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| ITU Logo | INTERNATIONAL TELECOMMUNICATION UNION**TELECOMMUNICATIONSTANDARDIZATION SECTOR**STUDY PERIOD 2017-2020 | FG-AI4H-H-210 |
| **ITU-T Focus Group on AI for Health** |
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| **Abstract:** | The topic description documents (TDD) introduce a health topic being explored by the ITU/WHO Focus Group on "AI for Health" (FG-AI4H). The TDD provides the background of the health topic (in the context of AI) and the structure, operations, and considerations of the topic group (TG). Under the tutelage of the TG driver, the TDD is developed (and maintained) by members of the TG. This document provides an overview of various TDDs developed by the FG-AI4H. |

**Introduction**

The Focus Group on "AI for Health" (FG-AI4H), a collaboration between the World Health Organization and International Telecommunication Union, is developing a framework for the standardized benchmarking of AI technology for health. FG-AI4H operates at the interface of multiple fields including: machine learning/AI, medicine, public health, regulation, statistics, and ethics. FG-AI4H activities are partitioned into topic groups (TG; i.e., groups of stakeholders from the medical field and machine learning/AI domain dedicated to specific health topics that could benefit from AI; e.g., dermatology) and working groups (WG; i.e., groups dedicated to overarching themes; e.g., regulatory considerations). For each TG, a description document (TDD), developed by the TG members under the guidance of the TG driver, describes the background of the health topic (in the context of AI) and the structure, operations, and considerations of the TG. New iterations of the TDD are produced as needed. As of 30 January 2020, there were 15 TDD posted on the FG-AI4H website.

**Components of the TDD:**

The original TDD structure was developed by Henry Hoffmann, Andreas Kühn, and Johannes Schröder of Ada Health and published as [FGAI4H-C-105](https://extranet.itu.int/sites/itu-t/focusgroups/ai4h/_layouts/15/WopiFrame.aspx?sourcedoc=%7B50606D7D-9BF3-4019-8B64-23E4D5BABBE6%7D&file=FGAI4H-C-105.docx&action=default). The structure can be categorized into of four components:

* *Topic background*: What is the health topic considered? Is this of relevance (e.g., does it affect a large and diverse transect of the global population and/or represent a challenge to the healthcare community)? What is the current gold standard for addressing this health topic? Could AI provide a tangible improvement (e.g., in terms of better care, better results, and/or savings in cost and time)? Are there existing AI solutions for this health topic? Has work been made toward benchmarking the aforementioned solutions?
* *TG features*: What subtopics belong to the TG? How do members of the TG participate and interact (e.g., via online communication)?
* *TG operations*: How will the benchmarking be executed (e.g., with regard to input/output data, data labelling, scores/metrics, and architecture)? How will the outcome of the benchmarking be disseminated? How will feedback be implemented?
* *TG considerations*: How are ethics and legalities addressed by the TG?

In the end, a Declaration of Conflict of Interest by each contributor to this document is provided.

As progress is made within the TG, revised versions of the TDD are inevitable. These are submitted as input documents and are presented at each meeting. The changes are discussed and integrated into an official output document.

**Present TGs and TDD status**

For each TG, it is expected to have a corresponding TDD. Because of the dynamic nature of FG-AI4H, however, some TG are still awaiting the publication of their TDD. As of 30 January 2020, there were 15 TDDs of 19 Topic Groups published on the FG-AI4H website. Most of the TGs without TDDs, are within the "Starting TG" category. The details are provided in Table 1.

Table 1 – Details on the preparation of the various TDDs

| TG | TDD Status | Comment |
| --- | --- | --- |
| **Active TGs** |  |  |
|  TG-Cardio | On website | Needs TDD content for sub-topic on cardiac image analysis. Current version only covers the cardiovascular risk prevention. |
|  TG-Derma | On website  |  |
|  TG-DiagnosticCT | On website  |  |
|  TG-Falls | On website  |  |
|  TG-Histo | On website |  |
|  TG-Neuro | On website  | Needs update for subtopic Parkinson's Disease |
|  TG-Ophthalmo | On website  |  |
|  TG-Outbreaks | On website  | Needs update for subtopic Dengue Surveillance |
|  TG-Psy | On website  |  |
|  TG-Snake | On website |  |
|  TG-Symptom | On website  |  |
|  TG-TB | On website  |  |
|  TG-Dental | On website |  |
|  TG-Malaria | On website | Needs update for subtopic Malaria Surveillance |
| **Starting TGs** |  |  |
|  TG-Bacteria | Not on website |  |
|  TG-MCH | On website | Skeleton version |
|  TG-FakeMed | Not on website |  |
|  TG-Diabetes | Not on website |  |
|  TG-Radiology | Not on website |  |

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