



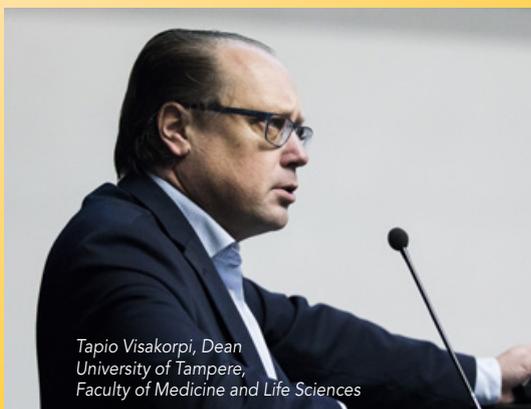
Tays Cancer Centre

ANNUAL REPORT
2017





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Tays Cancer Centre intensifies the collaboration between research and treatment for the good of the patient

Tampere is proud of its strong traditions and expertise in combining cancer research, treatment and education of professionals in a goal-oriented manner. Tays Cancer Centre brings research and treatment even tighter together, with improved opportunities for integration of university level research and patient treatment. With this approach, improved treatment results are expected to arise. Tays Cancer Centre works in close collaboration with National Cancer Center Finland, FICAN, network, international cancer institutes (OECI) and scientific communities.

Cancer treatment results are developing constantly. New data lead to more individualised treatments and bring more diversity to the treatment team, meaning that better targeted therapies are backed up by the expertise and collaboration of many different specialty fields and professional groups. Tays Cancer Centre strives to make the latest research data and

newest medications available to patients at an early stage, when necessary.

The work of Tays Cancer Centre generates new information about the nature of cancer, the mechanisms of cancer development, screening, effective treatments, rehabilitation, and support needed by the patients. Making treatment methods more consistent helps ensure that patients with cancer will always receive comprehensive high-quality treatment supported by research evidence.

The University of Tampere and the Tampere University of Technology will join forces to form the new Tampere University, which starts its work beginning 2019. The new university can broaden the fields of research of Tays Cancer Centre to the development of medical devices and the exploitation of artificial intelligence, for example. Health technology will be one of the spearhead areas of the new university.

17.3.2009 – Initiative of a national cancer center is made public

14.12.2010 – A report by an expert Working Group favors establishing of a national cancer center, formed by 5 regional cancer centers

January 2013 – “TAMCAN” project groups starts its work towards a regional cancer center in Tampere university hospital region

1.8.2015 – A phase I-II clinical trial unit for oncological trials opens in Tampere university hospital

1.4.2016 – A national Working Group for establishing the national cancer center network starts its work

17.6.2016 – Tampere university hospital is accepted as a member in OECI, Organisation of European Cancer Institutes

September 2016 – OECI Accreditation and designation – project is started

January 2017 – Early phase clinical trial group for children (PeeTU) opens as the only one in Finland

What is FICAN Mid?

FICAN Mid is one of the 5 regional cancer centers being established in Finland in 2018. They are formed by the five University hospital districts and universities, and together these five regional centers, FICAN Mid (Tampere), FICAN South (Helsinki), FICAN West (Turku), FICAN North (Oulu) and FICAN East (Kuopio) form the National Cancer Center Finland, FICAN network.

Almost a decade of preparation

The first initiative for the national cancer center was presented in 2009. It was anticipated that equal access to cancer care and the increasing costs of cancer care, due to the aging population and new and more expensive treatments, are better controlled via national regulation and networking. Also, national collaboration was deemed important for facilitating integration of research into cancer care. In Tampere region, a committee including members from the University of Tampere and Tampere University Hospital

started its preparatory work towards forming the regional cancer center in the beginning of 2013. The preparations increased in pace in 2016, after the renewed commitment by the state to fund the initiative also nationally.

FICAN Mid has a strong tradition of cancer research and regional collaboration

Professor **Kellokumpu-Lehtinen**, who was active in the project already since the beginning in 2009, identifies the strong cancer research activity and decades-long tradition of regional clinical collaboration as the most important assets of our regional cancer center. In particular research in cancer epidemiology, HPV vaccination research and translational research in prostate cancer are internationally acknowledged. Other strengths include the strong activity in clinical cancer trials (for example, Tampere University Hospital is a member of the NordicNect, the Nordic

network for phase I-II trials) and good collaboration with the local Cancer Society.

Focus on cancer: Tampere University Hospital Cancer Centre (Tays Cancer Centre)

Tampere University Hospital, together with the University of Tampere, is the core of the regional cancer center FICAN Mid. During the preparatory work for the FICAN Mid, the processes of cancer care and cancer research in these two large organizations have been under scrutiny and improvement. This has led to the formation of Tays Cancer Centre, which binds together all cancer activity, both clinical and research, on campus. This entity is now preparing itself for international quality auditing by OECI (Organisation of European Cancer Institutes), tells the department head of Gynecologic Oncology, adjunct professor **Annika Auranen**, project leader for the accreditation process.



Professor **Kellokumpu-Lehtinen** was active in the project already since the beginning in 2009.



