

Harnessing Digital Health Technologies to increase access to antiretroviral therapy in Kampala, Uganda; The ART ACCESS Application

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FAST-TRACK CITIES 2019

SEPTEMBER 8-11, 2019 | BARBICAN CENTRE

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Infectious Diseases Institute (IDI) overview ...



Mission : *To strengthen health systems in Africa, with strong emphasis on infectious diseases, through research and capacity development*

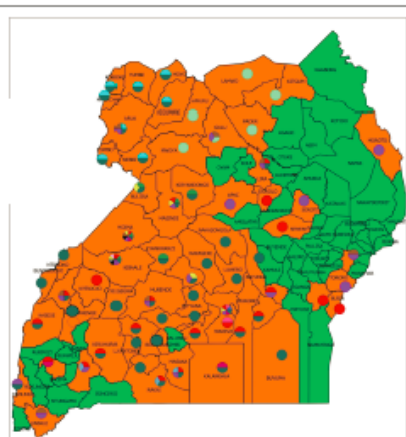
Governance : Autonomous Ugandan not-for-profit wholly owned by Makerere University ... independent Board of individuals ... not bound by university rules

Strategic Plan : Supporting national policies ... contributing to their further development

Genesis : 15 years old; established with Pfizer funding – ended 2012

IDI programmes...

- **Clinic** : HIV national referral centre; over 7,000 'Friends' (clients) currently treated free; developing models of care
- **Outreach** : over 230,000 PLHIV currently supported (over 20% national effort) through district health systems strengthening; including refugees
- **Training** : 27,000 trained in clinical / management skills; team training; eLearning; free phone-in support
- **Research** : over 650 publications in peer-reviewed journals; research capacity building



IDI active in 60% of
Uganda districts
(June 2018)

IDI programmes...

- **Lab services** : US-accredited lab; translational lab; lab training; lab outreach
- **Global Health Security** : building national capacity to prevent, detect, respond and research
- **Ugandan Academy** for Health Innovation & Impact : PPP with Johnson&Johnson



The IDI-Kampala HIV/AIDS project



- A PEPFAR/CDC funded 5 year grant (April 17 - Sept 2022)

Goal: Accelerate epidemic control in Kampala region of Uganda through scale up of evidence based and high impact interventions towards achievement of UNAIDS 90:90:90 targets, and strengthening National, district, and community health structures

- Health systems strengthening approach based on WHO building blocks
- 141 HFs supported with 207,543 PLHIV on ART (June 19)
- Region implements DSDM through community & facility models
 - 43% on Facility Based Individual Management-FBIM
 - 38% on Fast Track Drug Refill
 - 19% on various community models (CDDPs, CCLADs, and variations of both)
 - 92.6% Viral suppression

Community private pharmacy ART Refill model

A voluntary HIV care model which engages six(6) selected private pharmacies within the city as community ART refill points for stable PLHIV under IDI-KCCA care.

Model supports 4 high volume mid-level urban public HFs (with total 32,928 on ART at all 4 sites).

Started Nov 2016 to address facility congestion, long waiting time, and patient attrition at 4 priority sites



Enrolled clients are seen by a nurse

9057 (30% males) PLHIV active on model

All attend their primary HF semi-annually

Community private pharmacy ART Refill model



Patients are regarded stable for this programme if they:

- are older than 20 years
- are not suffering from major a OI
- are not pregnant
- had two viral load suppressions
- receive first line antiretroviral HIV medication for > 2 years
- have good adherence levels
- do not have a child that receives treatment in the facility
- have two or more phone contacts that are working



ART Access App



ART Access App developed with MCR DFID Wellcome Trust Health Systems Strengthening grant

