

# BO-K Bottles

**A new tool for communicating adherence, viral suppression and U=U**

SUMR 23' | Mirabelle Jean Louis



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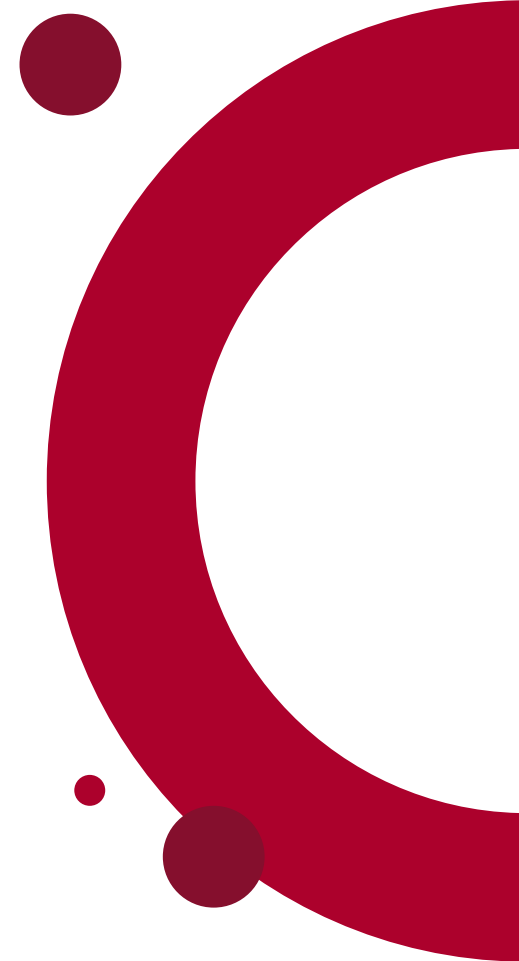
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1

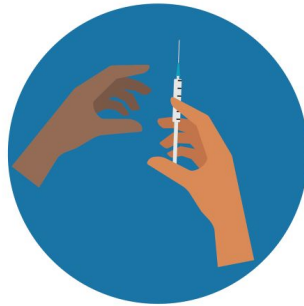
## Background

From Diagnosis to Treatment

# WHAT IS HIV?



Anal or Vaginal Sex



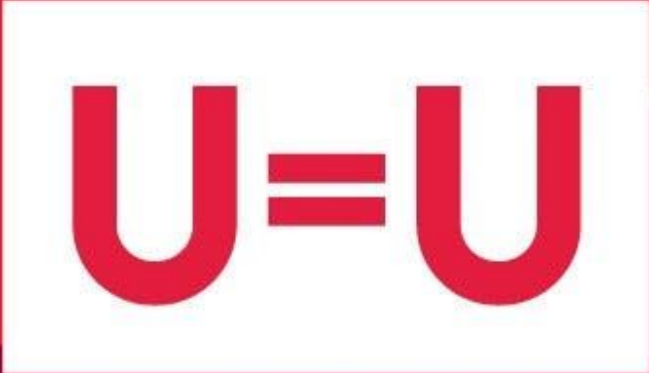
Sharing Needles, Syringes, or Other  
Drug Injection Equipment



