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| **Title:** | Updated DEL10: use cases of the ITU/WHO Focus Group on AI for Health: introduction to the topic description documents |
| **Purpose:** | Discussion |
| **Contact:** | Eva WeickenFraunhofer HHI Germany | Email: eva.weicken@hhi.fraunhofer.de  |
| **Contact:** | Monique KuglitschFraunhofer HHIGermany  | Email: monique.kuglitsch@hhi.fraunhofer.de  |
| **Contact:** | Markus WenzelFraunhofer HHIGermany  | Email: markus.wenzel@hhi.fraunhofer.de |
| **Contact:** | Focus Group Secretariat | Email: tsbfgai4h@itu.int  |

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| **Abstract:** | This document provides an overview of “AI4H use cases: introduction to the topic description docs.” developed by the ITU/WHO Focus Group on AI for Health. Each use case is represented by a ‘topic group’ that is dedicated to a specific health topic in the context of AI. The topic group proposes a procedure to benchmark AI models developed for a special task within this health topic, for example, histopathology or symptom assessment. All members of a topic group develop a ‘topic description document’ (TDD) that contains information about the structure, operations, features, and considerations of the specific health topic.  |

**Call for participation**

If you are interested in contributing to the deliverable ‘*AI4H use cases: topic description docs*,*’* you are encouraged to contact Eva Weicken (eva.weicken@hhi.fraunhofer.de) and the Focus Group AI4H Secretariat (tsbfgai4h@itu.int) with “AI4H use cases: topic description docs.” as e-mail subject. We would appreciate if you would briefly introduce yourself and your relevant expertise. Sought: clinical expertise in a special health topic related to AI, medical informatics, researchers, physicians, and related areas.

Keywords

Topic description document, clinical expertise, AI, medicine, use case, benchmarking

Change Log

This document FG-AI4H-I-210 contains version 2 of the “*Introduction to the Topic Description Documents*” submitted to the meeting of the ITU/WHO Focus Group on AI for Health, that will be held virtually in 7-8 May 2020. It is based on the earlier version 0 with an initial outline (FG-AI4H-G-210, New Delhi, 2019) and version 1 (FG-AI4H-H-210, Brasilia, 2020).

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FG-AI4H Deliverable 10

ITU/WHO Focus Group on AI for Health
Use cases – Introduction to the topic description documents

Summary

The document “AI4H use cases: topic description docs” of the ITU/WHO Focus Group on Artificial Intelligence for Health (FG-AI4H) serves as an introduction to the 19 use cases of the FG-AI4H. The use cases are represented by 19 topic groups that involve stakeholders from the medical field and machine learning/AI domain who are dedicated to specific health topics that could benefit from AI. Under the guidance of the topic group driver (editor) the members of each topic group develop a topic description document (TDD) that contains the AI-related benchmarking for the respective health topic. The TDD describes the background of the health topic in the context of AI and the structure, operations, and considerations of the topic group. This document provides an overview of various TDDs developed by the FG-AI4H.

In total there were 19 topic groups established by May 2020. The topic groups represent various health topics in the context of AI including medical fields from, for example, histopathology, outbreak detection, symptom assessment, and radiology. An overview of all topic groups and their related TDDs, including the TDD status, are shown in tables 1 and 2.

Each topic group works on a TDD that serves as a ‘deliverable’ and represents the ongoing work of the benchmarking process of each topic group. By meeting ‘I’ in May 2020 an updated version of the TDD will be proposed that includes a revised structure, additional sections, and a list of optional sub-topics. The objective is to have a consistent structure of the TDD that works for all topic groups and adjusts the requirements during the formation process of the TDD.

The joint work on the TDD is an ongoing iterative process that is updated to each meeting until the Focus Group on AI for Health will finally approve it.

# Scope

This document introduces the topic description documents of the ITU/WHO Focus Group on “AI for Health.”