April 2017 – A pre-agreement of the establishment of the regional cancer center, FICAN Mid, is signed

26.4.2017 – Adjunct Professor Olli Lohi receives the University of Tampere's Annual Research Award, as a recognition of his work on childhood leukaemia

16.8.2017 – Cancer Centre pilot projects (5), funded by the Ministry of Welfare and Health, are started

24.8.2017 – A government decree about centralization in specialist health care (582/2017), including a demand to establish regional cancer centers (4 § subsection 7) is given

20.9.2017 – OECI auditors previsit

27.11.2017 – The Working Group for regional cancer centers meets for the first time

29.11.2017 – The first national digital monitoring for cancer patients networking day is arranged in Tampere

A multidisciplinary approach enables research progress on several fronts

Our mission is to eliminate adverse effects of prostate cancer

Prostate cancer has become the number one male cancer in two decades in Finland and Europe. Despite improvements in prognosis, it still causes substantial numbers of deaths. In Tampere, prostate cancer has been a key focus area for years, and the findings have earned Tampere a leading position in the field.



Demonstrating that prostate cancer becomes castration resistant by developing multiple copies of the androgen receptor is one of the breakthroughs Tampere Prostate Cancer Research Centre has produced. Ground-breaking research has also been conducted on evaluating the outcomes of prostate cancer screening, identifying novel molecular targets for treatment and distinguishing aggressive tumours from less malignant cases.

A key strength of the Prostate Cancer Research Centre is a multidisciplinary approach involving top-level expertise on several fronts from cancer biology to clinical urology.

Screening affects both mortality and quality of life

Professor **Anssi Auvinen**, director of the Prostate Cancer Research Centre explains that the potential benefit of cancer screening is a reduction in cancer deaths. In the European collaborative screening trial prostate cancer mortality was lowered by a fifth.

– Our results demonstrate that PSA screening is as effective in reducing cancer deaths as mammography screening, but the downside is a substantial increase in diagnosis of clinically insignificant cases.

Currently the major challenge is develop screening methods that would detect only cancers that will progress and will require

treatment from those that would remain latent. This would decrease the frequency of positive screening results and limit diagnostic assessment to a small subgroup of men at increased risk of aggressive cancer. Decreasing the numbers of cases that do not require immediate treatment would improve the quality of life outcomes.

Development and evaluation of novel screening methods is a long-term endeavour. Currently, a new screening trial about to be launched with a three-tiered approach and its merits and shortcomings will be elucidated over the next decade.

Optimised treatment for each patient

The goal of the research carried out at Prostate Cancer Research Centre is to advance treatment of prostate cancer to allow tailoring prostate cancer management so that the disease can be cured while the adverse effects are minimised. Provide specific therapeutic interventions for the patients who have the best to benefit from it.

– Development of novel therapeutic approaches requires a chain of progress from discovery through innovation to evaluation, with research efforts focused on mechanisms of cancer development, methods of detection and assessing effectiveness of disease control in the clinic and at the population level, explains Auvinen.

Breast cancer mortality rates have been falling since the early 2000s. Even so, it is worth noting that half of the patients who die of breast cancer are women of working age. Working towards beating cancer is still crucially important both for society and for the individual patient.

Breast cancer prevalence is increasing but mortality is decreasing in Finland

Research and treatment improvements are helping an increasing number of patients

Tampere has a long tradition of breast cancer research, which is apparent especially in the good treatment outcomes of patients with HER-2 positive breast cancer.

– Overall, I think we have achieved great success in the centralisation and development of the surgical treatment of breast cancer, the development of pre-surgical neoadjuvant therapies, and the minimisation of delays in the treatment chain, states Docent **Minna Tanner**, the physician in charge of breast cancer treatment.

– Patient enrolment into breast cancer treatment studies trials is also high on an international level.

The multi-disciplinary treatment chain

More than 500 new patients with breast cancer receive treatment in Tampere each year.

A multi-disciplinary treatment chain tuned up to maximum efficacy is able to predict which examinations and treatment interventions the patient is going to need, and transfers from one specialty field to another do not lead to delays in the patient's treatment.

– Delays in the initiation of pharmaceutical treatments have been found to worsen the prognosis of the more aggressive types of breast cancer, explains Tanner.

As regards surgery, selecting the right intervention at the right time can spare the patient from additional operations and prevent delays in further care.

Treatments can also do harm

Population-based treatment research is being conducted in Finland, and Tampere is actively involved in it.

– Investigator-driven studies should not be overlooked either, because they allow the investigation of study designs that the pharmaceutical industry is mainly not interested in.

Individualised cancer treatments are becoming more effective, but also more expensive. Not all patients benefit from all treatments, and many treatments also have significance from the viewpoint of later adverse effects.

– Breast cancer is such a common disease that a huge number of women living among us have had it, or are still suffering from it. The quality you can expect from the rest of your life is extremely important, Minna Tanner points out.

– We need to carry out more treatment studies on both post-surgical adjuvant therapies and the treatments used in metastatic breast cancer, Tanner visualises the future.

The journey from screening to follow-up takes years

The survival benefits of screening are undeniable. A study carried out in Tampere demonstrated that even some biologically aggressive subtypes of breast cancer can be detected early with proper screening.

At Tampere University Hospital, the care pathway of patients with breast cancer is constantly being developed and improved from diagnosis to treatment follow-up. The minimum duration of treatment and follow-up is five years.

The development of PRO tools is a new approach that will help simplify the care pathway and ensure that the patients get the treatment they need. PRO is short for Patient Reported Outcome. With these tools, patients can spontaneously provide information about any concerns and symptoms they may have, which allows for a quick response when needed.



The patient forum established for patients with cancer and their loved ones has now been active in Tampere for almost a year. The forum meets regularly to look for solutions to improve the services and treatments available to patients.



