2018/ Annual Report



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Message from the CTN Executive Director



Silke van Koningsbruggen-Rietschel Director ECFS-CTN

Dear Friends,

We are pleased to share with you the 2018 annual report of the European Cystic Fibrosis Society - Clinical Trial Network (ECFS-CTN).

This report gives you an overview of our work in 2018 including general information about the CTN, activities within the network, a list of clinical trials, a description of the various European research projects as well as an outline of the HIT-CF programme - just to name the most important topics.

This annual report is the result of an excellent collaboration with patients and patient organisations having provided their highly-appreciated ideas; the various citations of patients

underline the important work that has been performed within the CTN. Thank you very much to all of you for your great engagement.

Our mission within the CTN is "to intensify clinical research in the area of CF and to bring new medicines to patients as quickly as possible." We all have worked very hard in 2018 and have further accomplished milestones of our mission: we have intensified clinical research in CF and we have again brought new medicines to our patients!

2018 has been a very busy year for ECFS-CTN: 31 studies have been performed in our network comprising 43 sites within 15 countries. Most studies were Phase III studies reflecting the progress we have made in moving the compounds forward in recent years; we have also experienced an increasing number of Phase I studies as well as more highly complex Phase Il studies. The number of pediatric and combined adult/pediatric trials also has shown a substantial increase indicating the progress we are making in bringing therapies to our younger patients. 11 feasibility services have been managed with a near perfect response rate by all sites!

In the near future, the impending high number of clinical trials will need our network capacity to further develop new therapies for all our patients: including CFTR modulators with higher efficacies, gene and mR-NA-therapies, read-through-agents, antisense oligonucleotides (ASOs), ENaC-blockers (epithelial sodium

channel-blockers), anti-inflammatory compounds, antibiotics, biofilm disrupting agents, etc.

To manage these future challenges our network will further expand in 2020: we welcome 15 new, high-quality sites. By then the CTN will represent 58 sites in 17 countries caring for 21500 patients.

We gratefully acknowledge the following organisations for funding our work in 2018: ECFS, the US Cystic Fibrosis Foundation (CFF), as well as the European patient organisations from France, UK, Italy, Belgium, the Netherlands, Switzerland, Luxemburg and Germany.

The management of complex data and the development of this excellent report takes a considerable amount of time. We all want to thank Fiona Dunlevy - quality manager of CTN - for her brilliant work within our network.

"to intensify clinical research in the area of CF and to bring new medicines to patients" Also we want to express our thanks to Kate Hayes, coordinator of the Standardization Committee, for her great engagement and excellent input.

Our network could not have achieved the current level of success without a very strong team. I would also like to thank the coordinating team Veerle Bulteel, Anne Verbrugge and Katia Reeber for their outstanding work as well as our Executive Committee members Damian Downey, Lieven Dupont, Dorota Sands, Nick Simmonds, Nadine Dufeu and Paola de Carli for their unwavering support and advice.

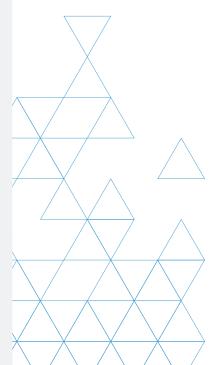
Let's keep this good path and this excellent team-work to develop future therapies for all our patients, independent of genotype and age!

Please give us your feedback on this report and contact us if you have any items you would like to have included in future annual reports.

Yours sincerely,

Silke van Koningsbruggen-Rietschel

Director ECFS-CTN









"When I first decided to participate in the protocol review process I thought maybe this will just be a check that obvious things are addressed. Going through the first protocol, I realised that IT IS USEFUL for a patient to provide comments because what is obvious for a patient is not necessarily obvious for a protocol writer. E.g. the time it takes to perform a routine check during the testing period and the consequent impact of your quality of life. There are many aspects you realise are important when going through the protocol and maybe you don't even consider otherwise. I'm glad to have entered the network for protocol review and I hope I provided a useful contribution to this process."

Roberto, person with CF from Italy



2018 OUR YEAR IN NUMBERS



We helped **CREATE**

Clinical trials training for Pediatricians



Work continued on the



"Patient reported outcome measures" project

362 PATIENTS

Newly enrolled into trials









New research staff funded in

19 sites





20 protocols

31 active trials supported

Restore CFTR function (23)

Anti-infection / inflammation (4)

Mucociliary clearence (3)

Exercise (1)

From **10** companies reviewed by people with CF, their families, doctors, research coordinators and statisticians

Clinical trials and CTN

How does it work?