# References

[DEL10.1] FG-AI4H Deliverable DEL10.1, *Use of AI in cardiovascular disease management (TG-Cardio).* Last found: <https://extranet.itu.int/sites/itu-t/focusgroups/ai4h/docs/FGAI4H-H-006-A01.docx>

[DEL10.2] FG-AI4H Deliverable DEL10.2, *Dermatology (TG-Derma).* Last found: <https://extranet.itu.int/sites/itu-t/focusgroups/ai4h/docs/FGAI4H-G-008.docx>

[DEL10.3] FG-AI4H Deliverable DEL10.3, *Falls among the elderly (TG-Falls).* Last found: <https://extranet.itu.int/sites/itu-t/focusgroups/ai4h/docs/FGAI4H-H-012-A01.docx>

[DEL10.4] FG-AI4H Deliverable DEL10.4, *Histopathology (TG-Histo).* Last found: <https://extranet.itu.int/sites/itu-t/focusgroups/ai4h/docs/FGAI4H-H-006-A01.docx>

[DEL10.5] FG-AI4H Deliverable DEL10.5, *Neurological disorders (TG-Neuro).* Last found: <https://extranet.itu.int/sites/itu-t/focusgroups/ai4h/docs/FGAI4H-G-007.docx>

[DEL10.6] FG-AI4H Deliverable DEL10.6, *Outbreak detection (TG-Outbreaks).* <https://extranet.itu.int/sites/itu-t/focusgroups/ai4h/docs/FGAI4H-H-018-A01.docx>

[DEL10.7] FG-AI4H Deliverable DEL10.7, *Ophthalmology (TG-Ophthalmo).* Last found: <https://extranet.itu.int/sites/itu-t/focusgroups/ai4h/docs/FGAI4H-H-006-A01.docx>

[DEL10.8] FG-AI4H Deliverable DEL10.8, *Psychiatry (TG-Psy).* Last found: <https://extranet.itu.int/sites/itu-t/focusgroups/ai4h/docs/FGAI4H-H-019-A01.docx>

[DEL10.9] FG-AI4H Deliverable DEL10.9, *Snakebite and snake identification (TG-Snake).* Last found: <https://extranet.itu.int/sites/itu-t/focusgroups/ai4h/docs/FGAI4H-G-016.docx>

[DEL10.10] FG-AI4H Deliverable DEL10.10, *Symptom assessment (TG-Symptom).* Last found: <https://extranet.itu.int/sites/itu-t/focusgroups/ai4h/docs/FGAI4H-H-021-A01.docx>

[DEL10.11] FG-AI4H Deliverable DEL10.11, *Tuberculosis (TG-Tuberculosis)*. Last found: <https://extranet.itu.int/sites/itu-t/focusgroups/ai4h/docs/FGAI4H-G-018.docx>

[DEL10.12] FG-AI4H Deliverable DEL10.12, *Volumetric chest computed tomography (TG-Diagnostic CT).* Last found: <https://extranet.itu.int/sites/itu-t/focusgroups/ai4h/docs/FGAI4H-H-009-A01.docx>

[DEL10.13] FG-AI4H Deliverable DEL10.13, *Diagnosis of bacterial infection and anti-microbial resistance (TG-AMR).* Last found: Awaiting TDD

[DEL10.14] FG-AI4H Deliverable DEL10.14, *Dental diagnostics (TG-Dental).* Last found: <https://extranet.itu.int/sites/itu-t/focusgroups/ai4h/docs/FGAI4H-H-010-A01.docx>

[DEL10.15] FG-AI4H Deliverable DEL10.15, *AI-based detection of falsified medicine (TG-FakeMed).* Last found: Awaiting TDD

 [DEL10.16] FG-AI4H Deliverable DEL10.16, *Malaria detection (TG-Malaria).* Last found: <https://extranet.itu.int/sites/itu-t/focusgroups/ai4h/docs/FGAI4H-H-014-A01.docx>

[DEL10.17] FG-AI4H Deliverable DEL10.17, *Maternal and child health (TG-MCH).* Last found: Awaiting TDD

[DEL10.18] FG-AI4H Deliverable DEL10.18, *Radiology (TG-Radiology).* Last found: Awaiting TDD

[DEL10.19] FG-AI4H Deliverable DEL10.19, *Primary and secondary Diabetes risk prediction (TG-Diabetes).* Last found: Awaiting TDD

NOTE: Literature references are listed in the bibliography.