The patient is the expert on his/her treatment

The patient forum was established as a joint effort of Tampere University Hospital Cancer Centre and the Pirkanmaa Cancer Society for the purpose of ensuring that the voice of patients and their loved ones is heard in the treatment process. The group looks for and presents solutions to how the services available to cancer patients could be developed and improved. The forum meets to discuss, for example, the need to provide cancer patients with psychosocial support and rehabilitation, and the possible ways of giving more consideration to the patients' loved ones and their coping. During its first year of operation, the patient forum has worked actively to get a full-time crisis nurse to Tampere University Hospital, for example.

The group meets 4 to 6 times per year and comprises of patients of different ages and with different types of cancer, their loved ones, and representatives of the hospital staff. The patient members represent six different patient associations, which also helps ensure that the thoughts and opinions of a larger patient population can be expressed via the forum. The activities of the forum are planned and spearheaded by Anne Kairenius, an expert from Tampere University Hospital's

Cancer Centre, and **Anne Lindfors**, Executive Manager of the Pirkanmaa Cancer Society.

The patient forum also plays an important part in ensuring the uninterrupted flow of information. When one treatment ends and another begins, the Cancer Centre and cancer associations have various types of support to offer, but information about these services does not always reach everyone. The patient forum ensures that patients find their way to the sources of information during their treatment and is also actively involved in the development of support services.

The patient forum is a concrete example of the active collaboration between Tampere University Hospital's Cancer Centre and the Pirkanmaa Cancer Society. Tampere University Hospital recognises the value of the work carried out by patient forums, and they have become an important part of the efforts to develop the hospital's operations. The first patient forum at Tampere University Hospital was established for patients with internal diseases, respiratory diseases, skin diseases and allergies in 2013. A third patient forum will be established in 2018 for the specialty fields of acute care and emergency medicine, anaesthesia, pain management and intensive care.



The digital clinic is available for questions and concerns precisely when the patient has them

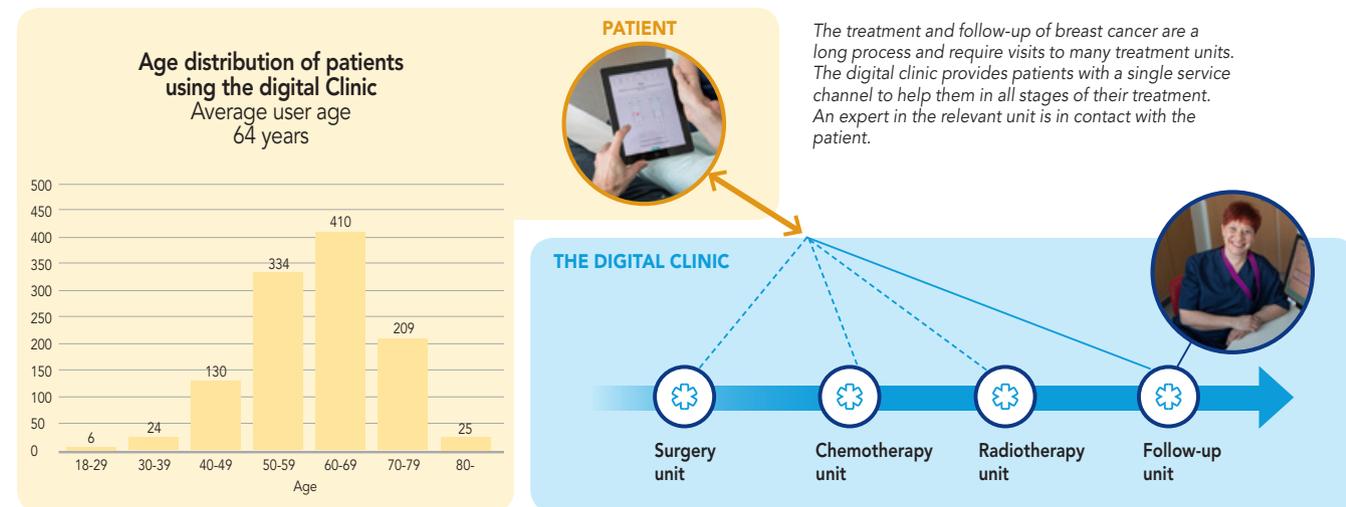
The digital clinic for cancer patients provides flexible and patient-friendly service

The digital clinic was initially launched in Tays with the Noona mobile application to support the follow-up of breast cancer patients. The experiences have been so positive that the clinic's activities have been gradually expanded to cover the treatment of other types of cancer as well. The digital application allows patients to get in touch with a nurse whenever they have questions or concerns. The application is also a useful tool for symptom monitoring.

Digital services have become the norm in many areas of our lives. The patient can now use a smartphone to access a round-the-clock digital clinic dedicated to cancer treatment and ask about anything, at any time. The application also systematically collects data about treatment-induced symptoms.

The mobile application identifies the need for urgent action

If the data reported by the patient reveal any concerns or symptoms that can be interpreted as needing urgent attention, the mobile applica-



tion instructs the patient to go to the emergency clinic at once. Otherwise, a nurse will contact the patient during office hours. The nurse's job is made simpler and easier as the digital application will already have collected the essential data from the patient, thereby allowing the nurse to focus on solving the actual problem. Patients receive better help and service.

After the application was launched, the

digital clinic was found to improve the accessibility of the treatment unit. The patients were willing to use the digital method of communication, which translated into a decrease in the total number of phone calls to nurses.

Symptom monitoring improves treatment

In a recently published study, the addition of

digital symptom monitoring to the standard anticancer therapy was shown to improve the patients' quality of life, reduce the number of visits to the emergency clinic and improve survival. Based on this, plans to extend the symptom monitoring used by the digital clinic to all malignant diseases and antineoplastic treatments have been put in motion.