What are clinical trials?

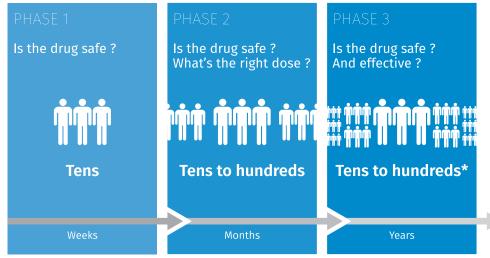
In clinical trials, healthy people and/or patients take a new medicine to help researchers assess whether the medicine is safe and effective at treating the disease in question.

All medicines, including those for CF, are tested in several clinical trials from phase 1 to phase 3. Once licensed, "real world" safety testing continues in Phase 4 trials. We work with the ECFS Patient Registry for Phase 4 trials.

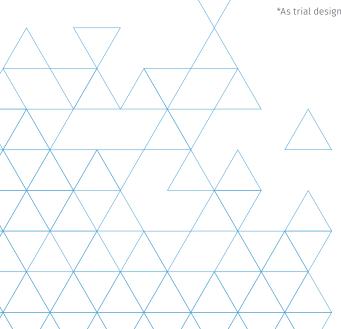
Where can I find out more about clinical trials?

Check out this leaflet from the CF Trust in the UK: https://www.cysticfibrosis.org.uk/get-involved/clinical-trials/taking-part-in-clinical-trials

Ask your national patient organisation for information in your language.



*As trial design improves for rare diseases, fewer patient are needed to test the drug



ECFS-CTN

Our mission

How does a European network streamline research?

The aim of ECFS-CTN is to intensify clinical research in the area of CF and to bring new medicines to patients as quickly as possible.



Increases cooperation between the whole CF community (patients, patient organisations, pharmaceutical industry and academic researchers)



Shares expertise across countries to standardise research procedures and measures



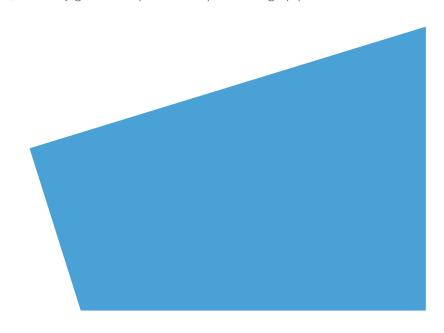
Gives a stronger voice to member sites in case of issues with clinical trials



Encourages high quality research by training staff and monitoring site performance

When was ECFS-CTN founded?

ECFS-CTN was founded in 2008 by ECFS and EuroCareCF, a project funded by the EU. The Cystic Fibrosis Foundation (CFF) in the USA had already set up a successful clinical trials network (CFF-Therapeutic Drug Development Network (CFF-TDN) and they gave us important help in setting up procedures.



CTN structure and governance

The organisation

What sites are involved and why?

What if my city isn't on the map? Can I still participate in trials?

Ask your CF care team about clinical trials happening in your area

There are 43 CTN sites across 15 countries in Europe. Member sites have a good track record in clinical trials, highly trained staff and good infrastructure. Check the map on the next page to see which sites are involved.

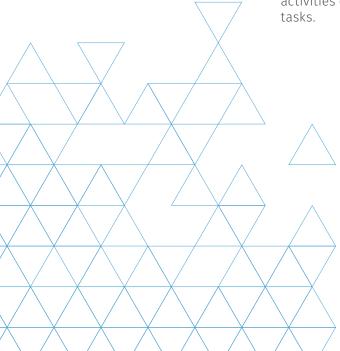
We launched a call for new member sites to join CTN in spring 2018 and received 22 applications from 16 countries. The applicants are being evaluated by a panel of internal and external experts. The new member sites will be announced in 2019 and will become active members in 2020.

How does CTN work?

ECFS-CTN is an ECFS project and is run by:

- the Executive Committee (6 doctors from different countries and 1 patient organisation representative) who meet by teleconference twice monthly. They develop network policies, steer actions to different committees and approve clinical trials to add to the CTN portfolio following protocol review
- the Steering Committee (Steerco) is made up of 1 doctor from each member site, a representative from each of the funding patient organisations, executive committee members and CTN staff. Steerco members meet in person twice yearly to discuss CTN activities, strategies and common challenges.