# Terms and definitions

This document does not rely on terms defined elsewhere. It also does not define any new terms.

# Abbreviations

|  |  |
| --- | --- |
| AI | Artificial Intelligence |
| AI4H | Artificial Intelligence for Health |
| CfP | Call for Participation (to join a Topic Group) |
| FG-AI4H | ITU/WHO Focus Group on Artificial Intelligence for Health |
| ML | Machine Learning |
| TDD | Topic Description Document |
| TG | Topic Group |

# Introduction

This draft gives an overview of the various *topic description documents* developed by the ITU/WHO Focus Group on AI for Health, which is a collaboration between the International Telecommunication Union (ITU) and the World Health Organization (WHO). The initiative is creating a framework for the standardized benchmarking of AI technology for health and operates at the interface of multiple fields, including: AI/machine learning, medicine, public health, regulation, statistics, and ethics.

The activities of the initiative are partitioned into topic groups that take charge of specific health domains with corresponding AI/ML tasks. Each topic group develops a *topic description document* (TDD) under the guidance of a *topic driver*. Each topic description document introduces the health topic being explored, explains the role of AI within this context, and proposes a procedure to benchmark AI models developed for a specific task within this health topic. The topic description documents also provide information about the structure, operations, features, and considerations of the topic groups. The topic description documents are written in a collaborative effort and are iteratively improved over time. Topic group members are stakeholders from the medical field and the AI/machine learning domain dedicated to specific health topics that could benefit from AI, for example, cardiology.

**TDD**

**T**opic

**D**escription

**D**ocument

**Topic groups**

**= Use cases**

TG-Cardio

TG-Derma

TG-Neuro

TG-Symptoms

TG-Malaria

TG-Outbreaks

….

Benchmark

Figure 1: Relation of topic groups and the TDD

A generic outline of the topic description documents was proposed in document [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) and can be categorized into 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?
* *Topic group features*: What subtopics belong to the topic group? How do members of the topic group participate and interact (e.g., via online communication)?
* *Topic group 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?
* *Topic group considerations*: How are ethics and legalities addressed by the topic group?

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

As of meeting ‘H,’ an update of the generic TDD outline including additional sections has been resolved of the FG-AI4H members. A revised version of the TDD with additional sections, change notes, mentioning of the contributors, restructuring of some sections, lists of figures and tables, consideration of health economics and regulation, and a list of optional sub-topics have been added. The objective is to have a consistent structure of the TDD that works for all topic groups and adjusts the requirements during the formation process of the TDD. The document will be submitted as a “Draft updated TDD template,” allocated as [FGAI4H-I-004](https://extranet.itu.int/sites/itu-t/focusgroups/ai4h/docs/FGAI4H-I-004.docx) to the next FG-AI4H virtual meeting in May 2020.

As progress is made within the topic group, revised versions of the topic description documents are inevitable. These are submitted as input documents and are presented at each meeting. The changes are discussed and integrated into the improved version. Because of the dynamic nature of the topic groups, however, some are still awaiting the publication of their topic description document.

Parallel to the topic groups, there are working groups that are dedicated to overarching themes that affect all topic groups in a specific aspect of an AI health application, for example, the working group on ‘Regulatory Considerations on AI for Health’ and the working group on ‘Ethical Considerations on AI for Health.’ Working groups also work on the definition of best practices, establish processes and related policies, define ways to successfully benchmark AI for health algorithms and create reference documents. All these considerations are important for the benchmarking processes of all topic groups in the context of the special health topic and are also considered in the TDD.

Figure 2 gives an overview about the interactions between FG-AI4H topic groups and working groups.



