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| **ITU-T Focus Group on AI for Health** |
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| **DOCUMENT** |
| **Source:** | University of Helsinki |
| **Title:** | TG-Histo: Point-of-care cancer diagnostics using AI and mobile digital microscopy |
| **Purpose:** | Discussion |
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| **Abstract:** | We have developed and conducted proof-of-concept studies of a novel method that combines artificial intelligence (AI) and mobile digital microscopy for cell-based cervical cancer screening in resource-limited settings. The mobile microscopes are wirelessly connected via mobile networks for deep learning-based analysis and provide access to diagnostics where there is a lack of medical experts. We will scale up the use of the new diagnostic method in the form of a validation study in Tanzania with the aim of detecting premalignant changes for the purpose of cervical cancer screening/prevention. Suspected abnormal cells identified by the algorithm are verified by a pathologist and treated. In 2023-24 the method's diagnostic accuracy, technical feasibility, cost and time per test, and acceptance of the AI method is evaluated and compared to conventional diagnostics. Throughout the project, opportunities for larger scale implementation of the diagnostic platform in East Africa are evaluated, with the goal of achieving sustainable solutions for low-resource settings. The methods have great potential to improve equal and sustainable access to high-quality diagnostics for cervical cancer screening among women residing in low- and middle-income countries, carrying the highest cervical cancer burden globally. We propose a working group for digital diagnostics for cervical cancer in low- and middle-income countries. |

Attachment:

1. Oscar Holmström et al., *Point-of-Care Digital Cytology With Artificial Intelligence for Cervical Cancer Screening in a Resource-Limited Setting*, AMA Network Open. 2021;4(3):e211740. doi:10.1001/jamanetworkopen.2021.1740.
<https://extranet.itu.int/sites/itu-t/focusgroups/ai4h/docs/FGAI4H-L-033-A01.pdf>

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