Best possible life with incurable cancer

Timely offered palliative care maintains quality of life and relieves symptoms

One of the Cancer Center's central tasks is to take care of the patients whose cancer can not be cured. Integrated palliative care concomitantly with cancer treatment and transition to palliative care, when oncologic therapies are no longer beneficial, are important principles. Palliative care has shown to improve the quality of life of the patients and it may even slightly prolong survival. It includes relieving of all the physical symptoms and offers psychosocial care for the whole family. Palliative care may last for months or even years, while end-of-life care concentrates on the last days or weeks of life.

Palliative care pathway

The Palliative Care Unit organizes and further develops palliative care in the whole area of the Tampere University Hospital. Together with local communities and Pirkanmaa hospice, Palliative Care Unit has led end-of-life care pathway since 2014. It offers a continuum

of family-centered care all the way from the University Hospital to local services with uninterrupted consultation possibilities to Palliative Care Unit. At the same time, palliative care needs of the patients are increasingly recognized and goals of care have been better defined.

Palliative care consultation team

In 2017, Palliative Care Unit strengthened its consultation facilities by forming up a consultation team. The team consist of palliative care physician and a specially trained nurse. Palliative care consultations are now offered to all the departments of the Tampere University Hospital together with the local end-of-life care units. Consultations have been frequently asked from the beginning and the team have been found highly beneficial by the users. Palliative care is now better available also to non-malignant diseases and outside the oncological wards, although cancer patients



– Are there more important tasks than relieving the suffering and maintaining the quality of life of our patients and their closest ones?, **Juho Lehto**, Chief Physician of the Palliative Care Unit.

Palliative Care Unit supports advance care planning and develops high-quality palliative care

- Palliative care outpatient clinic
- Palliative care consultation team
- Teaching in palliative care
- Collaboration with home care and end-of-life care units

are still the major group of patients needing palliative care services.

Research and education

Research activities in the Palliative Care Unit concentrate on the central issues of palliative care: Decision-making in end-of-life care, coping of a patient with incurable cancer, and therapeutic procedures in palliative care.

University of Tampere is a pioneer in the education of palliative medicine in Finland. Palliative Care Unit participates actively to the undergraduate teaching in palliative medicine and offers training for special competency in palliative medicine. In addition, basic education in palliative care is provided to junior doctors during their oncology training and to nursing students.

Treatment of childhood cancers is at a high international level in Tampere University Hospital

Leukemia research focuses on cases with high risk of relapse

There is a close cooperation between the clinical care, basic and translational research and education in pediatric hematology and oncology department in Tampere University Hospital.

The Cancer Centre is participating in the development of new treatment protocols for various childhood cancers and investigating novel therapeutic strategies. International collaboration is essential due to rarity of many cancers in children.

Novel targeted therapy for T-cell acute leukemia

Acute leukemia is the most common cancer in children and adolescents. Treatment results have significantly improved so that approximately 90% of the diseased children can be cured. However, there are certain subtypes of acute leukemia that still lack effective therapies.

The focus of leukemia research in the Cancer Centre is on solving the pathogenesis of leukemia and finding novel thera-

pies especially for the most difficult-to-treat cases. In 2017, a team led by **Olli Lohi**, a chief doctor of pediatric hematology and oncology division, discovered a potential novel targeted therapy for T-cell acute leukemia, which appears to be effective in about one-third of the cases. This drug is now being tested further in animal models.

Other research questions are simultaneously investigated. For example, genetic lesions and their functional implications are carefully mapped in various leukemia subtypes with the hope of finding more precise therapies in future.

– Genetic lesions are typically different among patients. The heterogeneity of cancer makes it more challenging to treat, says Olli Lohi.

A new Children's Hospital opening

A new Children's Hospital with modern facilities is being built and will be opened in 2019. This will further enhance the opportunity to provide high-level treatment, research and education in a comfortable and safe environment.



The pediatric early phase clinical trials unit (PeeTU) opened in Tampere in 2017

- runs early phase clinical trials (phase 1&2)
- either company- or investigator-sponsored international trials
- provides opportunity of novel therapies for pediatric patients
- currently the only early phase pediatric trials center in Finland

Safe and effective cancer drug research

The goal of the unit, which operates under the auspices of the Science Centre of the Pirkanmaa Hospital District, is to improve the opportunities to conduct research on new cancer drugs at Tampere University Hospital and to introduce the new medications into the treatment of patients as early as

possible. The emphasis of research is on early phase, i.e. phase I and phase II studies, which primarily investigate drug safety. Early phase studies typically involve only a small number of patients but place special requirements on the staff and equipment.

The unit conducts drug studies spon-

sored by pharmaceutical manufacturers, but also investigator-driven studies that investigate cancer drugs in several fields across the hospital's administrative and department borders. The Paediatric Early Phase Trials Unit, PeeTu, was established in 2016. This special expertise unit operates independently – but under the umbrella of FONK – in the Paediatric Unit.

In 2017, the unit reserved 2 to 4 patient beds on Ward RS1 for research purposes. On the ward, the unit has access to a comprehensive selection of medical equipment for carrying out research. It also has two nurses working the day shift when needed, which enables the close monitoring of patients and the collection of pharmacokinetic samples. At the moment, Fimlab is responsible for the processing and storage of laboratory samples. In 2017, a total of 4 to 5 study nurses worked at FONK.