Figure 2: Interaction between topic groups and working groups.

# Structure

This document “AI4H use cases: topic description docs.” serves as introduction to a set of documents that describe several use cases of a special health topic in the context of AI.

Table 1 gives an overview about the use cases, respectively topic groups, their editors, and the document number. Starting topic groups might not have a TDD document number yet. The status of the TDD of each TG is described in table 2 more detailed.

Table 1 – Overview about the 19 topic groups and their corresponding deliverables

|  |  |  |  |
| --- | --- | --- | --- |
| **N°** | **Topic group** | **Editor(s)** | **Document (latest version)**  |
| **10.1** | Use of AI in cardiovascular disease management (TG-Cardio)* including clinical predictions sub-topic: *cardiovascular disease* *risk prediction*
 | Benjamin Muthambi  | G-006 (general)H-006-A01(risk prediction)  |
| **10.2** | Dermatology (TG-Derma) | Maria Vasconcelos  | H-007-A01  |
| **10.3** | Diagnosis of bacterial infection and anti-microbial resistance (TG-Bacteria) | Nada Malou  | - |
| **10.4** | Falls among the elderly (TG-Falls) | Inês Sousa  | H-012-A01  |
| **10.5** | Histopathology (TG-Histo) | Frederick Klauschen  | H-013-A01  |
| **10.6** | Malaria detection (TG-Malaria) | Rose Nakasi  | H-014-A01  |
| **10.7** | Maternal and Child Health (TG-MCH) | Raghu Dharmaraju & Alexandre Chiavegatto Filho  | H-015-A01 |
| **10.8** | Neurological disorders (TG-Neuro) | Marc Lecoultre  | H-016-A01  |
| **10.9** | Ophthalmology (TG-Ophthalmo) | Arun Shroff  | H-017-A01 |
| **10.10** | Outbreak detection (TG-Outbreaks) | Stéphane Ghozzi  | H-018-A01  |
| **10.11** | Psychiatry (TG-Psy) | Nicolas Langer  | H-019-A01 |
| **10.12** | AI for Radiology (TG-Radiology) | Darlington Ahiale Akogo  | - |
| **10.13** | Snakebite and snake identification (TG-Snake) | Rafael Ruiz de Castaneda  | H-020-A01  |
| **10.14** | Symptom assessment (TG-Symptom) | Henry Hoffmann  | H-021-A01  |
| **10.15** | Tuberculosis (TG-TB) | Manjula Singh  | H-022-A01  |
| **10.16** | Volumetric chest computed tomography (TG-DiagnosticCT) | Kuan Chen | H-009-A01  |
| **10.17** | Dental diagnostics and digital dentistry (TG-Dental) | Falk Schwendicke & Joachim Krois | H-010-A01 |
| **10.18** | Falsified Medicine (TG-FakeMed) | Franck Verzefé |  |
| **10.19** | Primary and secondary diabetes prediction (TG-Diabetes) | Andrés Valdivieso |  |

***Table 2*** provides details on the preparation of the various topic description documents. As of May 2020, there were 15 draft versions of topic description documents (out of 19 topic groups in total) published on the website of the Focus Group.

