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| ITU Logo | INTERNATIONAL TELECOMMUNICATION UNION  **TELECOMMUNICATION STANDARDIZATION SECTOR**  STUDY PERIOD 2017-2020 | | FG-AI4H-F-035 | |
| **ITU-T Focus Group on AI for Health** | |
| **Original: English** | |
| **WG(s):** | | Plenary | Zanzibar, 3-5 September 2019 | |
| **DOCUMENT** | | | | |
| **Source:** | | Lahiafake Robertin Noelson, mTOMADY | | |
| **Title:** | | New topic area: “Leveraging Artificial Intelligence to Achieve Universal Health Coverage” | | |
| **Purpose:** | | Discussion | | |
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| **Abstract:** | Every year, 1.6% of the population in Sub-Saharan Africa (SSA) are pushed into extreme poverty due to catastrophic expenditures. Out-of-pocket (OOP) payments remain the predominant mode for households in SSA to cater for the costs of healthcare.  Meanwhile, mobile communication and mobile payment systems have become ubiquitous in SSA allowing to reach people who, until now, have remained structurally excluded.  Owing to its potential to provide users with rapid access to cash and remittances, electronic savings accounts, and insurance schemes, mobile money is increasingly being used in the health sector. However, the possible benefits of using artificial intelligence (AI) to increase the efficiency and safety of healthcare-related payments through transparent, algorithm-based claims validation and reimbursement processes are yet to be fully harnessed in low-resource settings.  To this end, the organizers of this focus group developed and implemented a digital platform for financial inclusion in healthcare in Antananarivo, Madagascar, which allows users to securely save any pay for healthcare-related expenditures on their mobile phone in return for treatment-related data being provided by collaborating health care providers. This use case illustrates the power of leveraging AI-based tools to improve operational efficiency and transparency of healthcare-related payments. |

**Overview**

mTOMADY is a project by the NGO Doctors for Madagascar, Charité - Universitätsmedizin Berlin (Europe’s largest university hospital), and the Berlin Institute of Health. It has been developed and implemented together with the Madagascan Ministry of Health in line with national and international healthcare strategies and guidelines such as WHO's Global Strategy on Digital Health and the WHO "Principles for Digital Development “.

**Existing work**

mTOMADY (Malagasy for ’strong/healthy') is a digital platform for financial inclusion in healthcare. It facilitates access to health financing by enabling people to receive, save, send and pay money exclusively for healthcare on their mobile phone in return for treatment-related data being provided by collaborating health care providers. By using existing mobile money infrastructure and linking it to online claims management and accounting, the technology allows transparent and secure payments between patients, healthcare providers and sponsors, reducing administrative costs and improving operational efficiency. mTOMADY was launched in Antananarivo, Madagascar, in 2018. Since then, it has become available at several dozen public healthcare facilities, and is being used by a rapidly growing number of users to save and pay for healthcare-related expenditures.

The service collects real-time data on healthcare system usage, disease prevalence, and treatment costs. The organizers of this focus group will provide anonymized medical and treatment data and will apply pattern recognition algorithms and data analytics to prevent fraud and improve operational efficiency.

**Impact**

This focus group contributes to:

1. Empowering users through a self-managed mobile health savings and payment account resulting in reduced within-household economic inequalities and protection from medical impoverishment,
2. Increasing efficiency and safety of healthcare-related payments through transparent, algorithm-based claims validation and reimbursement processes,
3. Enhancing the accessibility to essential healthcare services for underserved populations with otherwise limited access to conventional financing tools,
4. Providing real-time data on healthcare system usage, disease prevalence, and treatment costs to government and other stakeholders

**Feasibility**

AI-based approaches to validate the authenticity of prescriptions and treatment cost fluctuations have yet to be introduced to low- and middle-resource settings. However, similar approaches are already being applied successfully by large health insurance companies in Europe and the United States.

**Data availability**

Anonymized medical and treatment data will be made available by the organizers of this focus group.

Three layers of data are available:

- User identifying information

- Financial transaction data

- Treatment-related data

**Data quality**

The data from genuine users, authentic transactions and user-provider interactions is collected in real-time and undergoes continuous semi-automated checks for data quality and consistency before being made available for further processing.

**Organizer details**

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| Project Title | Leveraging Artificial Intelligence to Achieve Universal Health Coverage |

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