Mother to Baby During Pregnancy,  
Birth, or Breastfeeding

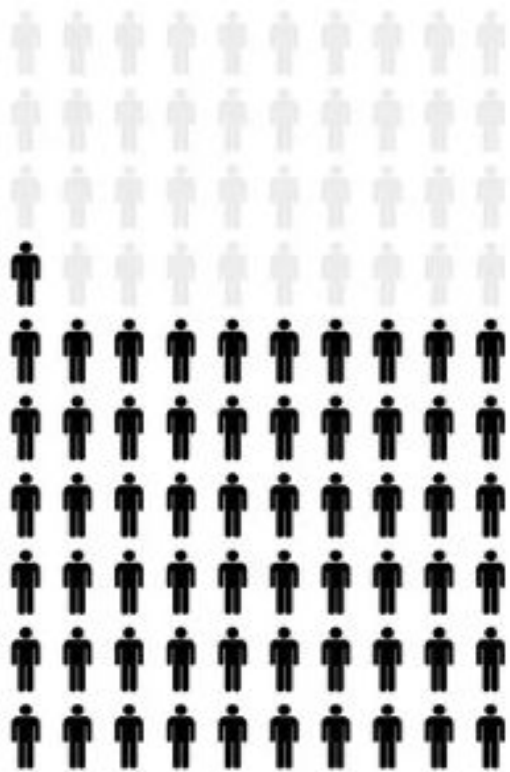


**LIVING A LIFE WITH HIV**



**U=U**

**UNDETECTABLE = UNTRANSMITTABLE**



61%



# The Problem

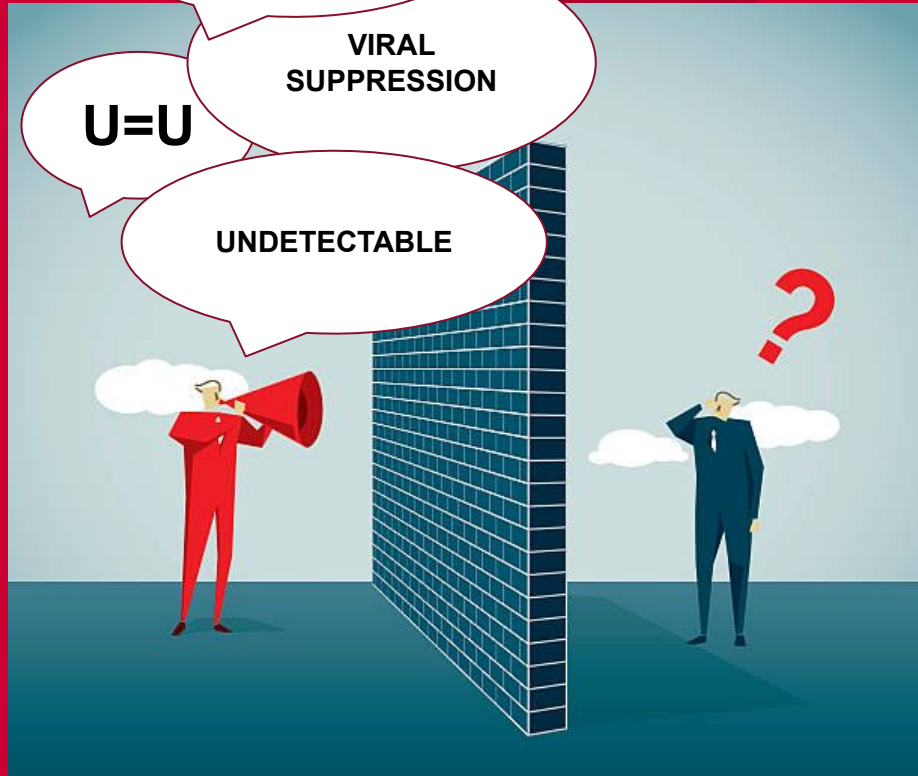
The background is a solid red color. It features several abstract geometric shapes: a large orange arc at the top center, a large orange circle at the bottom left, a medium orange circle at the bottom right, and a small orange circle to the right of the medium one. The text 'The Problem' is centered in white.

**VIRAL LOAD**

**VIRAL  
SUPPRESSION**

**U=U**

**UNDETECTABLE**



“ “If there's no HIV cure,  
what's the point of seeing  
a doctor?”

The background is a solid red color. It features several white geometric shapes: a large circle in the top right, a smaller circle in the top left, and a large arc in the bottom left. The word "Solution" is centered in white, bold, sans-serif font.