Table 2 – Details on the preparation of the various topic description documents

| Topic Group | Status of the Topic Description Document | Comment |
| --- | --- | --- |
| Use of AI in cardiovascular disease management (TG-Cardio) | Ongoing work | Needs content for subtopic on *cardiac image analysis*. Current version only covers subtopic *cardiovascular disease risk prediction*. |
| Dermatology (TG-Derma) | Ongoing work |  |
| Diagnosis of bacterial infection and anti-microbial resistance (TG-Bacteria) | Forthcoming | Starting topic group |
| Falls among the elderly (TG-Falls) | Ongoing work |  |
| Histopathology (TG-Histo) | Ongoing work |  |
| Malaria detection (TG-Malaria) | Ongoing work | Needs update for subtopic Malaria surveillance |
| Maternal and child health (TG-MCH) | Ongoing work |  |
| Neurological disorders (TG-Neuro) | Ongoing work | Needs update for subtopic Parkinson's Disease |
| Ophthalmology (TG-Ophthalmo) | Ongoing work |  |
| Outbreak detection (TG-Outbreaks) | Ongoing work | Needs update for subtopic Dengue Surveillance |
| Psychiatry (TG-Psy) | Ongoing work |  |
| AI for Radiology (TG-Radiology) | Ongoing work | Starting topic group |
| Snakebite and snake identification (TG-Snake) | Ongoing work |  |
| Symptom assessment (TG-Symptom) | Ongoing work |  |
| Tuberculosis (TG-TB) | Ongoing work |  |
| Volumetric chest computed tomography (TG-DiagnosticCT) | Ongoing work |  |
| Dental diagnostics and digital dentistry (TG-Dental) | Ongoing work |  |
| AI-based detection of falsified medicine (TG-FakeMed) | Forthcoming | Starting topic group |
| Primary and secondary Diabetes prediction (TG-Diabetes) | Forthcoming | Starting Topic Group |

# Resources and latest document versions of all topic groups

This section contains links to the latest versions of the topic description documents, the respective topic driver, and links to the collaboration sites and to the “Calls for Topic Group Participation” (CfP).

## Cardiovascular disease risk prediction (TG-Cardio)

*Topic description document* (latest version and expected forthcoming version):

* Jan. 2020: <https://extranet.itu.int/sites/itu-t/focusgroups/ai4h/docs/FGAI4H-H-006-A01.docx>
* May 2020: <https://extranet.itu.int/sites/itu-t/focusgroups/ai4h/docs/FGAI4H-I-006-A01.docx>

*CfP:* <https://www.itu.int/en/ITU-T/focusgroups/ai4h/Documents/tg/CfP-TG-Cardio.pdf>

*Topic driver:* Benjamin Muthambi (Watif Health, South Africa, brm5@caa.columbia.edu)

*Collaboration site:* <https://extranet.itu.int/sites/itu-t/focusgroups/ai4h/tg/SitePages/TG-Cardio.aspx>

## Dermatology (TG-Derma)

*Topic description document* (latest version and expected forthcoming version):

* Nov. 2019: <https://extranet.itu.int/sites/itu-t/focusgroups/ai4h/docs/FGAI4H-G-008.docx>
* Jan. 2020: No update Brazil
* May 2020: \*\*\*

*CfP:* <https://www.itu.int/en/ITU-T/focusgroups/ai4h/Documents/tg/CfP-TG-Derma.pdf>

*Topic driver:* Maria Vasconcelos (Fraunhofer Portugal, Portugal, maria.vasconcelos@fraunhofer.pt)

*Collaboration site:* <https://extranet.itu.int/sites/itu-t/focusgroups/ai4h/tg/SitePages/TG-Derma.aspx>

## Falls among the elderly (TG-Falls)

*Topic description document* (latest version and expected forthcoming version):

* Nov. 2019: <https://extranet.itu.int/sites/itu-t/focusgroups/ai4h/docs/FGAI4H-G-010.docx>
* Jan. 2020: <https://extranet.itu.int/sites/itu-t/focusgroups/ai4h/docs/FGAI4H-H-012-A01.docx>
* May 2020: \*\*\*

*CfP:* <https://www.itu.int/en/ITU-T/focusgroups/ai4h/Documents/tg/CfP-TG-Falls.pdf>

*Topic driver:* Inês Sousa (Fraunhofer Portugal, Portugal, ines.sousa@fraunhofer.pt)

*Collaboration site:* <https://extranet.itu.int/sites/itu-t/focusgroups/ai4h/tg/SitePages/TG-Falls.aspx>

## Histopathology (TG-Histo)

*Topic description document* (latest version and expected forthcoming version):