The CTN Coordinating Centre has 5 staff members who organise the daily activities of CTN and support the various committees in carrying out their tasks.



Our sites



Funding

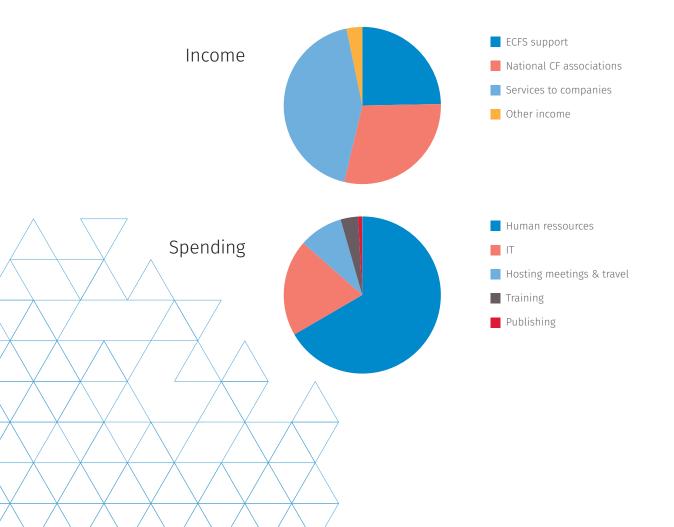
Maintaining independence

ECFS-CTN is funded by grants and by charging fees for scientific services to pharma companies.

ECFS-CTN helps pharma companies improve the design of clinical trials. It is important that we are not financially dependent on pharma companies so that we have no conflict of interest when giving scientific advice on clinical trials. Therefore we limit our earnings from services to pharma, and rely on the generous support of ECFS and patient organisations to make up the shortfall.

ECFS-CTN is grateful to the following organisations for funding our work in 2018: ECFS, CFF and European patient organisations (from France, Germany, UK, Italy, Belgium, the Netherlands, Luxemburg, and Switzerland).

You can find our 2018 financial report at the end of this document.



"If one day the drug gets to patients, I'll be happy to say that thanks to me, you have this medicine. I have the impression that, since a few years, patients see new medicines arriving and they say 'what about me, what about my mutation?' So they go looking for trials. A few years ago it wasn't at all like that, patients waited until the new medicine arrived. But now it's more the patients who go looking for information.

They're very keen on clinical trials at the moment - they know things are moving and they want to participate."

Audrey, person with CF from France

CTN activities

What we do

Protocol review

A clinical trial should answer a scientific question (e.g. is the medicine safe and effective?), should be well planned so that hospital staff can work efficiently, and should ask only what is reasonable from patients.

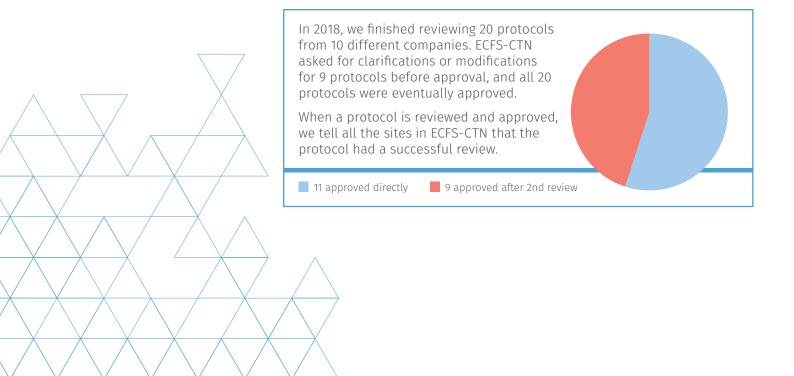
Our protocol review system gives patients a voice in setting the research agenda and makes sure that trials take the patient experience into account.



The protocol is the "handbook" for a clinical trial and describes in detail how the medicine will be tested, how patients will be involved and how the data will be analysed. The pharmaceutical company developing the medicine is responsible for designing the clinical trial and writing the protocol.



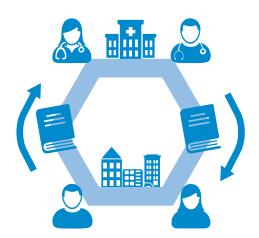
Designing a good clinical trial is a team game and needs input from all the main players involved – that is from doctors, research coordinators, statisticians, and of course people with CF and their families.



