

# **Effectiveness, acceptability and cost benefit analysis of a modified cervical cancer screening program in Cambodia assisted by a cloud-based digital system**

## **Background**

Cervical cancer, the second most common cancer among Cambodian women, is regarded as a high health priority as it affects predominantly women in the midst of life when they also play a key role in the socioeconomic fabric of families and communities. Cervical cancer is caused by a genital infection with the Human Papilloma Virus (HPV), which is a very common sexually transmitted infection that is experienced by more than 80% of adults in their lifetimes. However, a small fraction of HPV infected women will develop cervical cancer, typically after a long-standing infection. Such progression to cancer can be identified early by specific lesions on the surface of the cervix or by shedding of precancerous cells from the cervix. The aim and benefit of screening is to detect these changes early and treat them using minimally invasive methods. Advances in the knowledge of cervical cancer development have led to very effective screening tools that are superior to existing tools used in Cambodia. Two different methods are currently under investigation, one being the evaluation of the cervix from a digital image of the cervix and one being the evaluation of cervical cells using a molecular disease marker.

## **The primary objectives of the project**

- To compare the current method of (naked-eye) Visual Inspection of the cervix after Acetic acid application (VIA) with HPV test as primary screening tests;
- To compare VIA as triage test for HPV positive women with VIA enhanced by digital cervicography (VIA-DC) and dual stain (DS) cytology
- To assess the acceptance and preferred delivery mode of HPV self-sampling
- To perform an economic evaluation alongside the implementation of the different screening

## **Project Design:**

In 2 district hospitals 2500 women will be screened simultaneously with all study screening test. Additionally, in 4-5 communities 7500 women will be invited to collect a genital sample at their home for HPV testing. HPV-positive women will be invited for a triage visit (VIA-DC and DS cytology). All test-positive women cases will be ascertained by histology and treated if indicated.

## **Total project duration:**

Dec 2021-Dec 2023.

## **Doctoral thesis opportunities:**

(1) One medical doctoral thesis will investigate the intention to get tested and the actual test uptake (community-based self-sampling versus clinical sampling). Here, a mixed methods approach is suggested (quantitative data plus qualitative interviews; several weeks field work in Cambodia required)

Required: interest in epidemiology and qualitative data collection and analysis; assisting in community HPV self-sampling campaign and analysis; fluent in English

(2) One medical doctoral thesis will focus on the comparison of the different screening methods and on clinical aspects.

Required: basic gynecological knowledge, assisting in clinical data collection in-country (up to 6 months), strong interest in quantitative methods/biostatistics (diagnostic tests, methods comparison analyses); fluent in English

## **Project leadership:**

The project is a collaboration between the Department of Applied Tumor Biology (ATB) at Heidelberg University Hospital's Institute of Pathology, the Heidelberg Institute of Global Health (HIGH) and the Department of Preventive Medicine in the Cambodia Ministry of Health.

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