

Patient journey challenge Innovation award 2022



2022 innovation award competition

- The object of the competition is to solve the challenges of the selected patient pathways. 2 selected “pain points” in the patient's path to seek a solution that corrects / improves the situation and improve holistic patient care.



Target of the competition in 2022 / Breast cancer

Description of the pain points in breast cancer care paths (surgery):

1. When a referral has been made in outpatient care with a statement that a patient has an abnormal change in the breast, the patient typically starts to expect for information from the surgery clinic on the next procedures that will follow. At this point, waiting even just a few days can feel challenging to the patient. Therefore, the patients often call the nurse at the surgery clinic already the day they hear of the referral. At that point, the nurse cannot yet say what will follow, as the surgeon has not yet processed the referral. Typically most patients receive information on the next steps in a few days. Some patients however have additional samples or experiments taken and need to wait to meet the doctor even for 2-3 weeks. Some receive an appointment to the doctor in less than a week from receiving the referral.

2. After surgery, we do not take patients for control visits to the surgery clinic. Instead, they go to the oncology clinic. PAD results are obtained in two weeks and a treatment recommendation is ready in less than 3 weeks from surgery. It may however occur that the oncology clinic can receive the patient only after six weeks. There is not enough resources at the surgery clinic to call each patient or ask them to come for visit to hear the treatment recommendations. Furthermore, the oncology clinic cannot receive the patients faster. On the other hand, reception at the oncology clinic can be further delayed if results on the status of spreading or other additional studies are not obtained. Reception of the patient by the doctor is meaningful only when the treatment can be planned definitively.

In both pain points, we are looking for a solution that would reduce the unnecessary burden caused by the patients to the clinic, and also would make the patient feel less insecure or anxious in the process.

For additional information, contact surgeon Ulla Karhunen-Enckell, Tampere University Hospital (ulla.karhunen-enckell@pshp.fi).



Target of the competition in 2022 / Pathology diagnostics

- In scientific publications, there are hundreds of promising algorithms that could be applied to analyze digitized histological tissue samples, but obtaining them into use at the clinic is slow and cumbersome. Broad use of artificial intelligence algorithms in clinical pathology diagnostics could help to reduce delays in diagnostics and to enhance the repeatability of test results, to ease the lack of pathologists, and also to increase the precision of diagnostics to a level not achievable by human eye only. Below are a few examples of potential algorithms that could be applied to digitised pathology samples (development target in parenthesis).
- Quality control AI (automatic re-scanning, avoiding mixing of samples)
- Prioritising histological samples (leverage of cancers to status “urgent “ in analysis list)
- Percentage of tumor cells (better precision of genetic analyses)
- Screening of lymph node metastases (efficiency, sensitivity)
- Screening of helicobacteria (efficiency, sensitivity)
- Analysis of immunohistochemical staining (precision e.g. hormone receptors, PD-L1, Ki-67)
- Count of mitosis (efficiency, sensitivity)
- Formation of tubules, grading (different cancer types, repeatability)
- Gleason grading (prostate cancer, repeatability)
- Classification of brain cancers (prognosis)
- Tumor Infiltrating Leukocytes, TIL’s quantification (repeatability)
- Skin pathology AI (repeatability)
- Morphologic suggestion of diagnosis from HE glasses (decision support)

For further information, contact:

Teemu Tolonen, Chief Physician, Fimlab laboratories, pathology

Anna Välimäki, Resident of pathology, Fimlab laboratories, pathology

Teppo Haapaniemi, Hospital cell biologist (specialising), Fimlab laboratories, pathology

Pekka Ruusuvuori, Docent, Tampere University

Mika Tirkkonen, Chief of Pathology, Fimlab laboratories, pathology

In this pain point, we are looking for a solution or a process that would ease and enable bringing such algorithms into use in clinical pathology diagnostics.



Innovation award

- Max 2 A4 free form summary of the (if it includes confidential information that must be mentioned separately)
- Ownership / IPR rights> Roche has no rights and TAYS & TU rights according to current internal guidelines (employment invention or project agreements)
- Applications must be sent by 30 September 2022 to TKI / Pirjo Pääkkönen (pirjo.paakkonen@pshp.fi)
- Evaluation group / steering group (Roche: Anssi Linnankivi, Janne Heikkilä, Lassi Liljeroos, Riitta Lehto and Sami Väisänen. TAYS: Matti Eskola chairman, Tarja Laitinen, Maarit Bärlund, Marja Iso-Mustajärvi, Mika Tirkkonen ja Pirjo Pääkkönen secretary ,TU:Kaisa Aho, Seppo Parkkila, Tapio Visakorpi and Matti Nykter) will meet in October 2022 to decide the winners.
- 1 winner / patient path pain point will be selected and both selected will win € 5000. The winners will be announced in November 2022.
- The possible implementation of the pain point solutions will be negotiated separately between the parties.
- More information about the competition: Roche; anssi.linnankivi@roche.com / 050-3830832 ja janne.heikkila@roche.com / 040-7709848/ riitta.lehto@roche.com 0400-915902 tai TAYS; matti.eskola@pshp.fi. For more information on pain points, contact the person mentioned in the pain point description.

