Innovative Community-Based HIV/AIDS Implementation Programs & Research in Cambodia

Siyan Yi, MD, MHSc, PhD
Saw Swee Hock School of Public Health, NUS
KHANA Center for Population Health Research, Cambodia
Center for Global Health Research, Touro University California, CA, USA
Email: siyan@nus.edu.sg
Outlines

1. Updates on the HIV epidemic in Cambodia
2. Major challenges in vulnerable and key populations
3. Contributing innovative programs in the past 10 years
4. Large-scale operational studies in the past 5 years
5. Conclusions
## HIV Prevalence in General and Key Populations in Cambodia

### General Adult Population Aged 15–49

<table>
<thead>
<tr>
<th>Population</th>
<th>Prevalence</th>
</tr>
</thead>
<tbody>
<tr>
<td>FEWs</td>
<td>4.9%</td>
</tr>
<tr>
<td>MSM</td>
<td>10.0%</td>
</tr>
<tr>
<td>PWUD</td>
<td>5.7%</td>
</tr>
<tr>
<td>TGW</td>
<td>9.6%</td>
</tr>
<tr>
<td>PWID</td>
<td>15.2%</td>
</tr>
</tbody>
</table>

0.6%  
*(Asia Epidemic Model, 2021)*

<table>
<thead>
<tr>
<th>Population</th>
<th>Prevalence</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>FEWs</td>
<td>4.9%</td>
<td>2022</td>
</tr>
<tr>
<td>MSM</td>
<td>10.0%</td>
<td>2023</td>
</tr>
<tr>
<td>PWUD</td>
<td>5.7%</td>
<td>2017</td>
</tr>
<tr>
<td>TGW</td>
<td>9.6%</td>
<td>2019</td>
</tr>
<tr>
<td>PWID</td>
<td>15.2%</td>
<td>2017</td>
</tr>
</tbody>
</table>
New HIV Infections by Sex and Populations in Cambodia

Proportion of new HIV infections by sex 2010 to 2020

Distribution of new HIV infections by population, 2020

Source: Cambodia HIV Estimates 2021 (NCHADS, 2022)
Trend in New HIV Infections by Sex in Cambodia

Source: Cambodia HIV Estimates 2021 (NCHADS, 2022)
HIV Testing & Treatment Cascade in Cambodia

**90-81-73 (90-90-90)**
- **PLHIV who know their status:** 90%
- **PLHIV on treatment:** 84%
- **PLHIV who are virally suppressed:** 75%

**95-90-86 (95-95-95)**
- **PLHIV who know their status:** 95%
- **PLHIV on treatment:** 84%
- **PLHIV who are virally suppressed:** 81%

*Source: Global AIDS Monitoring 2022*
Key Projects: SAHACOM & Flagship

1. Sustainable Action against HIV and AIDS in the Communities (SAHACOM):
   - Project life: 2009–2015
   - Funded by USAID (USD 13.5M)
   - Coverage: 13 out of 25 provinces

2. HIV/AIDS Flagship Project:
   - Project life: 2012–2018
   - Funded by USAID (USD 30M)
   - Coverage: 6 high-burden provinces
1. USE OF TECHNOLOGY-BASED TOOLS FOR SCREENING KEY POPULATIONS
2. STRENGTHENING OF ON-SITE MARKETING OF CONDOMS AND LUBRICANTS TO HIGH-RISK GROUPS
3. DEVELOPMENT OF APPROACHES DELIVERING SOCIAL AND BEHAVIOURAL CHANGE COMMUNICATION
4. IMPLEMENTATION OF SEXUAL AND REPRODUCTIVE HEALTH AND HIV PREVENTION THROUGH SMARTGIRL
5. IMPLEMENTATION OF MHEALTH AMONG KEY POPULATIONS IN CAMBODIA
6. RISK TRACING SNOWBALL FOR HIGHER-RISK POPULATIONS
7. INTEGRATION OF HPV SCREENING WITH HIV TESTING AND TREATMENT
8. POSITIVE PREVENTION
9. INTEGRATED SIZE ESTIMATION SURVEY AND BEHAVIOURAL SURVEILLANCE STUDY FOR MEN WHO HAVE SEX WITH MEN IN CAMBODIA
10. DEVELOPMENT OF UNIQUE IDENTIFIER CODE FOR KEY POPULATIONS IN CAMBODIA