* Nov. 2019: <https://extranet.itu.int/sites/itu-t/focusgroups/ai4h/docs/FGAI4H-G-011.docx>
* Jan. 2020: No update Brazil
* May 2020: \*\*\*

*CfP:* <https://www.itu.int/en/ITU-T/focusgroups/ai4h/Documents/tg/CfP-TG-Histo.pdf>

*Topic driver:* Frederick Klauschen (Charité Berlin, Germany, frederick.klauschen@charite.de)

*Collaboration site:* <https://extranet.itu.int/sites/itu-t/focusgroups/ai4h/tg/SitePages/TG-Histo.aspx>

## Neurological disorders (TG-Neuro)

*Topic description document* (latest version and expected forthcoming version):

* Nov. 2019: <https://extranet.itu.int/sites/itu-t/focusgroups/ai4h/docs/FGAI4H-G-007.docx>
* Jan. 2020: No update Brazil
* May 2020: \*\*\*

*CfP:* <https://www.itu.int/en/ITU-T/focusgroups/ai4h/Documents/tg/CfP-TG-Neuro.pdf>

*Topic driver:* Marc Lecoultre (ML Labs, Switzerland, ml@mllab.ai)

*Collaboration site:* <https://extranet.itu.int/sites/itu-t/focusgroups/ai4h/tg/SitePages/TG-Neuro.aspx>

## Outbreak detection (TG-Outbreaks)

*Topic description document* (latest version and expected forthcoming version):

* Nov. 2019: <https://extranet.itu.int/sites/itu-t/focusgroups/ai4h/docs/FGAI4H-G-013.docx>
* Jan. 2020: <https://extranet.itu.int/sites/itu-t/focusgroups/ai4h/docs/FGAI4H-H-018-A01.docx>
* May 2020:

*CfP:* <https://www.itu.int/en/ITU-T/focusgroups/ai4h/Documents/tg/CfP-TG-Outbreaks.pdf>

*Topic driver:* Stéphane Ghozzi (Robert Koch Institute, Germany, ghozzis@rki.de)

*Collab. site:* <https://extranet.itu.int/sites/itu-t/focusgroups/ai4h/tg/SitePages/TG-Outbreaks.aspx>

## Ophthalmology (TG-Ophthalmo)

*Topic description document* (latest version and expected forthcoming version):

* Nov. 2019: <https://extranet.itu.int/sites/itu-t/focusgroups/ai4h/docs/FGAI4H-G-012.docx>
* Jan. 2020: <https://extranet.itu.int/sites/itu-t/focusgroups/ai4h/docs/FGAI4H-H-018-A01.docx>
* May 2020: \*\*\*

*CfP:* <https://www.itu.int/en/ITU-T/focusgroups/ai4h/Documents/tg/CfP-TG-Ophthalmo.pdf>

*Topic driver:* Arun Shroff (MedIndia, India/USA, arunshroff@gmail.com)

*Collab. site:* <https://extranet.itu.int/sites/itu-t/focusgroups/ai4h/tg/SitePages/TG-Ophthalmo.aspx>

## Psychiatry (TG-Psy)

*Topic description document* (latest version and expected forthcoming version):

* Nov. 2019: <https://extranet.itu.int/sites/itu-t/focusgroups/ai4h/docs/FGAI4H-G-014.docx>
* Jan. 2020: <https://extranet.itu.int/sites/itu-t/focusgroups/ai4h/docs/FGAI4H-H-019-A01.docx>
* May 2020: \*\*\*

*CfP:* <https://www.itu.int/en/ITU-T/focusgroups/ai4h/Documents/tg/CfP-TG-Psy.pdf>

*Topic driver:* Nicolas Langer (ETH Zurich, Switzerland, n.langer@psychologie.uzh.ch)

*Collaboration site:* <https://extranet.itu.int/sites/itu-t/focusgroups/ai4h/tg/SitePages/TG-Psy.aspx>

## Snakebite and snake identification (TG-Snake)

*Topic description document* (latest version and expected forthcoming version):