At ECFS-CTN, we coordinate the review of new clinical trial protocols by expert groups of CF doctors, research coordinators, academic researchers and people with CF and their families.

They check that the research question is worthwhile, the practical plan is well thought out and that the demands of participation in the trial are reasonable for patients.

ECFS-CTN strongly encourages sponsors to update the protocol based on the advice provided by the review.



Clinical trials in CF often include patients across different cities, countries and even continents. For trials planned to run in Europe and the USA, a joint "global" protocol review is sometimes performed with our American counterparts in the CFF-TDN.

CTN activities

Our work

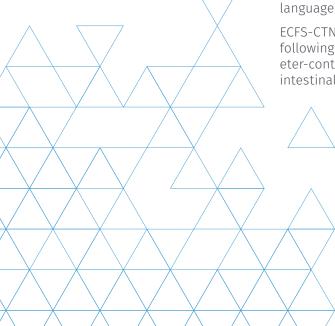
Standardisation of procedures and clinical trial measures

In research, it is important that we all work in the same way, so that the results from clinical trials are reliable and so that we can compare results from different clinical trials.

ECFS-CTN brings together experts from all over Europe to agree the best way to perform clinical tests and measurements in clinical trials. We also work jointly with our American and Canadian colleagues on some projects.

The ECFS-CTN Standardisation Committee has produced 37 standard operating procedures and 10 peer reviewed publications in scientific journals, including a 2018 publication in JoVE - a video format journal - to accompany the manuscript to explain the Nasal Potential Difference Test often used in clinical trials (see www.ecfs.eu/ctn/publications). We have also produced a patient and carer information leaflet about sweat testing (available in 16 languages) and a paediatric advice leaflet for sputum induction (available in 4 languages).

ECFS-CTN also supports the training and certification of site staff in the following measurements for clinical trials: multiple breath washout, spirometer-controlled chest CT scanning, nasal potential difference, sweat test and intestinal current measurement.





Patient Reported Outcomes

2018 update

In 2017, ECFS-CTN started a project to develop patient reported outcome measures (PROMs), in collaboration with patient organisations.

PROMs cover issues of concern to patients and the data can often be collected by self-administered questionnaires. These are of particular importance as they supply important patient-reported information about daily life which cannot be captured by usual measures. This can include quality of life measures such as patients' resilience, coping strategies, and perception of their future and disease. In clinical trials they can provide a reliable way to gain the patients' perspective regarding the benefits and limitations of a specific treatment.

ECFS-CTN surveyed over 120 French and Swedish patients to assess their views on the Cystic Fibrosis Questionnaire. The patients said they wanted more questions about treatment burden, impact on social and leisure time, peer acceptance of CF, mood and quality of sleep, family planning and impact of disease on family life. This was presented at the 2018 ECFS Annual Conference in Belgrade as a poster and presentation.

In 2018, ECFS-CTN worked with our patient organisation partners through CF Europe to explore patient priorities and to look more deeply into the issues identified by patients. To do this, we formed a Patient Advisory Group, comprising patients, family members and representatives of both ECFS-CTN and CF Europe. During monthly conference calls, existing quality of life questionnaires are assessed and proposals for improvement are discussed. This hands-on approach should lead to recommendations on how to assess patient reported outcomes, first in clinical trials and eventually also during routine clinic visits.



We are always looking for enthusiastic and motivated patients and carers to help guide our research. If you would be interested in getting involved in this patient-centred project, please get in touch with Kate Hayes, one of our CTN staff (k.hayes@qub.ac.uk)

CTN activities

Our work

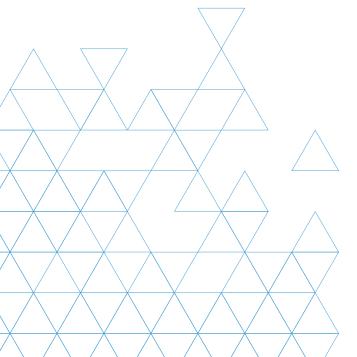
Quality & training

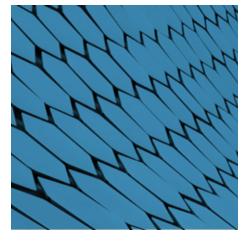
We monitor sites participating in ECFS-CTN approved clinical trials to check that trials are set up and run efficiently. We provide feedback to sites throughout the year and we discuss site quality and performance at our twice-yearly meeting of site investigators.



