalia, Platonas Yfantopoulos NPMS-HHC CIC, United Kingdom, eibeckphase2017@gmail.com; Enrique Gomez, Paloma Chausa, Francisco Garate, Universidad Politecnica de Madrid, Spain, egomez@gbt.tfo.upm.es; Flis Henwood, Mary Darking, Benjamin Marent, University of Brighton, United Kingdom, F.Henwood@brighton.ac.uk, Mary.Darking@bsms.ac.uk; Stephen Bremner, Chris Jones, University of Sussex, United Kingdom, S.Bremner@bsms.ac.uk

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