* Nov. 2019: <https://extranet.itu.int/sites/itu-t/focusgroups/ai4h/docs/FGAI4H-G-016.docx>
* Jan. 2020: No update Brazil
* May 2020: \*\*\*

*CfP:* <https://www.itu.int/en/ITU-T/focusgroups/ai4h/Documents/tg/CfP-TG-Snake.pdf>

*Topic driver:* Rafael Ruiz de Castaneda (Université de Genève, Switzerland, Rafael.RuizDeCastaneda@unige.ch)

*Collaboration site:* <https://extranet.itu.int/sites/itu-t/focusgroups/ai4h/tg/SitePages/TG-Snake.aspx>

## Symptom assessment (TG-Symptom)

*Topic description document* (latest version and expected forthcoming version):

* Nov. 2019: <https://extranet.itu.int/sites/itu-t/focusgroups/ai4h/docs/FGAI4H-G-017.docx>
* Jan. 2020: <https://extranet.itu.int/sites/itu-t/focusgroups/ai4h/docs/FGAI4H-H-021-A01.docx>
* May 2020: \*\*\*

*CfP:* <https://www.itu.int/en/ITU-T/focusgroups/ai4h/Documents/tg/CfP-TG-Symptom.pdf>

*Topic driver:* Henry Hoffmann (Ada Health, Germany, henry.hoffmann@ada.com) ​

*Collab. site:* <https://extranet.itu.int/sites/itu-t/focusgroups/ai4h/tg/SitePages/TG-Symptom.aspx>

## Tuberculosis (TG-TB)

*Topic description document* (latest version and expected forthcoming version):

* Nov. 2019: <https://extranet.itu.int/sites/itu-t/focusgroups/ai4h/docs/FGAI4H-G-018.docx>
* Jan. 2020: No update Brazil
* May 2020: \*\*\*

*CfP:* <https://www.itu.int/en/ITU-T/focusgroups/ai4h/Documents/tg/CfP-TG-TB.pdf>

*Topic driver:* Manjula Singh (ICMR, India, singhmanjula.hq@icmr.gov.in)

*Collaboration site:* <https://extranet.itu.int/sites/itu-t/focusgroups/ai4h/tg/SitePages/TG-TB.aspx>

## Volumetric chest computed tomography (TG-DiagnosticCT)

*Topic description document* (latest version and expected forthcoming version):

* Nov. 2019: <https://extranet.itu.int/sites/itu-t/focusgroups/ai4h/docs/FGAI4H-G-009.docx>
* Jan. 2020: <https://extranet.itu.int/sites/itu-t/focusgroups/ai4h/docs/FGAI4H-H-009-A01.docx>
* May 2020: \*\*\*

*CfP:* <https://www.itu.int/en/ITU-T/focusgroups/ai4h/Documents/tg/CfP-TG-DiagnosticCT.pdf>

*Topic driver:* Kuan Chen (Infervision, China, ckuan@infervision.com)

*Collab. site:* <https://extranet.itu.int/sites/itu-t/focusgroups/ai4h/tg/SitePages/TG-DiagnosticCT.aspx>

## Diagnosis of bacterial infection and anti-microbial resistance (AMR) (TG-Bacteria)

*Topic description document* (latest version and expected forthcoming version):

* Jan. 2020: Awaiting TDD
* May 2020: \*\*\*

*Call for participation: Awaiting CfTGP*

*Topic driver:* Nada Malou (MSF, France, nada.malou@paris.msf.org)

*Collaboration site:* \*\*\*

## Dental diagnostics and digital dentistry (TG-Dental)

*Topic description document* (latest version and expected forthcoming version):

* Jan. 2020: <https://extranet.itu.int/sites/itu-t/focusgroups/ai4h/docs/FGAI4H-H-010-A01.docx>
* May 2020: \*\*\*

*CfP:* <https://www.itu.int/en/ITU-T/focusgroups/ai4h/Documents/tg/CfP-TG-Dental.pdf>