Adjunct Professor Minna Tanner is the part-time project manager in charge of the Cancer Clinical Trial Unit. The project funding allocated by the Administration Centre made it possible to hire some staff, but about two thirds of the unit's funding comes from studies

sponsored by pharmaceutical manufacturers.

FinnMedi Oy is a key collaboration partner for FONK in studies sponsored by pharmaceutical manufacturers. In 2017, the Pirkanmaa Hospital District signed a collaboration agreement with MSD, a pharmaceutical manufacturer. Negotiations about being placed on MSD's list of phase I/II studies were also launched in 2017 and will continue in 2018. In 2017, FONK also negotiated with the pharmaceutical manufacturer Pfizer about entering the company's "INSPIRE" program, which is a Centre of Excellence program. The Pirkanmaa Hospital District previously signed a collaboration agreement with Roche in the summer of 2016.

In 2016, the Cancer Clinical Trial Unit conducted drug studies in the fields of breast cancer, gynaecological cancers, prostate cancer and other urological cancers, sarcoma, bowel cancers, lung cancer, lymphomas and melanoma. These studies also continued in 2017. In 2017, the unit was conducting a total of 34 studies with 79 recruited patients. The unit registered a total of 351 medication visits during 2017, which was 23 per cent more than in the previous year.





Professor **Matti Lehtinen** has studied papilloma virus (HPV) for more than 25 years.

HUMAN PAPILLOMAVIRUS (HPV)

There are more than 200 different types of human papillomavirus. About 80 per cent of humans acquire HPV during life-time, but the infection clears spontaneously. Persistent infection with high-risk HPV types can cause precancer, which without treatment can proceed to invasive cancer. Nine and one percent of cancers among females and males, respectively, are caused by HPV. The most common HPV-cancers are cervical cancer and oropharyngeal cancer.

HPV-cancers can be prevented

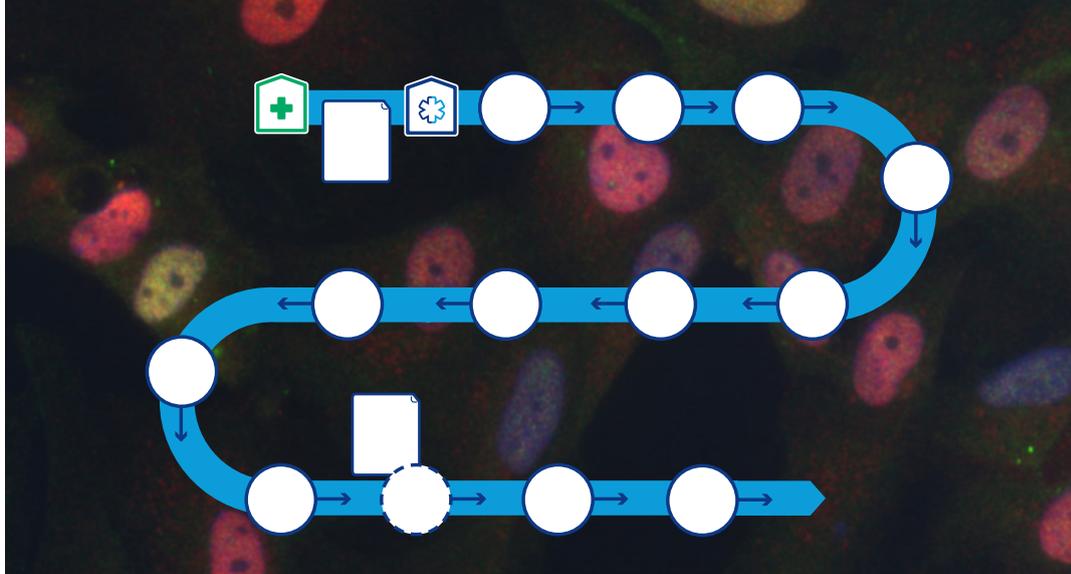
HPV-vaccination research aims to abolish disease-burden caused by human papillomaviruses (HPVs). The burden is great comprising 5 to 10 per cent of all human cancers. Current research has confirmed that an effective HPV-vaccination program can significantly reduce the burden. Even eradication of HPV is possible if the vaccination program is gender-neutral and vaccination coverage is high enough.

Studies on how to prevent HPV-associated cancers have been conducted in Tampere for more than 20 years. The studies and the study group are internationally renowned. Tampere-based investigators were first to show in 1996 and 2001 that past HPV-infection causes 10 to 20 -fold increased risk to develop cervical cancer and oropharyngeal cancer later in life. Based on these observations work to provide due evidence basis for the implementation of HPV-vaccination program was started in Tampere. The work that has been recognised world wide is still ongoing.

Since 2002 safety, immunogenicity, efficacy and impact of HPV-vaccination has been studied in altogether 50.000

adolescents by HPV-research group at Tampere. Adverse effects of vaccination have been mostly local pain – no indications of increased incidence of autoimmune diseases or pregnancy complications have been observed. It has been shown that HPV-vaccines are most immunogenic in the young. HPV-vaccination protects against immediate cervical precancer with close to 100% efficacy. Last year Tampere HPV-research group was the first to show that HPV-vaccine protects against invasive HPV-cancers.

One of the latest discoveries established by the Tampere study group is that the impact of HPV-vaccination is greatest provided that both genders are vaccinated. Especially girls, who do not take HPV-vaccine benefit from herd effect enforced by the gender-neutral vaccination. Having proved the concept of superior impact of gender-neutral vaccination HPV-researchers in Tampere seek to further improve prevention of cancer. They aim to prove that current frequent screening for cervical cancer can be reduced to once in a life-time screening among vaccinated women.



