

# **Conducting public health research in Cambodia (My dissertation research)**

UCLA GSTTP summer research mini-course

Global partner research: Cambodia

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# Chapter 1: Self-intro

## Siem Reap province, Cambodia

(Photo source/credit: [https://www.thesuburban.com/life/lifestyles/the-temples-at-angkor-wat-cambodias-jewel/article\\_3ed28469-c06b-5b44-8adc-dbf459e82546.html](https://www.thesuburban.com/life/lifestyles/the-temples-at-angkor-wat-cambodias-jewel/article_3ed28469-c06b-5b44-8adc-dbf459e82546.html)).



- PharmD, School of Pharmacy, University of Health Sciences, Phnom Penh, Cambodia
- Taught Analytical Chemistry and Toxicology

(Photo source/credit: [https://en.wikipedia.org/wiki/File:University\\_of\\_Health\\_Sciences\\_\(Cambodia\).jpg](https://en.wikipedia.org/wiki/File:University_of_Health_Sciences_(Cambodia).jpg))



## Hospital pharmacist

(Photo source/credit: <https://www.information.gov.kh/detail/406889>)



Faculté de Pharmacie de Marseille



## Deputy-Head of Bureau of Drugs and Food Safety

(Photo source/credit: <https://khmerpart.com/archives/87733>)



Master of Science in Chemistry, Pharmacokinetics option,  
School of Pharmacy, Aix-Marseille University,  
Marseille, France.

(Photo source/credit: <https://slideplayer.fr/slide/1183981/>)

# Chapter 2: From pharmaceutical research to public health and PhD journey



- Lack of gov't funding in life science research
- Lack of pharmaceutical R & D
- Lack of immediate community impact

MPH (weekend program)



- ⊕ [Burroughs Wellcome Fund Inter-school Training Program in Chronic Diseases](#)
- ⊕ [UCLA Pre-Doctoral and Post-Doctoral Program in Molecular Genetic Epidemiology of Cancer \(NIH/NCI T32 Training Program\)](#)

***UCLA/Cambodia HIV/AIDS Training Program in Data Management & Analysis***

[UCLA/Fogarty AIDS International Training and Research Program](#)

[UCLA/UCI NIOSH-SCERC Occupational Epidemiology Research Training Program](#)

## UCLA/Cambodia HIV/AIDS Training Program in Data Management & Analysis



Photo source: [https://dgit.ph.ucla.edu/epidemiology/pages/cambodia\\_aids](https://dgit.ph.ucla.edu/epidemiology/pages/cambodia_aids)

# Chapter 2: PhD journey

## Original dissertation proposal:

HIV Self-Testing in Cambodia:  
User and Provider experiences in  
an Open-Label Pilot Randomized  
Controlled Trial

Local IRB regulatory  
changes

My new dissertation

➤ **Study 1 (secondary data):** Factors associated with HIV testing among ANC-attending pregnant women: Secondary data analysis using Cambodia DHS surveys (2005, 2010, and 2014).

➤ **Study 2 (primary data):** Factors associated with HIV testing among ANC-attending male partners in Cambodia: Case-Control study applying an Extended Theory of Planned Behavior.

➤ **Study 3 (primary data):** Perspectives on Male Antenatal Care Attendance, Home-Based HIV Testing (HB-HTC), and HIV self-testing (HIVST) by Male Partners of Pregnant Women: Exploratory Research in Cambodia.