**Solution**

# B-OK Bottles



1	A	B	C
Year	Author	Setting	
2019	Eyob Alemayehu Gebreyohannes	Gondar University Hospital ART clinic in Northwest Ethiopia	
2021	Samantha Stonbraker,1	Clinica de Familia La Romana (CFRL), a large non-profit health center located in the city of La Romana on the southeast coast of the DR	
2020	Maria H Kim—STUDY IS NOT COMPLETED	Malawi-ANC clinics—trial took place at three sites in Malawi [urban health facilities in Lilongwe and a rural district hospital in Mangochi]	
2021	Toegel, Forrest	any studies worldwide that meets the criteria set by researchers	

## Visual tools to improve communication about HIV concepts and HIV-related behaviors

[Spreadsheet](#) with more details

### Questionnaire:

**Study:** [The effectiveness of pictogram intervention in the identification and reporting of adverse drug reactions in naive HIV patients in Ethiopia: a cross-sectional study](#)

**Setting:** University Hospital ART clinic in urban Ethiopia

**Study Design:** Randomized Controlled Trial

**Population:** 207 ART-naïve adults with HIV who were newly registered ( $\leq 6$  months) for ART.

**Intervention:** Pictogram-based intervention on ADR reporting. Randomized to pictorial vs non-pictorial questionnaire.

**Follow up:** 20min? Study was conducted from July 2015 to January 2016

**Result:** Pictogram group showed higher odds of identifying specific ART medications using pictograms and were 4.3 times more likely to identify diarrhea as an adverse drug reaction compared to the control group.

### Infographics:

**Study:** [Clinician Use of HIV-Related Infographics During Clinic Visits in the Dominican Republic is Associated with Lower Viral Load and Other Improvements in Health Outcomes](#)

**Setting:** Clínica de Familia La Romana, urban clinic in La Romana, DR

**Study Design:** single group pretest–posttest longitudinal study design

**Population:** 50 adults with HIV, either new patients or with a detectable viral load. Participants were followed for 9 months.

**Intervention:** The [Info Viz](#) for Health intervention included 15 culturally relevant infographics (laminated pictures) aimed at improving clinician-patient communication during routine medical encounters. Physicians selected one to five infographics based on each participant's specific needs.

**Follow-up:** Every 3 months from October 2018 to August 2019

**Result:** Intervention group demonstrated significantly higher HIV-related knowledge, self-efficacy to manage HIV, and engagement with clinicians. However, there was no significant difference in CD4 count change between the two groups.

**Study:** [Improving Medication Adherence through Graphically Enhanced Interventions in Coronary Heart Disease \(IMAGE-CHD\): A Randomized Controlled Trial](#) | SpringerLink (not HIV-related but included for relevance)

**Study Design:** Randomized Controlled Trial

**Setting:** Atlanta, GA, (urban)

**Population:** 420 Adults with established coronary heart disease

**Intervention:** randomized into four groups: usual care, refill reminder postcards, illustrated medication schedules, or both interventions.

**Follow-up:** One year after the initial assessment.

**Result:** No statistically significant differences in adherence rates between the intervention groups and the usual care group.

**Study:** [Randomized Clinical Trial of HIV Treatment Adherence Counsel...: JAIDS Journal of Acquired Immune Deficiency Syndromes](#)