Customer orientation is also a part of cancer treatment

To support the treatment of malignant diseases, Tampere University Hospital utilises visual care pathway descriptions, which provide a simple and quick overview of the patient's care plan. The goal is to ensure a smooth, patient-oriented treatment process. The care pathways are available in digital format on the website of Pirkanmaa Hospital District.

The care pathway describes the treatment process from the viewpoint of the patient: where he/she comes from, and what happens during and after the periods of hospitalisation. As each patient and situation is unique, the same is true for each care pathway. Factors influencing the care pathway include the customer's personal situation, needs, choices and behaviour. Care pathways are created as a joint effort of the patient and the professionals in order to find out what the patient truly needs. Therefore, patients can express wishes about their care

pathways – they are asked to provide a realistic, honest opinion, which will also be taken into consideration. The staff are tasked with finding the resources and means to meet the customer's needs as well as possible.

At Tampere University Hospital, both patients and employees have been very positive about the care pathway descriptions. Patients have been happy to participate in interviews and workshops, and treatment processes have been developed on the basis of suggestions given both by patients and staff members.

Several new care pathway descriptions were completed in 2017. These new pathways include necessary information needed by the patient, such as information regarding preparation for operation, different diagnostic examinations, side effects of chemotherapy, etc. embedded in the digital pathway descriptions, always easily obtainable by the patient.

University of Tampere and the Faculty of Medicine and Life Sciences Provide Extensive Research Services for Cancer Researchers to Support their High-level Research

The Laboratory Services unit (LAS) in the Faculty of Medicine and Life Sciences has experienced laboratory personnel that provides high-level laboratory services and help for all cancer and other researchers working in the Faculty. In addition, the Faculty provides core facilities and services that comprise a number of technologies in the field of medicine. Competent and experienced staff manage the daily operations and guide the use of the facilities. In some cases, the services are completely operated by the personnel of the facility.

The core facilities include for example:

- **Bioinformatics Facility**
- **CellTech Laboratories**
- **Drosophila Laboratory**
- **Electrical Impedance Spectroscopy (EIS)**
- **Electrophysiological Measurements**
- **Flow Cytometry**
- **Histology Facility**
- **Liquid Biopsy Facility**
- **Mass Spectrometry Facility**
- **NGS & Sanger Sequencing**
- **Fragment Analyzer**
- **Tampere Imaging Facility (TIF)**
- **Virus Production**
- **Zebrafish Facility**

2017 in numbers:



111 672 Out-patient visits

15 289 Cancer patients treated in the center

5 063 New cancer patients

3 191 Patients receiving radiotherapy

47 767 Radiotherapy sessions



>99% Access to treatment in Oncology Department in 28 days

>2 200 Cancer surgeries

32 769 Given oncological drug doses (+6.9% from 2016)

19.6 M€ Expenses of oncology drugs (+18.7% from 2016)

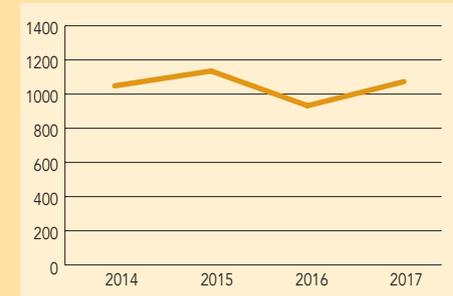
>9.5 M€ Research budget

>300 Cancer researchers

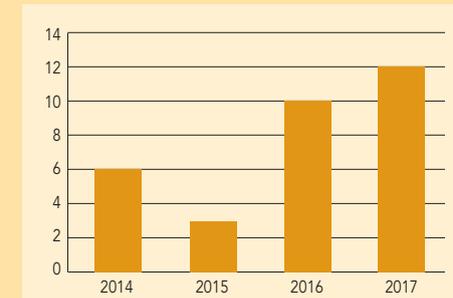
200 Cancer publications in international peer reviewed journals

76 Ongoing clinical trials

Cumulative impact factors 2014–2017



Dissertations on Cancer Research at the University of Tampere (2014–2017)



Cancer Research: International collaboration networks





Highlights of the Cancer Research in the Year 2017

Nominations:

Docent **Olli Lohi** received the award for merit: The Science Act of the Year 2017 (Vuoden tiedeteko) from the University of Tampere for his research on childhood leukemias on 26.4.2017

Professor **Matti Nykter** (University of Tampere) with prof. **Lauri Aaltonen**, prof. **Jussi Taipale** (University of Helsinki) and **Janne Pitkaniemi** (Finnish Cancer Registry) received the Academy of Finland's Centre of Excellence in Tumour Genetics Research for the years 2018–2025.

Publications:

G. Steven Bova: Human metastases under scrutiny. *Nature* 548: 287–288, 2017.

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gent cervical neoplasia end-point – registry-based follow-up of three cohorts from randomized trials. *BMJ Open* 2017;7:e015867. doi:10.1136/bmjopen-2017-015867.