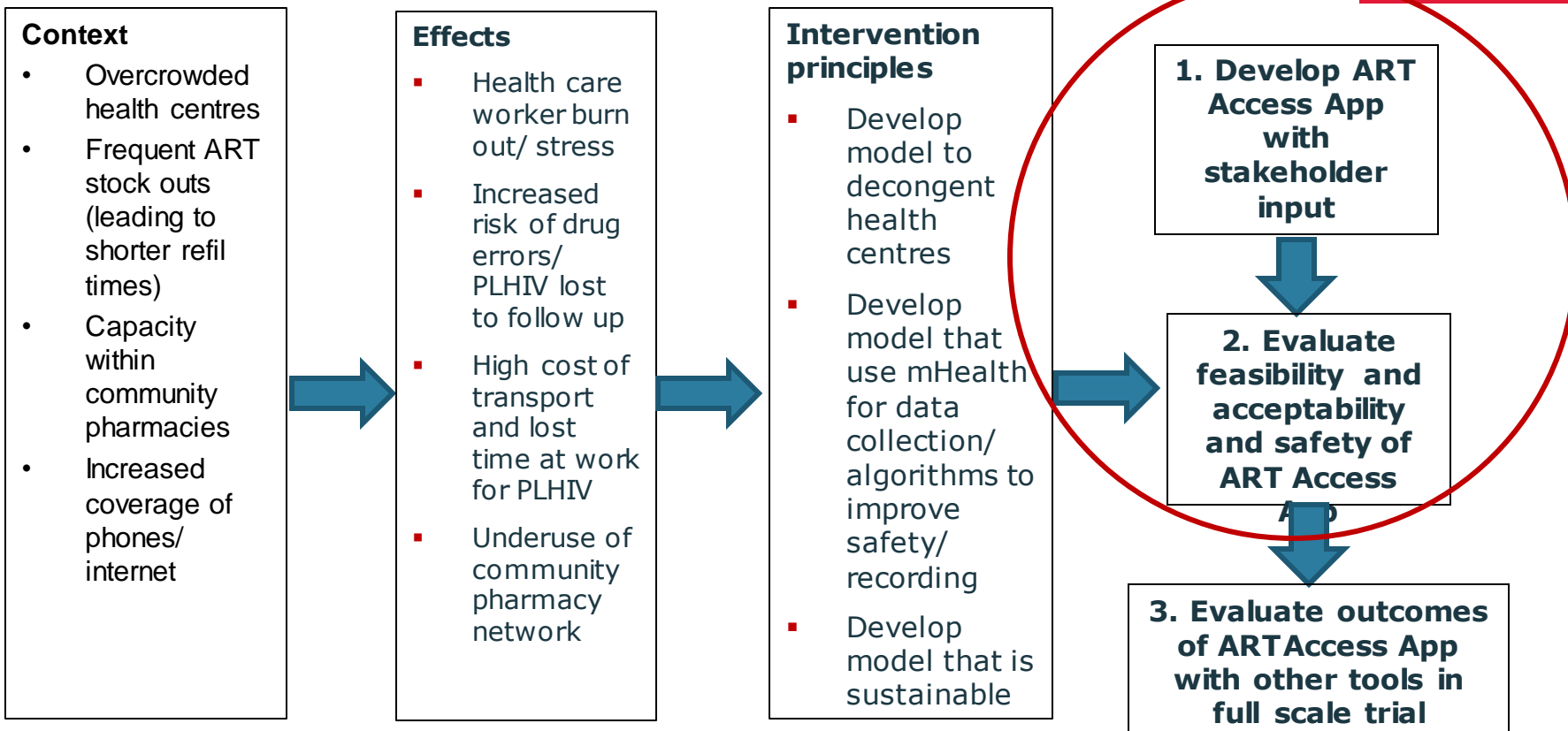
- Based upon pharmacy refill DSDM at IDI clinic*