The ECFS-CTN training committee organises a yearly training day for research coordinators and investigators







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"As a patient I review research proposals mostly because I contribute to better treatment and finding a cure for cystic fibrosis. Not matter how my condition is, my mind works fine and what is in my power to do, I gladly do. I'm pleased to know that my opinion is valued. In addition to that, it complements my education as a research masters student. I learn from the academic foundations that build the proposals, and try to understand the biochemical. Finally, it's nice to be informed about the development of new drugs or treatments."

Martine, person with CF from the Netherlands

CTN activities

Our work

Feasibility services

After a protocol has been approved to run in ECFS-CTN, we help the pharma company identify appropriate sites to participate in the trial.

The clinical trial protocol includes a checklist of which patients should be enrolled.

ECFS-CTN then helps pharmaceutical companies contact sites to see if they can participate in trials. We encourage companies to contact all eligible sites and to give all sites a chance to participate.

In 2018, we coordinated 11 feasibility checks for 7 sponsors.

Example

A clinical trial needs to enrol girls and boys with CF aged 11-17 with the G551D mutation. Sites must be trained to do a measurement called multiple breath washout (also called LCI).

We shortlist the sites fulfilling some of these criteria and encourage the sponsor to approach all the shortlisted sites.

We send a questionnaire to sites who check the criteria closely and tell us if they want to participate.

CTN activities

Our work

Expert advice to regulators

ECFS-CTN members give expert advice to regulatory agencies about the types of clinical trials needed to prove efficacy and safety of new drugs for adults and children with CF.

Safety monitoring in trials

In some clinical trials, data is shared with an external committee who independently monitor data as the trial is ongoing. If they notice any safety problems, this committee can stop the trial. Companies can use the ECFS-CTN affiliated "data safety monitoring board", based in Lyon, France.

Increasing research capacity

A 2016 survey of ECFS-CTN sites found that lack of research staff was a major barrier to participating in clinical trials. The CFF generously offered to partially fund extra research staff at qualifying sites. In total, 19 ECFS-CTN sites were awarded funding to hire research staff.

We are very grateful to the CFF for supporting research capacity in Europe, in the spirit of our shared vision to bring new treatments for CF to patients. Funding continued in 2018, and we surveyed sites to see what impact the funding had. Here's some of the feedback:

"Thanks to the new person our site can now participate in an early phase study including overnight stays"

"It is easier to participate in many simultaneous studies"

Active clinical trials

in ECFS-CTN in 2018

In 2018, there were 31 active studies in ECFS-CTN sites.

There was a good mix of early and late phase studies, with more studies open to paediatric patients compared to 2017. In total 362 patients were newly enrolled into clinical trials in 2018.

You can find a full list of the studies we supported in the Appendix (p32).

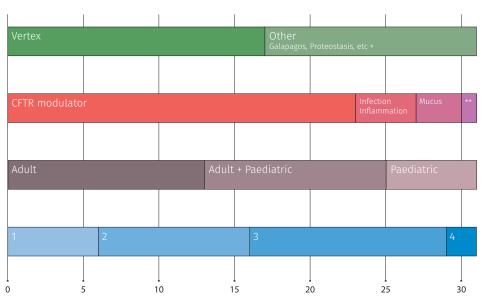
Sponsor

Treatment

Population

Phase

Number of studies



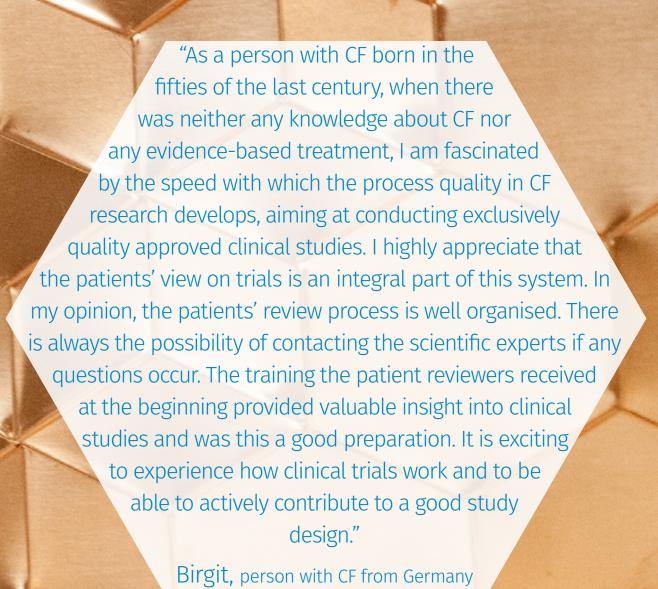
(*): Novartis, Corbus, Flatley, Spyryx, Celtaxsys, Wurzburg Uni. Hospital, Brest Uni. Hospital, Bristol NHS/Uni, UMC Erasmus sponsored 1 study each