# Chapter 3: Why pregnant women and their male partners?

- **Voluntary counseling and testing:** ANC-attending pregnant women and their male partners.
- **HIV pre-test counseling:** mother's class or couple or individual.
- About 90% of ANC-attending pregnant women received an HIV test (2017-2020): **< intended target of 95% → Study 1.**
- **Less than 20% of male partners received an HIV test:** 17.2% in 2017, 18.6% in 2018, 18.4% in 2019 and 17.7% in 2020.
- **Gaps in the current PMTCT reporting system:**
  1. No total number of male partners who apparently attend ANC
  2. No total number of ANC-attending male partners who decline an HIV test offer after pre-test counseling.
- **Low uptake (17% or 18%) among men could be due to:**
  1. Low ANC participation to begin with. **→ Study 3**
  2. Most men apparently attended ANC but were not offered an HIV test. **→ Beyond the scope of this research**
  3. Most men apparently attended ANC and were offered an HIV test but declined the offer. **→ Study 2**

# Chapter 4: Objectives and project implementation

- **Study 1 (quantitative):** To identify factors associated with HIV testing among ANC-attending pregnant women in Cambodia: Secondary data analysis using Cambodia DHS surveys (2005, 2010, and 2014).

## ABOUT THE DATA

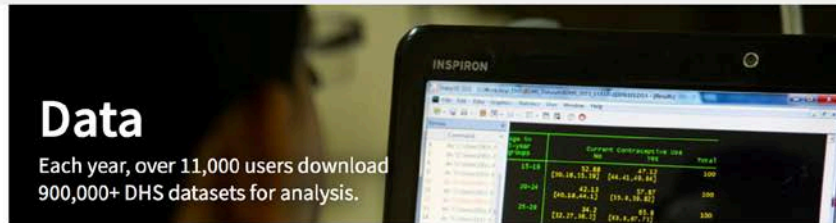
[Getting Started](#)  
[Data Collection](#)  
[Data Processing](#)  
[Recommended Citations](#)

## UNDERSTANDING SURVEY STATISTICS

[Data Quality and Use](#)  
[Data Tabulation Plan](#)  
[Survey Indicators](#)  
[Data Tools and Manuals](#)  
[Online Guide to DHS Statistics](#)

## WORKING WITH DATASETS

[Using Datasets for Analysis](#)  
[Model Datasets](#)  
[Data Variables & Definitions](#)  
[Dataset Types](#)  
[File Formats](#)  
[File Types & Names](#)



### Quick Country Data

Ready-to-use data for over 90 countries from over 300 surveys are only a few clicks away.

[Select Country to View Quickstats](#)

Quickstats list the most popular indicators and provide an overview of a country's demographic and health issues.

#### Publications

- [Full reports](#) provide comprehensive health indicators for a country.
- [Key findings](#) reports highlight key indicators for a

### Dataset Users

Step-by-step guidelines for dataset users from registration to dataset analysis.

[Using Datasets for Analysis](#)

New to analyzing DHS data? A step-by-step guide to DHS data analysis.

[Register for Dataset Access](#)

Datasets are available for free after a simple registration process.

[Download Model Datasets](#)

### Download Datasets

The DHS Program is authorized to distribute, at no cost, unrestricted survey data files for legitimate academic research. Registration is required for access to data.

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[Data Availability Status](#)  
[Registration Rationale](#)

### Guide to Using Datasets

[Guide to DHS Statistics](#)  
[DHS Recode Manual](#)  
[DHS Tabulation Plan](#)  
[FAQs](#)

**Did the use of CDHS data require IRB review and approval?**



**NOT HUMAN SUBJECTS RESEARCH DETERMINATION: UCLA IRB REVIEW NOT REQUIRED**

<https://dhsprogram.com/data/>



# Chapter 4: Objectives and project implementation

- **Study 2 (quantitative):** To identify factors associated with HIV testing among ANC-attending male partners in Cambodia: Case-Control study applying an Extended Theory of Planned Behavior (132 HIV testing decliners and 264 testing acceptors).