AND

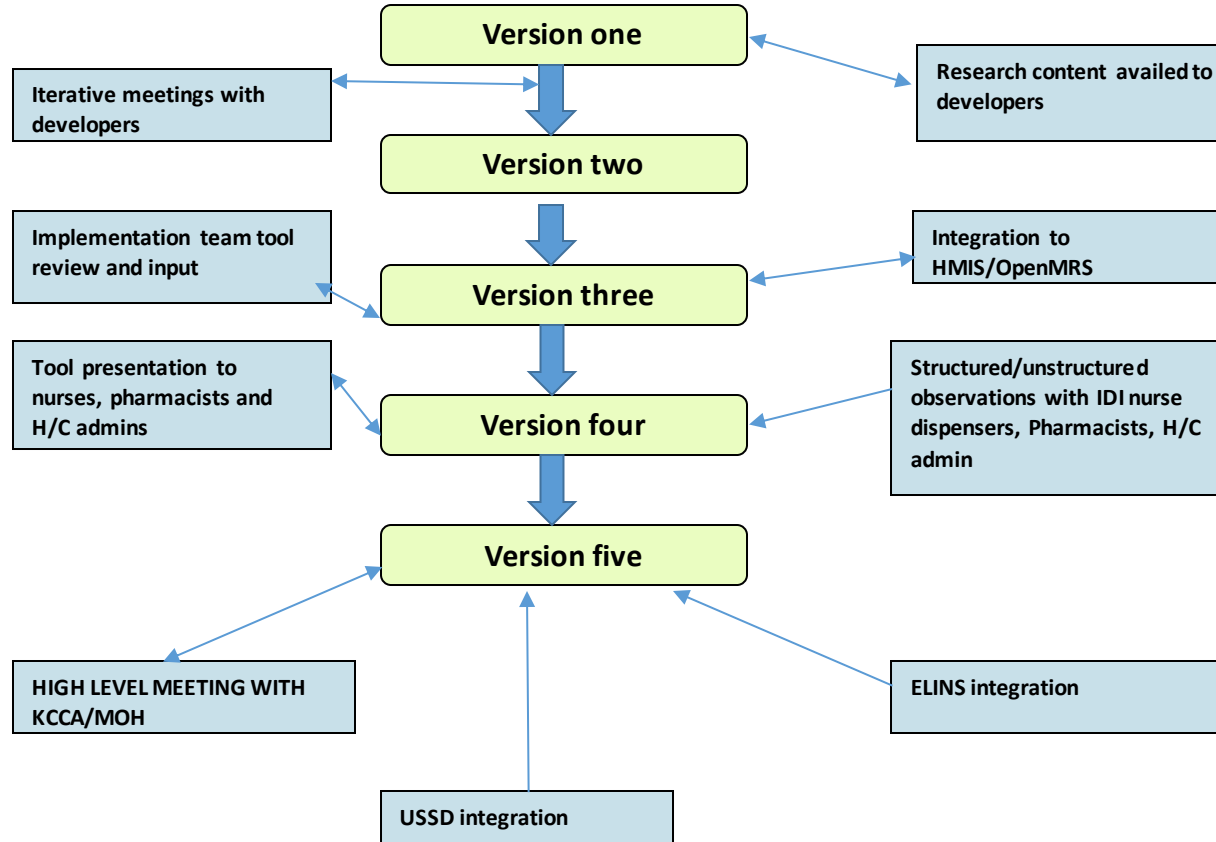
- IDI KCCA community pharmacy refill process (paper based)

*Cost Effectiveness of a Pharmacy-Only Refill Program in a Large Urban HIV/AIDS Clinic in Uganda Joseph B. Babigumira , et al Published: March 28, 2011
<https://doi.org/10.1371/journal.pone.0018193>