**Study Design:** Randomized Controlled Trial

**Setting:** clinic in Atlanta, Georgia

Outcome	Limitations
<p>Patients in group A had higher odds of identifying specific ART medications using pictograms, such as lamivudine (OR = 7.536 [0.42-14.021]), tenofovir (OR = 6.250 [2.850-13.682]), nevirapine (OR = 5.320 [1.964-14.484]), efavirenz (OR = 3.928 [1.876-8.228]), d zidovudine (OR = 3.570 [1.602-7.960]). Additionally, patients in group A were 4.3 times more likely to identify diarrhea as an ADR using pictograms compared to group B.</p> <p>Overall ability to identify the ART medications (all first-line medications included) was significantly higher in group A</p>	<p>1. the pictorial representation in ART-naïve registered patients attending GUH was randomly evaluated, and the results may differ from follow-up assessment. 2. relied on the participants' honesty while reporting ADR (self-reporting bias) 3. the majority of the participants who received the questionnaire may or may not have experienced ADRs, and this may have possibly skewed the results to look as though there are no significant differences between the two groups</p>
<p>health literacy: 36% of participants had adequate health literacy based on SAHL-S scores. Completion rates: 96% completed the 3-month follow-up, 86% completed the 6-month follow-up, and 84% completed the 9-month follow-up. 4 count: Initially worsened from a mean of 385.86 to 370.38 at the 3-month visit but improved to 445.43 at the 9-month visit. al load: Median viral load decreased from 10,950 at baseline to 20 at the 9-month visit. detectable viral loads: None of the new patients had undetectable viral loads at baseline, but 64% of new patients and 48% of adhered patients had undetectable viral loads at the 9-month visit. V-related knowledge: Showed statistically significant increases at the 3-month, 6-month, and 9-month visits. engagement with clinicians: Improved significantly from baseline to the 3-month, 6-month, and 9-month visits. self-efficacy: Scores increased from baseline to the 9-month visit. Self-reported current health: High scores throughout the study.</p>	<p>1. the study design did not include a control group—cannot confirm causality. 2. had missing data as 16% of participants were lost to follow-up. 3. They were also unable to stratify by, or control for, health literacy level which could have provided insight into which patients may have benefited more from infographic use</p>
<p>majority of participants felt very comfortable (83.6%) watching the video and patient satisfaction was high, with over 95% reporting that they would recommend VS to others. HCWs found VS easier to provide (81.6%) and more time-efficient (90.9%) as compared to SOC. The VITAL Start group demonstrated a greater increase in knowledge compared to the standard of care group. The mean wedge increase from pre- to post-intervention was 2.0 (SD 2.7) in the VITAL Start group and 1.2 (SD 2.1) in the SOC group. This difference was statistically significant (<math>p &lt; 0.01</math>). adherence and behavior outcomes: In the VS group, self-reported adherence at 7 days was 13.6% (compared to 26.8% in the SOC up), and at 30 days it was 15.3% (compared to 29.9% in the SOC group).</p>	<p>caution is warranted in determining how participants are traced for missed trial visits, since the act of missed trial visit tracing prohibits effects of clinical retention</p>
<p>ive interventions (10%) significantly increased undetectable viral loads (enhanced Standard of Care (eSOC), Incentives (INCENT), text message service (SMS), supporter (SUPPORT), and a combination of incentives and supporter. Beter 2014 - RRR: 3.78 Andrade 2005 - RRR: 2.75 Ramirez-Garcia 2012 - RRR: 2.26 Gardino 2016 - RRR: 1.21 Myer 2018 - RRR: 1.35 Silveira 2014 - RRR: 1.04 Atiso 2007 - RRR: 1.14 Zkalichman 2016 - RRR: 1.13 Giordano 2016 - RRR: 1.14 Chawana 2017 - RRR: 1.76</p>	<p>Procedural variability—difficult to directly compare treatment effects across studies.</p> <p>Risk of bias—many interventions had a high risk of bias due to factors such as lack of blinding and incomplete data</p> <p>Publication bias: There was a possibility of publication bias, as studies with negative or non-significant results may have been less likely to be published, potentially skewing the overall findings.</p> <p>Lack of statistical comparison across treatment categories: The study did not include a statistical comparison of treatment effects across treatment categories, which limited the ability to determine the relative effectiveness of different intervention types.</p>



**What can happen if you delay testing for HIV, delay starting ART, or stop taking it.**



**What most people's cells look like on diagnosis**



**What will happen if you start ART and take it every day**



3

Study Aims



## The Study:

### **Aim 1: Evaluate B-OK Bottles Feasibility, Acceptability, and Appropriateness among Medical Case Managers (MCM's)**

- Focus Group Interviews:
  - Participants recruited from partner organizations.
  - Conduct 4 focus groups with MCMs from collaborating agencies (1 group per agency).
  - Each group consists of 6-10 participants.
  - Focus groups will discuss barriers, facilitators, and reactions to B-OK bottles.
  