Source: KHANA Annual Report, 2018
Branded Programs & Strategic Behavioral Communication
Websites and Facebook Pages for Key Populations
Drop-in Centers & Outreach for Key Populations
The Mobile Link

- A community-based RCT: 3 years
- Using mHealth approach to reach FEWs with information and link them to existing care and support services:
  - HIV, STIs, and SRH
  - Gender-based violence and legal aid
  - Substance abuse (forced drinking and drugs)
  - Other women’s health issues
The Mobile Link’s Objectives

1. To develop and pilot test the Mobile Link intervention by conducting participant observation, focus groups, and cognitive pilot interviews

2. To evaluate the efficacy of the Mobile Link in providing HIV, STI, SRH, and GBV information to FEWs and linking them to services

3. To qualitatively assess the Mobile Link’s acceptability, effectiveness, and feasibility among key stakeholders
The “Mobile Link” Project Development

Explorative Studies
Formative Studies and Gap Analysis
Intervention Material Development
Intervention Pilot and Feasibility Assessment

2 Years (2015–2017)
- National survey (IBBS-FEWs)
- Population size estimation
- A series of quantitative and qualitative studies

1 Year (2018)
- Qualitative studies using participatory approaches
- Acceptability and feasibility qualitative assessment
Emerging Health Issues Explored in Formative Studies

- **Exposure to gender-based violence (GBV):**
  - Physical and sexual abuse in and outside the workplace
  - Forced drinking and substance abuse
  - Emotional abuse by the establishment owners/managers

- **Other neglected health issues:**
  - Health concerns as consequences of heavy alcohol drinking
  - Women’s health problems other than HIV, STIs, and SRH (e.g., intravaginal hygiene, other gynecologic issues, cervical cancer)
  - Mental and psychological wellbeing
  - Unwanted pregnancy and induced abortion
Health priorities, such as gynecologic issues, were emphasized more than HIV/STIs and family planning.

Misconceptions exist about contraception and STI transmission.

The need to build trust in outreach workers and services linkages.

The desire for information and supportive interventions to address mental health issues that may stem from GBV and perceived stigma and discrimination.
What Did the Intervention Look Like?

02 Messages Per Week

Do you feel burning or pain when you have sex? Sex does not have to be painful, and you have the right to enjoyable and pain-free sex. Find out WHY you might have these symptoms.

Are you scared to get an HIV test? Remember, if you are HIV+ you can still live a healthy life if you just get on medication. If you don’t know, your health will get worse – so find out today!

Sisters, let’s talk to each other and share tips to help avoid being drunk and stay safe. Our first tip for you – eat a lot of rice or noodles before you drink even if you feel a little sick. You need something in your stomach to soak up the alcohol!

If you would like to hear another message about this topic, Press 1. If you would like to be connected to Mobile Link staff to talk more about this issue or another issue or receive referrals, Press 2.

Links to Outreach Workers
How Did We Conduct This study?

- Randomized controlled trial
- 5 cities in Cambodia
- Survey-based data collection:
  - Baseline: January 2018
  - Midline: November 2018
  - Endline: June 2019
- Intervention: 60 weeks of health topics and outreach messages
What Did We Measure?

- **Primary outcome measures:**
  - HIV testing
  - STI testing
  - Condom use with different types of partners
  - Contraceptive use

- **Secondary outcomes:**
  - Contact with outreach workers
  - Use of escorted referral services
  - Forced drinking at work
  - GBV experiences and attitudes

**Data Analyses**

- Comparisons of baseline characteristics and outcome variables
- Crude and cluster-adjusted pooled tests of association (analytic vs. non-analytic sample)
- Intervention effects – multilevel mixed-effects logistic regression (group by time interaction terms at endline)
- Model fit was assessed for each outcome using the Akaike Information Criterion (AIC) and Bayesian Information Criterion (BIC)
- Sensitivity analyses – sensitivity analysis, we used intention-to-treat (ITT) principles
What Did We Find?