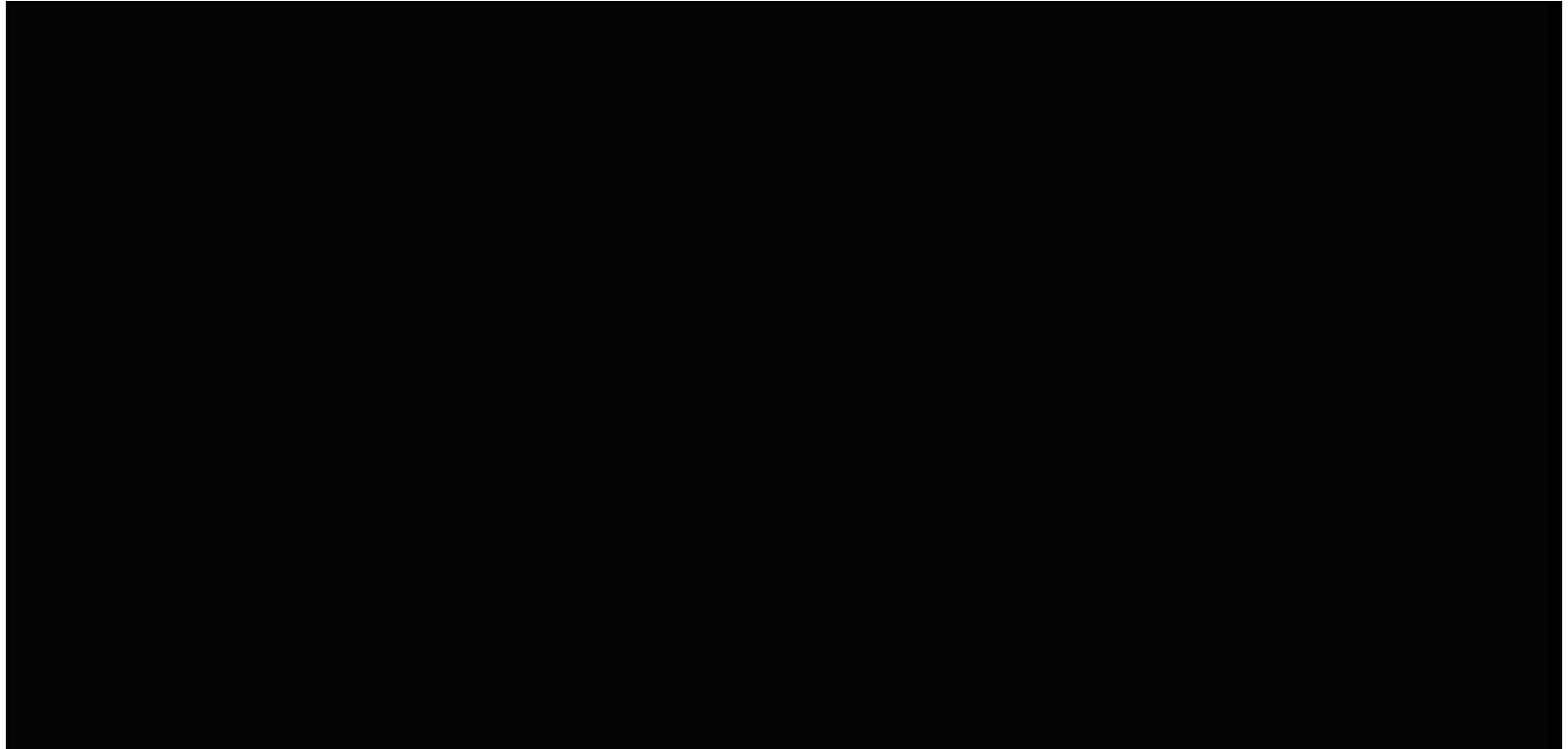
Conceptual Framework



Iterative APP development process



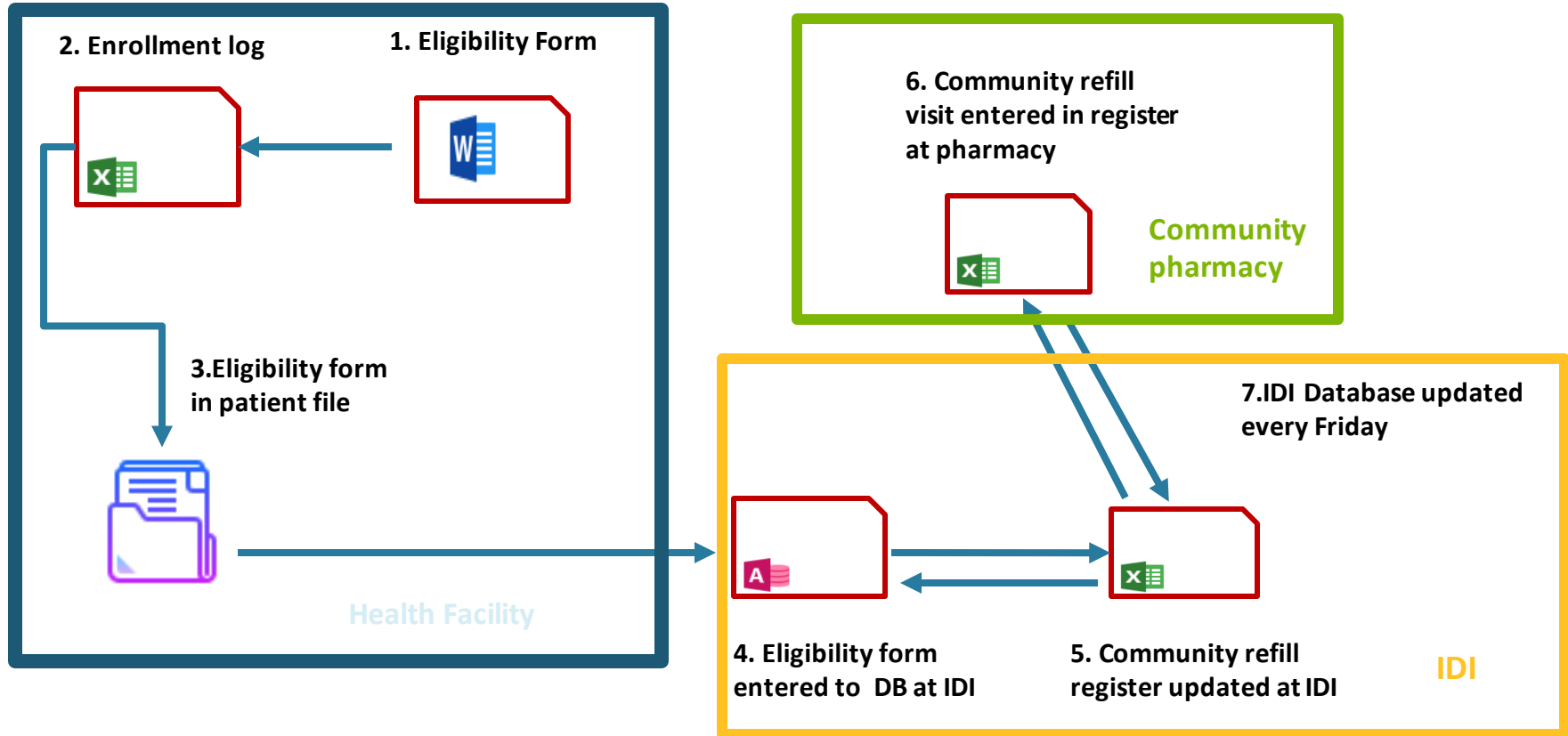
ART Access and the Uganda EMR



Progress so far

- App development started in 2017
- Roll out Jan 2019
- 3 community pharmacies
- 2 KCCA facilities
- Over 4,892 (50.2%) patients have transferred from paper to app

Paper based refill program



ARTAccess components




- Pharmacy landing page
- Pharmacy refill page
- Health facility landing page
- Health facility refill eligibility form
- Admin landing page (IDI)
- Admin report generation

Web and Phone versions available

Refill pharmacy dispensing interface





DASHBOARD

PATIENTS

REPORTS

ARTACCESS

Infertious Disease Institute
ARTAccess Web System

SummaryList Patients

KAW/CP2/00339, Regimen: AZT/3TC/EFV

ADD VISIT

Have you dispensed any Other Drugs?*

Have ARVs been dispensed ?*

Does the patient have any complaints?*

If patient has any of these complaints, please refer the patient to health facility*

☐ Any Cough

☐ Fever(>38.5)

☐ Diarrhoea (>2days)

☐ Vomiting

☐ Persistent Headache (>2days)

☐ Rash (grade 2 and above)

☐ Jaundice / Yellow eye discolouration

☐ Severe weight loss

Is there any other reason to refer the patient to health facility?*

Is the patient scheduled for today's visit?*

Is the patient represented?*

Any reason to discontinue the patient?*