National Maternal and Child Health Center



Chaktomuk Referral Hospital

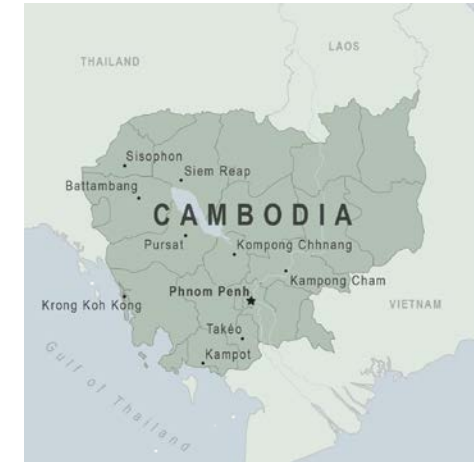


Posenchey Hospital



Phnom Penh

(<https://wwwnc.cdc.gov/travel/destinations/traveler/none/Cambodia>)



30 male partners  
(10 decliners, 10 acceptors, 10 ANC-attendees)

**Did the two studies require IRB review and approval?**

- **Study 3 (qualitative):** Perspectives on Male Antenatal Care Attendance, Home-Based HIV Testing (HB-HTC), and HIV self-testing (HIVST) by Male Partners of Pregnant Women: Exploratory Research in Cambodia.

# Chapter 4: Key findings (Studies 1 & 2)

## Study 1:

- Education (secondary or higher vs none)
- Area of residence (urban vs rural)
- Household wealth (highest wealth quintile vs lowest)
- Quality of HIV pre-test counseling during ANC (adequate vs inadequate)

## Study 2:

- Intention to test predicted HIV testing (low vs high).
- Subjective norm (unsupportive vs supportive), partner communication (absence vs presence), and perceived risk predicted HIV testing (absence vs presence) predicted low intention to test for HIV during ANC.

# Chapter 4: Key findings (Study 3)

## Being unable to take time off work.

**Select representative quote:** [I could not attend ANC with my wife] because I worked every day. As a construction worker, I was not paid on a daily basis, but monthly. As a rule, whenever I wanted to take a day off, I had to give [my employer] a reason. However, when the work at the site was overwhelming, they still might not grant the permission regardless of the reason. They might blame me for that or even fire me (38 years old, ANC non-attende).

## Waiting outside the health facility watching over an older child.

**Select representative quote:** I did accompany her to the health center, but I did not go inside the ANC room because I was busy watching over my child (29 years old, ANC non-attende).

## Not wanting to pay for a parking fee.

**Select representative quote:** I saw that all vehicles had to be parked in a parking lot [with a fee], and I did not want to do that. So I dropped [my wife] in front of the health center because it was within walking distance, and I was just waiting outside. (41 years old, ANC non-attende).

## Actual barriers to attending ANC with pregnant partners

## A negative community attitude toward male antenatal care attendance.

**Select representative quote:** I personally heard negative or mocking words. I was asked "Why do you have to take her to the health center? Let her ride a motorcycle to the health center on her own!" The person even mocked or teased her [behind her back, saying] that "Although she doesn't work, and she always stays home, she still doesn't want to ride a motorcycle to the health center on her own!" (20 years old, ANC non-attende).

## A negative attitude toward male ANC attendance.

**Select representative quote:** At first, I thought it was OK to not attend ANC with my wife. But later, I felt guilty for that, after I found out that other men attended ANC with their wives (25 years old, ANC non-attende).

## Not being invited by providers to come inside the ANC consultation room.

**Select representative quote:** I was sitting on a bench outside the health center. The staff did not invite me to come inside the health center (36 years old, ANC non-attende).

# Chapter 4: Key findings (Study 3)

## Worries that neighbors would be suspicious.

*Select representative quote:* [Neighbors] would possibly think that I have HIV if they saw a provider coming to test me at home. Some would be afraid of me and the others would not come near me out of HIV transmission fears (23 years old, acceptor).

## An inability to verify the identity of the testing team.

*Select representative quote:* I think that if local authorities (e.g., head of village or commune) informed me in advance that an official HIV testing team from a health center or hospital would come to test me for HIV at my home, I would not have any suspicion about the identity of the team. However, without such notification from local authorities, I would not get tested because I don't know them. They may not have verifiable paperwork, especially in rural areas where people don't know where these people would be exactly from (29 years old, ANC non-attende).

