



Ugandan Academy  
for Health Innovation  
and Impact

# C4L-IVR & Patient Care

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Investing In The Future – Impacting Real Lives



# Background

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- The burden of HIV is greatest in sub-Saharan Africa
- About 1.3 million people living with HIV in Uganda
- In 2017, there were 50,000 new infections
- 26,000 AIDS related deaths
- 73% of adults on antiretroviral treatment

# Challenges – HIV Cascade of Care

UGANDA

Progress towards 90/90/90 targets among adults aged 15-59



Source: UNAIDS data 2017, \*Ugandan Ministry of Health (2017)

# Challenges-Infrastructure & Human Resource

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- Distance from home to health centres
- Health centres are overcrowded
- Health care worker fatigue

# Ugandan Academy– HIV care & support

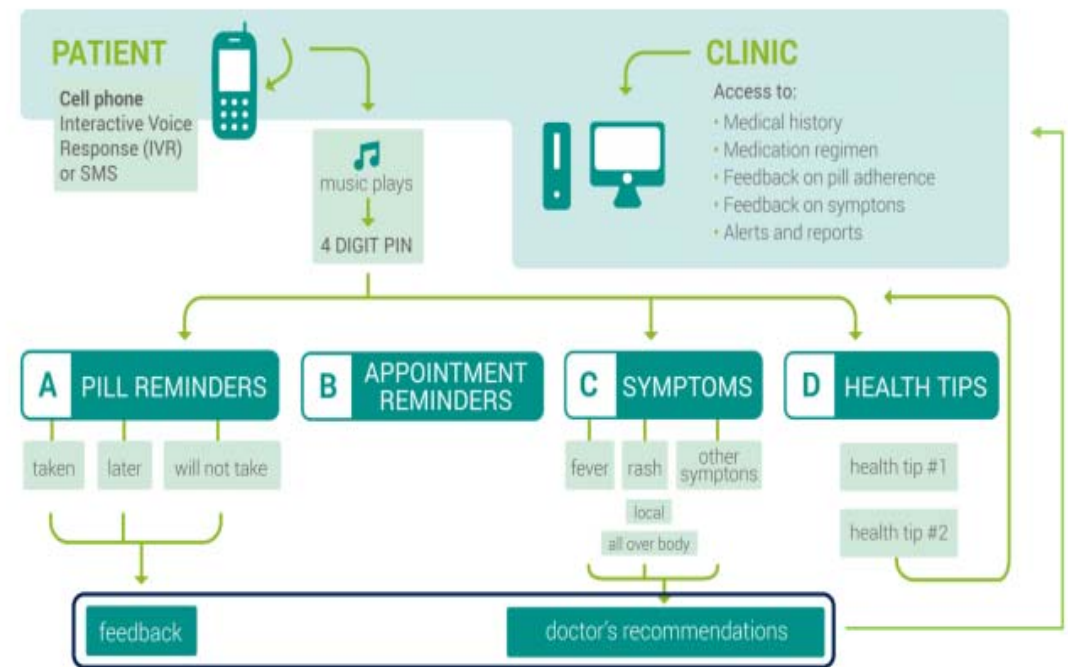
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- Using technology to:
  - Retain HIV positive patients in care
  - Provide adherence support to patients
  - Provide information & improve knowledge
  - Report & manage symptoms

# Call for life-IVR

Is a system that offers Interactive voice calls for adherence

- Pill reminders
- symptom reporting
- appointment reminders
- health tips
- Use of secret pin code
- Either SMS/ voice call(interactive voice response-IVR)



# Call For Life Uganda



## Study population at IDI & Kasangati HCIV

- ART-naïve initiating ART
- Special populations
  - Mothers on PMTCT/SRH
  - Young adults
  - Discordant positive partners
  - Most at risk populations (MARPs)
  - Senior citizens
- Those on or switching to 2<sup>nd</sup> line treatment



powered by Connect for Life™

Call For Life Uganda + SoC

1:1 Randomization

Standard of Care (no CFLU)