Next Pharmacy Visit*

Next Facility Visit*

Name of Pharmacist*

--- select ---

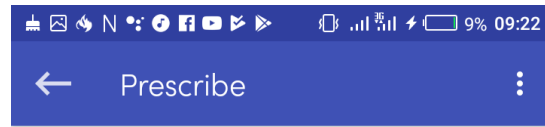
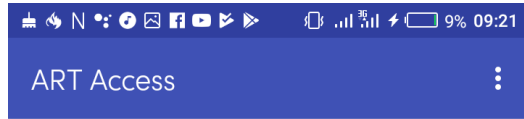
--- select ---

--- select ---

26/03/2019

dd/mm/yyyy

Smartphone app version



Login to ART Access

Username...

pharmacist

Password...

.....

LOGIN

[FORGOT CREDENTIALS](#)

FAST-TRACK CITIES

Regimen

3TC/AZT/NUP

Give Septrin

Yes

Length of Refill

2 Months

Next Visit Date

29/4/2018

SELECT

UPDATE PRESCRIPTION

**Enter Patient ID/Phone number or
name to search**

Patient ID...

123WXGHH

SEARCH

BARBICAN CENTRE

Time and motion study

- 117 patients (75 on the app and 42 on the paper-based system) at 3 pilot pharmacies.

Waiting time:
4.5(0.9-15.0)

Drug Refill
time:
4.2(2.7-6.1)

Time to exit:
1.5(0.8-2.6)

Waiting time
1.2(0-7)

Drug Refill
time:
6.6(4.7-9.7)

Time to
exit:
0.6(0.1-1.8)

Next Steps

- Further investigation on waiting time/exit time
- Longer follow up to allow for evaluation of safety (removal from community programme, lost to follow up)
- Scale up in KCCA facilities as appropriate
- Addition of stock management module

Acknowledgments

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Project Partners / funders



IDI-KCCA Project

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ARTACCESS APP Funding



Partners



THE REPUBLIC OF UGANDA
MINISTRY OF HEALTH