- Data Collection: Participants will comment on educational video, B-OK bottles, and patient reactions.

## Aim 1: Evaluate B-OK Bottles Feasibility, Acceptability, and Appropriateness among Medical Case Managers (MCM's)

### RESULT:

*I immediately thought of a conversation I had with a patient where we're having communication issues, even with an interpreter [...] and she was not understanding the information [...] when talking with a patient who has a lower level of understanding as far as the condition and everything else, especially when you have multiple things being explained in the same visit, it would be helpful to have a prompt to be like, okay. Now we're talking about HIV. We're done talking about all the other stuff, [...] Right now, you're here. With the HIV, you're here. And then we're here, and we're trying to get here. So, that would have been really helpful, yeah." (Agency 4)*

*I was going to say, if I was [living with HIV], just by looking at those bottles, I kind of don't need to understand what viral load means. I kind of really don't need to understand what CD4 means. If you tell me, this is where I'm at right now and if you take your medication without worrying about all the correct terms or anything like that, because that's where people get lost at. I feel just by this visual itself, even just makes me personally feel like I need to take my medications because I want to get to this bottle. (Agency 3)*

## Aim 2: Evaluate Responses to B-OK Bottles among PLWH

- **Surveys:**

- Conduct surveys with 100-120 PLWH clients from participating agencies.
- Measure awareness, knowledge, attitudes, and intentions related to HIV treatment concepts.
- Use probabilistic scales to assess beliefs about HIV transmission with and without ART.

- **B-OK Bottle Discussion:**

- The research coordinator will discuss viral suppression, U=U, and TasP using B-OK bottles.
- Observe participants' interactions with the bottles and record observations.

- **Follow-up Surveys**

- Participants will complete a follow-up survey, including feasibility, acceptability, and appropriateness measures.

- **In-depth Interviews:**

- Conduct interviews with 6-10 PLWH participants per site (20 total) to discuss thought on the bottles

# The Study:

## Aim 2: Evaluate Responses to B-OK Bottles among PLWH

### RESULT:

### IMPROVEMENT:

- Increase in awareness and understanding of the terms “viral suppression” and “U=U”
- Change in perspectives on HIV treatment to enhance well-being and reduce concerns about transmission.
- Enticed a desire to use HIV treatment alone for prevention.

# LESSONS LEARNED

Mentor's Name: Aaron Richterman, Alison Buttenheim

Project Title: Center for AIDS Research (CFAR) Projects

Start Date: Tue May 30 2023 End Date: Fri Aug 18 2023

20 Hour Work-Week Schedule  40 Hour Work-Week Schedule

Please list up to four (4) or more goals you are hoping to accomplish during your time providing a mentored research experience. We encourage you to incorporate a communication plan into your goal setting.

Goal 1: Gain experience in organizing and presenting research findings in a clear and concise manner, as well as preparing scientific manuscripts

Goal 2: develop a deeper understanding of behavioral economics and how the B-OK bottles serve as a visual aid to encourage positive behavioral changes

Goal 3: develop a deeper understanding of what HIV is, learning about its modes of transmission, the impact on individuals' daily lives, the diverse prevention methods, and available treatment options

Goal 4: Develop skills in reading/understanding scientific readings and manuscript to learn how to digest complex information effectively.