### Qualitative evaluates

- Proportion engaging with CFLU

### Quantitative evaluates

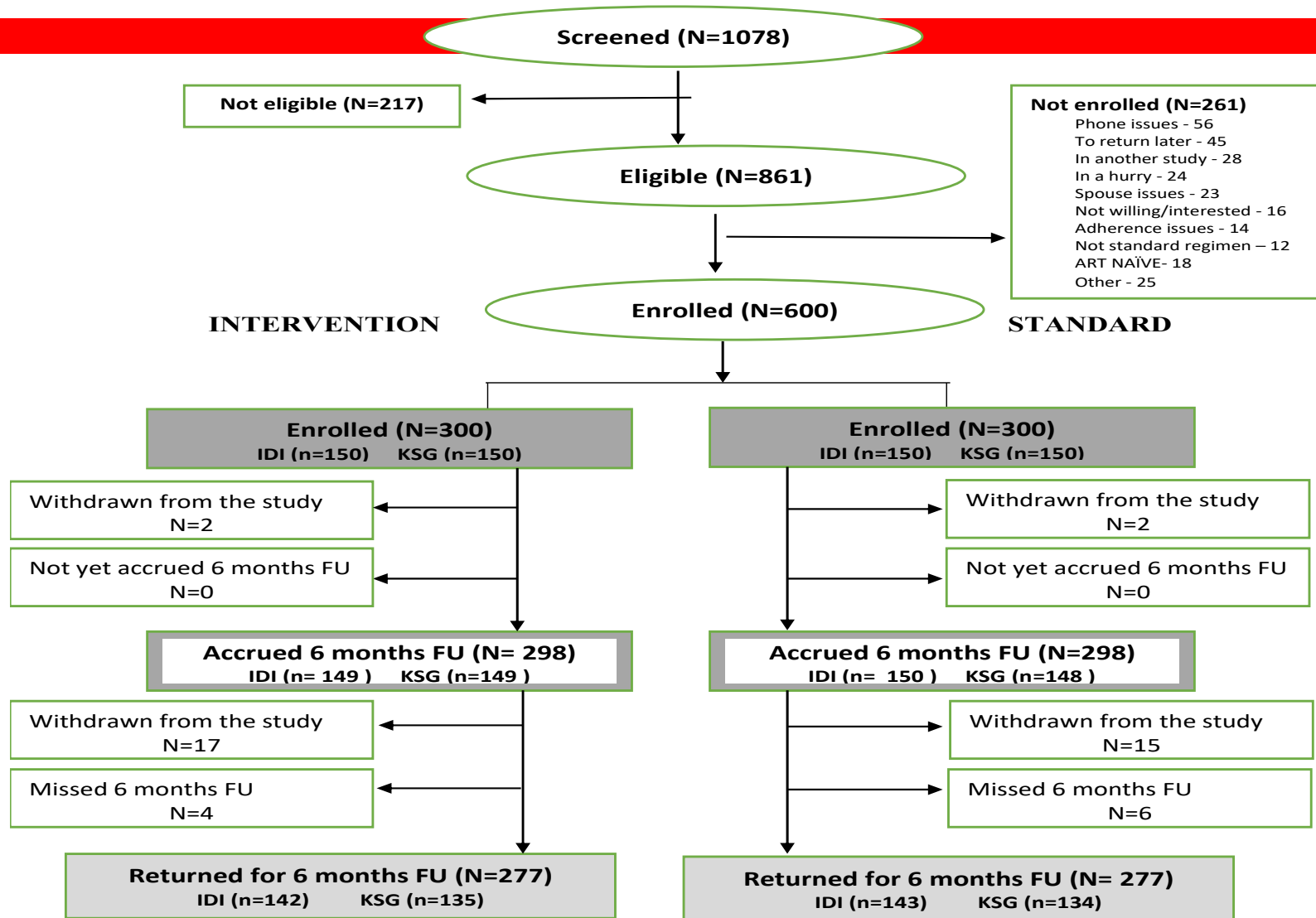
- Quality of Life (QoL)
- Viral Load (VL)
- HIV Knowledge
- Cost
- Lost to follow up (LTFU)
- Sexual behaviors

### Comparison of the 2 arms

- QoL evaluation BL, 06, 12, 18 & 24 months post-randomization
- VL Suppression
- HIV Knowledge
- Cost
- LTFU
- Sexual behaviors