- Comparable baseline characteristics of intervention and control groups
- No significant primary health outcomes changes at the 60 weeks mark
- Participants in the intervention group were significantly more likely to have had contacts with outreach workers and escorted referrals
- Reduced forced drinking at work
Qualitative Evaluation

Increased perception of health knowledge

Increased confidence and “bravery” to take control of one’s health

Prompting of participants to get timely health services

Easier to reach outreach workers

Mobile Link Program

Service Uptake and Health Outcomes

Data from 6 focus group discussions (FGDs) and 15 in-depth interviews (IDIs)
“The Mobile Link helps us learn the problems about our health that we are curious about by reading the text messages. We don’t have to go to the clinic to consult.”
– Battambang FGD

“Because of the Mobile Link, I dare to change my daily life. Dare to talk to a partner and dare to talk to clients directly when they came to our workplace.”
– Phnom Penh IDI
Quotes from Intervention Participations

“The Mobile Link offered us knowledge which pushed us to think more about our health, and then we were brave to go to the health providers alone. Before we were not daring enough to go along, we always asked someone to accompany us.”
– Siem Reap FGD

“It feels good that they educate us to practice hygiene and protect ourselves.”
– Banteay Meanchey IDI
The *Mobile Link* has many advantages and is well-accepted by stakeholders from the community to the national levels.

- **Perceived benefits** – ease of use, knowledge gained, link to services, resource-efficient, rapports with establishment owners, the relationship between field staff and FEWs, and FEWs’ motivation.
- **Enabling environment** – strong political supports, community partnerships, and financial aids.
Limitations of the Study

- Too short intervention (18 months)
- High loss to follow up (~ 40% by the midterm) due to loss of contact and mobilization of FEWs (anticipated ~ 20%) –
  - Differential loss to follow-up between intervention and control groups
- High movements between venues among FEWs – leading to individual-level sampling and non-random assignment to intervention and control groups
- Participants were not blinded to the intervention –
  - Balance between study arms at baseline was achieved on all primary and secondary outcomes
Conclusions

- The *Mobile Link* enhances traditional in-person outreach approaches by community health workers.
- Replication of messaging services would benefit from qualitative research to inform adaptation.
- Successful linkages of vulnerable women to outreach workers and escorted referrals may lead to increased access to other services.
- Longer-term messaging and prompts of community health worker linkages have the potential to increase access to services and may impact FEWs’ health outcomes in the future.
Sustainability & Scale-up

- Handing over the message bank and other materials to NCHADS and other key stakeholders
- Mobilizing resources for expanding the intervention among FEWs and other key populations (e.g., MSM, transgender women)
- Pilot testing the model using different platforms (e.g., WhatsApp, hotline calls)
- Funding commitment from donor agencies
Oral Health in Children Living with HIV

- Facility- and community-based RCT: 4 years
  - Oral health education sessions for children living with HIV
  - Daily oral self-care under the supervision of their caregivers
  - Aiming to improve oral health that would, in turn, improve the overall health of the children
Community-based ART Delivery Model

- Community-based quasi-experimental study:
  - To develop and evaluate the efficiency of a community-based ART delivery model among PLHIV in 6 provinces
  - To reduce socio-economic burden in PLHIV and workload in facility-based health providers
24-hour Chatline for GBV Response for FEWs in Cambodia

To provide FEWs with 24-hour confidential support by trained staff to make it easier for survivors to be connected to services and get the support when they need it.
Conclusions

- Cambodia has been successful in HIV care and support services, but less successful in preventing new infections in key populations.
- Innovative approaches to reach sub-pockets of the key populations that have not been reached by traditional approaches.
- Other issues in vulnerable and key populations:
  - Co-morbidities (e.g., HCV, TB, STIs, NCDs)
  - Gender-based violence and its subsequent mental health problems
  - Barriers in access to health care due to stigma and discrimination
  - Legal barriers, particularly for people who use drugs and LGBTI
Thank you!

Q & A