*Topic drivers:*

* Falk Schwendicke (Charité Berlin, Germany, falk.schwendicke@charite.de)
* Joachim Krois (Charité Berlin, Germany, joachim.krois@charite.de)

*Collaboration site:* <https://extranet.itu.int/sites/itu-t/focusgroups/ai4h/tg/SitePages/TG-Dental.aspx>

## AI-based detection of falsified medicine (TG-FakeMed)

*Topic description document* (latest version and expected forthcoming version):

* Jan. 2020: Awaiting TDD
* May 2020: \*\*\*

*CfP:* <https://www.itu.int/en/ITU-T/focusgroups/ai4h/Documents/tg/CFP-TG-FakeMed.pdf>

*Topic driver:* Franck Verzefé (TrueSpec-Africa, DRC, fverzefe@gmail.com)

*Collab. site:* <https://extranet.itu.int/sites/itu-t/focusgroups/ai4h/tg/SitePages/TG-FakeMed.aspx>

## Malaria detection (TG-Malaria)

*Topic description document* (latest version and expected forthcoming version):

* Nov. 2019: <https://extranet.itu.int/sites/itu-t/focusgroups/ai4h/docs/FGAI4H-G-019.docx>
* Jan. 2020: <https://extranet.itu.int/sites/itu-t/focusgroups/ai4h/docs/FGAI4H-H-014-A01.docx>
* May 2020: \*\*\*

*CfP:* <https://www.itu.int/en/ITU-T/focusgroups/ai4h/Documents/tg/CfP-TG-Malaria.pdf>

*Topic driver:* Rose Nakasi (Makerere University, Uganda, g.nakasi.rose@gmail.com)

*Collaboration site:* <https://extranet.itu.int/sites/itu-t/focusgroups/ai4h/tg/SitePages/TG-Malaria.aspx>

## Maternal and child health (TG-MCH)

*Topic description document* (latest version and expected forthcoming version):

* Nov. 2019: <https://extranet.itu.int/sites/itu-t/focusgroups/ai4h/docs/FGAI4H-G-043.docx>
* Jan. 2020: <https://extranet.itu.int/sites/itu-t/focusgroups/ai4h/docs/FGAI4H-H-014-A01.docx>
* May 2020: \*\*\*

*CfP:* <https://www.itu.int/en/ITU-T/focusgroups/ai4h/Documents/tg/CfP-TG-MCH.pdf>

*Topic drivers:*

* Raghu Dharmaraju (Wadhwani AI, India, rdharmaraju@gmail.com)
* Alexandre Chiavegatto Filho (University of Sao Paulo, Brazil, alexdiasporto@usp.br)

*Collaboration site:* <https://extranet.itu.int/sites/itu-t/focusgroups/ai4h/tg/SitePages/TG-MCH.aspx>

## Radiology (TG-Radiology)

*Topic description document*: *Will be uploaded soon*

* Jan. 2020: Awaiting TDD (starting TG)
* May 2020: \*\*\*

*CfP:* <https://www.itu.int/en/ITU-T/focusgroups/ai4h/Documents/tg/CfP-TG-Radiology.pdf>

*Topic driver:* Darlington Ahiale Akogo (minoHealth AI Labs, Ghana, darlington@gudra-studio.com)

*Collab. site:* <https://extranet.itu.int/sites/itu-t/focusgroups/ai4h/tg/SitePages/TG-Radiology.aspx>

## Primary and secondary Diabetes risk prediction (TG-Diabetes)

*Topic description document* (latest version and expected forthcoming version):

* Jan. 2020: Awaiting TDD (starting TG)
* May 2020: \*\*\*

*CfP:* *Awaiting CfTGP(starting TG)*

*Topic driver:* Andrés Valdivieso (Anastasia.ai, Chile)

*Collab. site:* <https://extranet.itu.int/sites/itu-t/focusgroups/ai4h/tg/SitePages/TG-Diabetes.aspx>

Bibliography

[Example of a literature reference in APA style with additional DOI link:]

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