Walter SD, de Koning HJ, Hugosson J, Talala K, Roobol MJ, Carlsson S, Zappa M, Nelen V, Kwiatkowski M, Páez Á, Moss S, Auvinen A. Impact of cause of death adjudication on the results of the European prostate cancer screening trial. *Br J Cancer* 116: 141-148, 2017

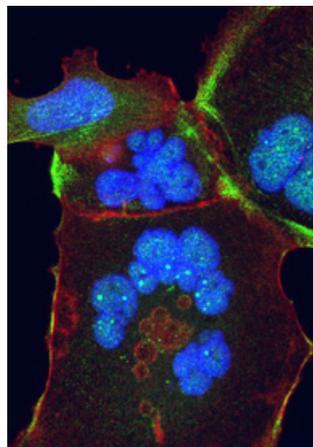
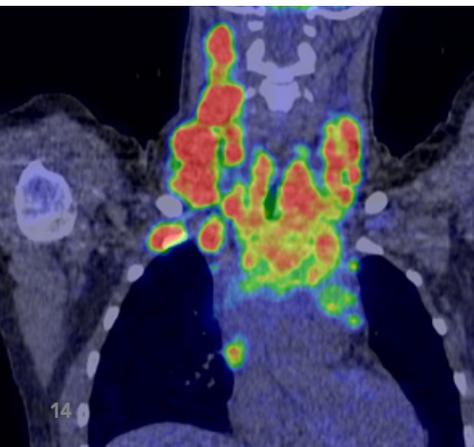
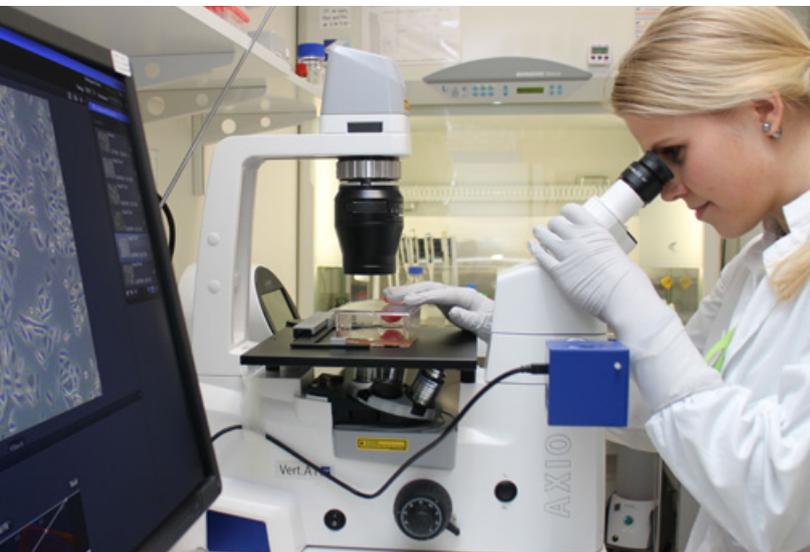
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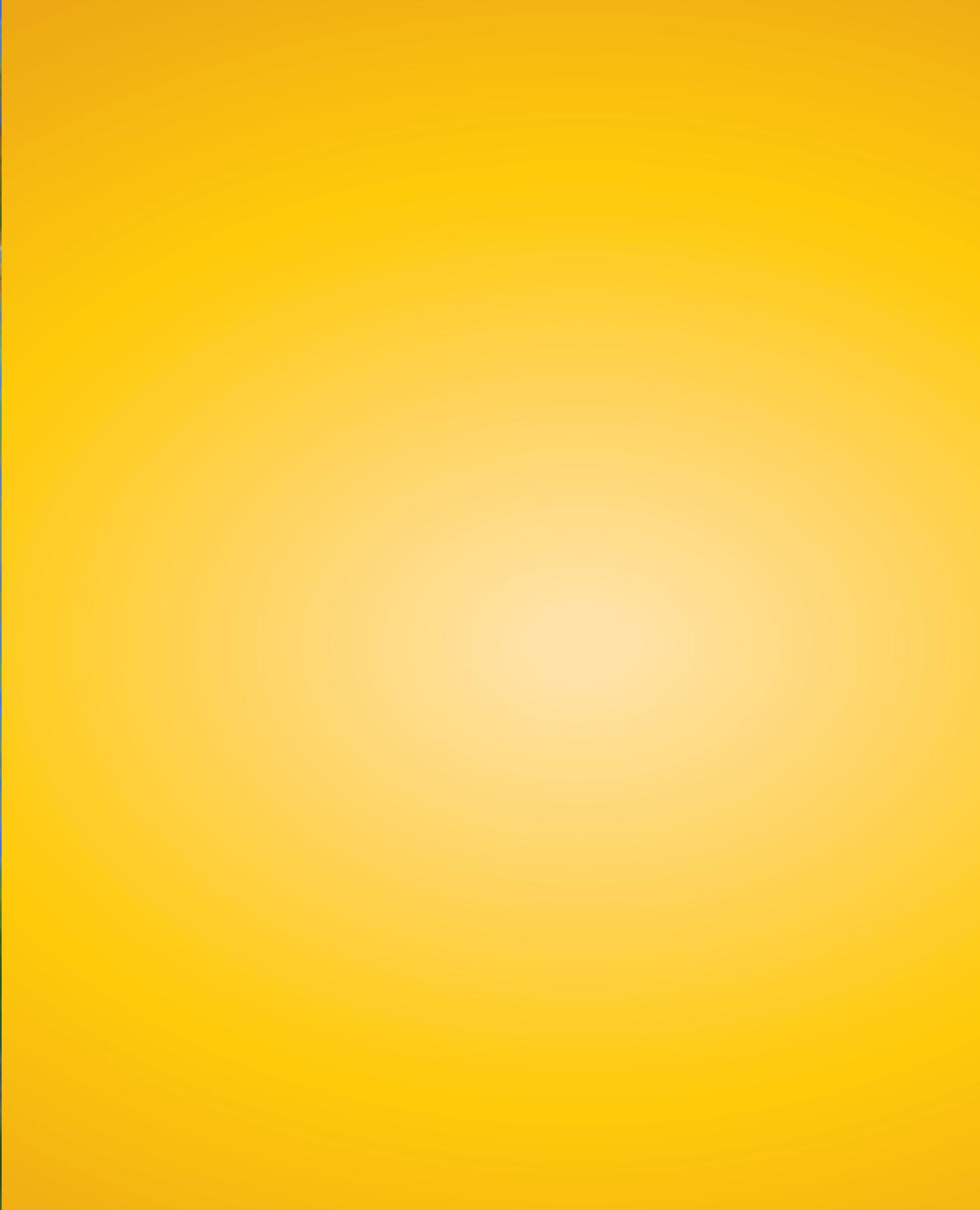
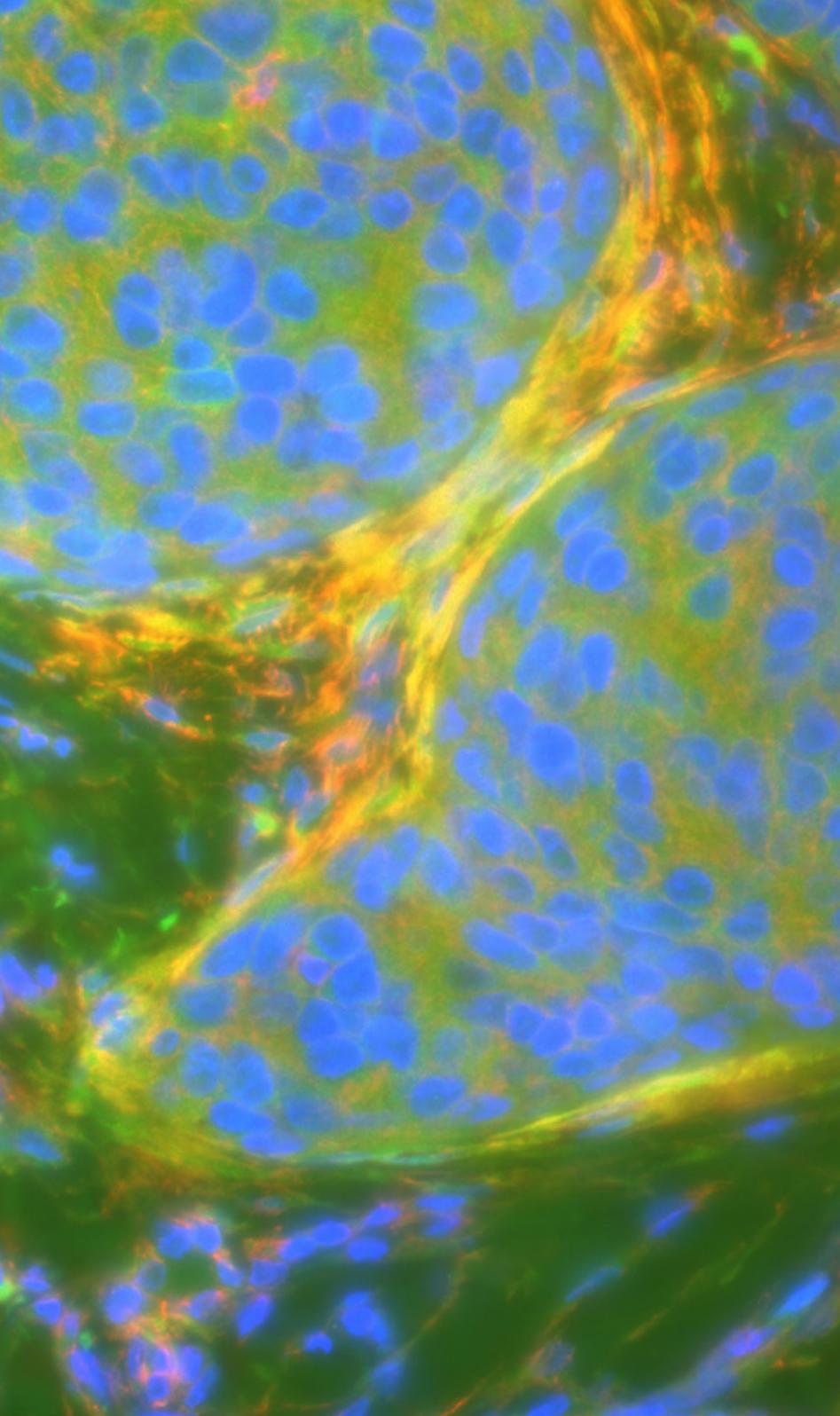
Professor **Anssi Auvinen**: The major grant of the Cancer Foundation (450 000 €) for the prostate cancer screening study.

Professor **Auvinen** and the collaborators from the University of Helsinki: A grant from the Academy of Finland for the prostate cancer screening trial for the years 2017–2021 (Funding for the University of Tampere: 448 178 €).

Professor **G. Steven Bova**: The Movember grant of the Cancer Foundation (300 000 €) for the project of molecular tracing of prostate cancer metastases in high-risk patients.

Professor **Matti Nykter**: A grant (448 849 €) from the Academy of Finland for the study of chromatin structure and enhancer landscape in prostate cancer progression.







Tays Cancer Centre

www.tays.fi/tamcan

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