All patients offered **Call for Life Lite** at end of study

# Study Results





# C4L-RCT 6 months results

- In those starting first line ART or switching to second line, there was a significant improvement in PHS (ANACOVA 4.01,  $p=0.048$ )
- No statistical significant difference in mean percentage scores of MOS-HIV, MHS, PHS at baseline and 6months
  - 97% preferred IVR to SMS

Presented at CROI Seattle, Mar 2019

# C4L-RCT Results

- Overall reduction (0-6m) in high risk sexual behavior
  - Condomless sex significantly reduced (10.9% versus 4.9%,  $p=0.631$ ) in interventional arm

	Baseline N=600 n (%)	Month 12 N=528 n (%)	p-value
Overall high risk sexual behaviour n (%)	322(53.7)	230(43.6)	0.0007
(a) Multiple sexual partners n (%)	114(19.0)	45(8.5)	<0.0001
(b) Condomless sex n (%)	276(46)	200(38.1) *	0.007
(c) Sex under the influence of alcohol n (%)	27(4.5)	9(1.7) **	0.008

\* 3 participants never gave a response to this question. \*\* 2 participants never gave a response to this question

# C4L-RCT Results

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End of study survey (of those on both arms)

- 95% requested continued adherence support
- 78% were willing to pay for access to C4L

# mHealth patient voices

*'It is hard to get a doctor who cares so much for you, they ask if you have any health complaints or you report the symptom, the next day they respond and ask you what the problem is. It is very good because we are cared for. It is good because no matter where you are, if you report a symptom they respond the following day'.*

(focus group discussion, male discordant positive partner, 49 years old, accessing CFL at Kasangati Health centre).

*'Consultation with the doctor is done on phone. The whole process of saving money for transport, making a line to see the doctor, is no more. But now, we do direct consultations which helps us a lot'.*

(focus group discussion, male discordant positive partner, 46 years old, accessing CFL at Kasangati health centre).

# IVR – Call For Life-Lite

Call for Life Lite  
weekly calls – Stable population

- Sites( IDI-Mulago; Kasangati & Kisenyi Health Centre IV)

Age / Gender	IDI	Kasangati	Kisenyi	Total
	N=1075	N=802	N=819	N=2696
</=24yrs	30	88	65	183
25-45yrs	631	593	624	1848
>/=46 yrs	414	121	130	665

# Achievements

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- Over 3000 patients receiving regular calls at 3 sites
- Over 240,000 calls completed since August 2016
- Proven acceptability and feasibility of the tool for HIV adherence support in Uganda
- Impact on QOL and reduced high risk sexual behaviour

# Lessons learnt

- mHealth are a great opportunity for RLS
  - Phone penetration rate -80% in SSA in 2017  
(<https://allafrica.com/stories/20170425>)
  - Population seems positive towards technology

## Africa: Mobile Penetration in Africa Hits 80pc

Africa • Ghana • West Africa

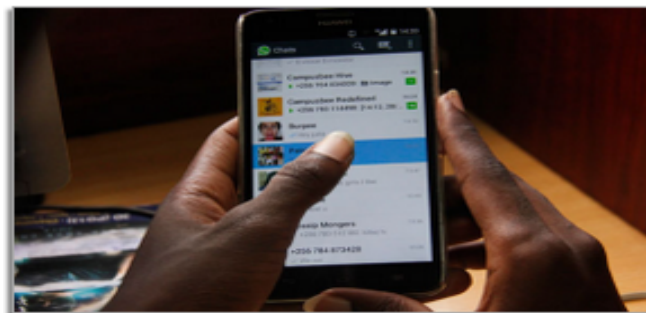


Photo: Rachel Mabala /Daily Monitor

With increased use of mobile devices, Internet cafes have almost become irrelevant and are feeling the financial pinch.

THERE are currently 960 million mobile subscriptions across Africa - an 80 percent penetration rate among the continent's population. Internet penetration is at 18 percent with 216 million internet users, according to

# Lessons learnt

- Infrastructure
  - Stability of electricity supply
  - Stability of mobile phone network
  - Stability of internet
  - Capacity of other local service providers e.g. IVR services
  - Changes to mobile phone legislation e.g. sim registration
- End user specific
  - Multiple phone lines – switching phones
  - Stigma – voice vs text messages
  - Lack of experience with pin



# Next Steps

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- C4L TB
- C4L Youth
- Co-pay
- Use of tool for follow up after STI treatment

Thank You