- Literature searches and academic writing
- Time Management
- The behind the scenes of being a docHIV

## Special Thank You to:

Dr. Richterman MD, MHD

Dr. Alison Buttenheim. MBA, PHD

Laura Smucker, PM

Joanne Levy

ChiChi

SUMR 23' Cohort

**THANK  
YOU!**



# Areas we cover

	Area 1	Area 2	Area 3	Area 4
Mercury is the closest planet to the Sun				
Venus has a very poisonous atmosphere				
Earth is the only planet that harbors life				
Despite being red, Mars is actually red				



# New areas

## New areas



### Area 1

Jupiter is very big

Saturn is a gas giant



### Area 2

Mercury is small

Neptune is very far

# Service



## Venus

Venus is the second planet from the Sun



## Jupiter

Jupiter is the biggest planet in the Solar System



## Mercury

Mercury is the closest planet to the Sun



## Saturn

Saturn is composed of hydrogen and helium



## Mars

Despite being red, Mars is a cold place



## Neptune

Neptune is the farthest planet from the Sun

**4,498,300**

Satisfied patients

# Key accomplishments

## 2022

- You can list your accomplishments here
- You can list your accomplishments here
- You can list your accomplishments here
- You can list your accomplishments here

## 2023

- You can list your accomplishments here
- You can list your accomplishments here
- You can list your accomplishments here
- You can list your accomplishments here

# Innovations



**Mercury**

Mercury is the closest planet to the Sun



**Area 1**

Jupiter is the biggest planet of them all

**Area 2**

Venus is the second planet from the Sun

**Area 3**

Despite being red, Mars is a cold place

# Patient satisfaction



75%

**Jupiter**

It's the biggest planet in the Solar System



85%

**Venus**

Venus has a beautiful name, but it's hot



95%

**Saturn**

Saturn is the ringed one and a gas giant

# Quality improvement measures

## Quality assurance and accountability

<b>Mercury</b>	Mercury is the closest planet to the Sun
<b>Venus</b>	Venus is the second planet from the Sun
<b>Sun</b>	The Sun is the star at the center of the Solar System
<b>Saturn</b>	Saturn is the ringed planet and a gas giant

# Best therapy centers

## Venus

Venus has a beautiful name, but it's hot

## Mars

Despite being red, Mars is a cold place





# Testimonials

“Neptune is the fourth-largest planet by diameter in our Solar System”

**Jenna Doe, 25**

“Mercury is the closest planet to the Sun and the smallest one”

**John James, 36**

“It’s a gas giant, mostly composed of hydrogen and helium”

**Helena Patterson, 58**

# Awards

**2015**



**Award 1**

Jupiter is the biggest planet of them all

**2018**



**Award 2**

Venus is the second planet from the Sun

**2020**



**Award 3**

Despite being red, Mars is a cold place

**2022**



**Award 4**

Saturn is a gas giant and has several rings

# Our team

## **Dra. Jenna Doe**

You can talk a bit about  
this person here



## **Dr. John Smith**

You can talk a bit about  
this person here



# **A picture always reinforces the concept**

Images reveal large amounts of data, so remember: use an image instead of a long text. Your audience will appreciate it

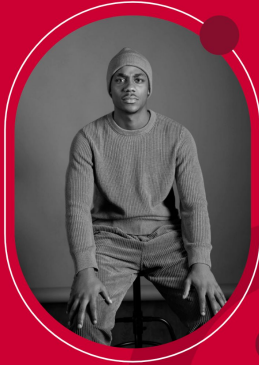


The image features a solid red background. In the center, the words "Awesome" and "words" are written in a bold, white, sans-serif font, stacked vertically. There are several decorative elements: a small dark red circle and a slightly larger one in the top-left corner; a large, thick, dark red arc in the top-right corner; and another large, thick, dark red arc in the bottom-left corner. A dark red circle is also visible in the bottom-right corner.

**Awesome  
words**

# HIV Healthcare Center

Here is where your presentation begins



## Mockup

You can replace the image on the screen with your own work. Just delete this one, add yours and center it properly

# Thanks!

Do you have any questions?

youremail@freepik.com

+91 620 421 838

yourcompany.com



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# Icon pack