## Feeling offended by a home visit.

*Select representative quote:* If I wanted to test for HIV, I would go to a health facility on my own. I would feel offended if a provider came to test me at my home (29 years old, acceptor).

## Not being home at the time of the visit.

*Select representative quote:* My wife would have to phone me first to arrange a home visit because I am always busy at work, sometimes until 6 or 7 pm. So the testing team must let me choose the date and time (38 years old, ANC non-attende).

## Perceived concerns about Home-Based HTC

## Improper management of biological specimens.

*Select representative quote:* With getting tested at home, blood specimens may be miscoded (40 years old, decliner).

## Feeling coerced into testing.

*Select representative quote:* [HIV testing] is considered as a private matter, so when a provider came to someone's home to do it, it would sound like the provider is coercing the man into HIV testing (27 years old, acceptor).

## The potential for confidentiality breaches by the testing team.

*Select representative quote:* The man in question may not welcome the HIV testing team to his home due to fears of confidentiality breaches (35 years old, ANC non-attende).

## The potential for contamination of testing instruments

*Select representative quote:* I would particularly be worried that the testing devices/instruments would not be properly disinfected (24 years old, decliner).

# Chapter 4: Key findings (Study 3)

## ➤ **General perceived concerns about HIVST:**

- Lack of pre-and-post counseling
- Depression, suicide thoughts
- Ill-intention of harming others
- Lack of disclosure and linkage
- Questionable reliability/accuracy of the test kit
- Instructions of use potentially in foreign languages
- Do not know how to use it.

## ➤ **Unique perceived concerns about free-of-charge pregnant woman-delivered HIVST:**

### ▪ **Questions about why the provider or his partner wanted him to be tested.**

*(Select quote: If I could not attend ANC with her [my wife] and a health provider asked her to bring an HIVST kit to me, I would still use it although I may feel slightly suspicious of such request. I think that her ANC provider would have explained to her about how to use it, and in turn she would be able to tell me how to use it. But still, I would probably not be 100% confident about the test result because the product would be too new to the market. So I would still seek [HIV] testing again at a health facility later. (37 years old, accepted HIV testing).*

### ▪ **Fear of self-testing**

*(Select quote: Although an ANC provider would have explained to my wife about how to use the HIVST kit, honestly I still would not dare to use it. Just hearing about HIV would already be scary enough, and I believe most people would not dare to self-test. 38 years old, ANC non-attender).*

## ➤ **Unique perceived concerns about out-of-pocket community pharmacy-delivered HIVST**

### ▪ **Cost**

### ▪ **Feeling shy or embarrassed when purchasing a kit**

### ▪ **Low availability**

*(select quote: I would find it difficult to buy it because I do not know which pharmacies sell it. (22 years old, accepted HIV testing).*

### ▪ **Potential lack of technical assistance from pharmacy staff**

*(Select quote: I may not buy it because when going to buy a HIVST kit at a pharmacy, the pharmacy staff may not give me any instructions of use. They just take the money, hand the kit over to you, then that's it! They may not tell us to come back with the test results so that they could help read the results. (38 years old, ANC non-attender).*

### ▪ **No official test result slip**

*(Select quote: Unlike HIVST, I would be able to receive official test result slips when getting tested at a facility (29 years old, accepted HIV testing).*

# Chapter 4: Key findings (Study 3)

- **Free-of-charge ANC-based HTC (n=20), reasons:**
  - Killing two birds with one stone
  - Proper pre- and-post test counseling
  - Mutual testing and disclosure
  - Acceptable level of confidentiality
  - Free-of-charge
  - Trust maintaining or building among couples
  - Accurate test results

*Select representative quote: I would choose the first option [ANC-based HTC] because I could attend ANC with my wife, receive counseling from a medical provider, getting tested [for HIV] and mutually disclose HIV test results at the hospital. (40 years old, declined HIV testing).*

- **Free-of-charge home-based HTC (n=4), reasons:**
  - High degree of privacy
  - Reduced chance of road accident
  - Convenient
  - Time-saving

*Select representative quote: I would choose HB-HTC because it would be convenient and time-saving. (29 years old, declined HIV testing).*

- **Free-of-charge pregnant woman-delivered HIVST (n=3), reasons:**
  - Convenient
  - Time-saving
  - Free-of-charge
  - Painless
  - Willing to try the new product

*Select representative quote: I would choose the third option [pregnant woman-delivered HIVST] because it would be convenient and time-saving. I would not need to go buy it [from a pharmacy]. (36 years old, didn't attend ANC).*

- **Out-of-pocket community pharmacy-delivered HIVST (n=3), reasons:**
  - Convenient
  - Quick

*Select representative quote: I would prefer to buy an HIVST kit from a pharmacy because it would be convenient. I could buy one whenever I feel at risk of HIV. (26 years old, accepted HIV testing).*

# Chapter 4: Key findings (Study 3)

## Increase community awareness about benefits of male partner testing during wife's pregnancy (n=10).

*Select representative quote:* Health authorities should create educational videos about male partner testing during wife's pregnancy. A lot of men would watch them, and the videos should encourage men to get tested for HIV. (27 years old, declined HIV testing).

## Make male partner testing during ANC visits mandatory (n=1).

*Select representative quote:* It would work if the government mandated that both husband and wife must get tested for HIV during ANC as a preventive measure regardless of whether they wanted to do it or not. In other words, for the benefits of unborn child and wife, although we [husbands] would not want to get tested [for HIV], we could not opt out. (29 years old, declined HIV testing).

## Set up community-based/mobile testing venues (n=2).

*Select representative quote:* I would want the Ministry of Health to conduct community-based HIV testing. It would be convenient and time-saving [for male partners] to get tested. (41 years old, declined HIV testing).

## Provide HIV pre-test counseling to all ANC-attending male partners (n=3).

*Select representative quote:* During my previous ANC visits [with my wife], I did not receive [HIV] testing because I was not informed about its availability. Previously, I thought that if my wife already got tested [for HIV], there would be no need to to test me [for HIV] as well. But during this particular visit, the health provider explained to me the benefits of male partner testing, so I accepted test offer from health provider. (37 years old, accepted HIV testing).

**How could HIV testing coverage among male partners be increased? (n=18)**

## Provide HIV testing and counseling services on Sundays (n=1).

*Select representative quote:* Men are mostly free on Sundays. So asking men to come to get tested on Sundays would work. (38 years old, ANC non-attender).

## Use IEC materials (e.g. posters and flyers) at ANC facilities (n=1).

*Select representative quote:* I would want health authorities to hang posters on walls at all [ANC] facilities. Men would get a lot of information from the posters. (25 years old, accepted HIV testing).

# Chapter 5: Project implementation challenges and solutions

➤ Lack of exposure to research among study participants.



Training interviewers and ANC providers.

➤ Lack of time/motivation from ANC providers to involve in the research.



Giving them a hand whenever possible, light refreshments, etc.

➤ Lack of dedicated interview space within each participating health facility.



Being flexible.

➤ Lack of funding for recruiting professional interviewers and transcribers.



Recruiting UHS's senior Public Health students

➤ Not speaking the local language?



.....????



# What was the most important element of my successful project implementation?

 **Strong local institutional supports!**

- University of Health Sciences (UHS)
- National Maternal and Child Health Center (NMCHC)
- National Prevention of Mother-To-Child Transmission program (PMTCT)
- National Centre for HIV/AIDS, Dermatology and STD (NCHADS)
- HIV/AIDS program of Phnom Penh Municipal Health Department

The End