(**): Conditioning programme



Find details of all trials we support (and results) at: www.ecfs.eu/ctn/clinical-trials

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European research projects

ECFS-CTN is a partner in several ongoing EU projects





The European Commission (via H2020) is funding a clinical trial of the orphan drug OligoG CF-5/20 in CF.

In the first half of 2018, CTN reviewed the clinical trial protocol and performed feasibility to help find CF centres to participate in the trial.

A consortium meeting was held during the ECFS conference in June in Belgrade, Serbia to plan the logistics of the trial. The clinical trial is planned to start in autumn 2019.





Collaborative network for European clinical trials for children

c4c is facilitating new and safer medicines for children by building a European network for pediatric clinical trials (in all diseases, not just CF).

Our role in this vast project is in the education work package. We surveyed pediatric clinical trial centres throughout Europe about their needs for training in pediatric clinical trials and helped revise some general clinical trials training material to tailor it to pediatric trials.

We also reviewed a proposed trial that will investigate aspergillus treatment in children with CF, and performed a feasibility check. This trial (cASPerCF) was selected by c4c as part of its research portfolio and will be performed within the new c4c infrastructure.

https://www.imi.europa.eu/ https://conect4children.org/







European research projects

ECFS-CTN is a partner in several ongoing EU projects





European Reference Network-LUNG

We gave a webinar to members of ERN-Lung in November 2018, to share our expertise in setting up and successfully running a clinical trials network. Five members of CTN presented at this webinar, with great feedback received.

You can watch the webinar here:

https://cloud.ern-lung.eu/index.php/s/TgCohGyVvz3kHFJ





The European Commission (via H2020) funded 2 clinical trials of eluforsen, which targets RNA (an intermediary between DNA and protein)

CTN reviewed the protocols for these trials. The project officially ended in 2018 and results are available for the 2 trials (https://www.ecfs.eu/ctn/clinical-trials).

Read about the results on p52 of the magazine at this link:

https://impact.pub/June2018digitaledition/





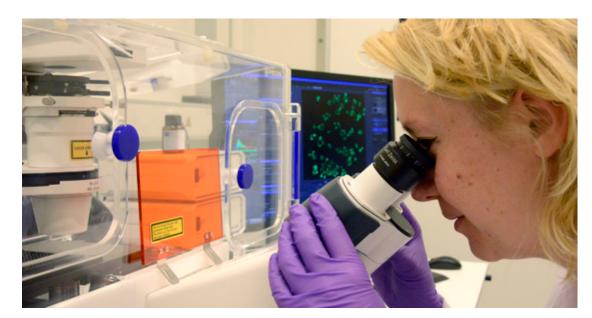
The HIT-CF-Europe project started in 2018. Lab tests of tissue from patients with rare mutations aim to match patients to the correct medicine.

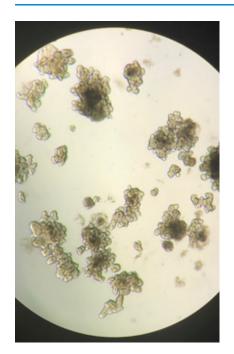
Our role is to review the protocol, coordinate the feasibility and to help with dissemination.





Rare forms of CF have been neglected by drug development programmes, with no CFTR modulator drugs on the horizon for up to 10% of people with CF. The HIT-CF consortium wants to fill this gap. Not by making new drugs, but by checking if existing drugs work for rare CF mutations – first by screening patient tissue in the lab, then in personalised clinical trials based on lab results.





CF organoids under the microscope after 7 days culture in the lab

Annelotte Vonk dims the lights, draws her chair up to the microscope and lines the dish up under the lens. Since the courier delivered the rectal biopsy tissue to her lab in Utrecht, Annelotte has been coaxing stem cells in the tissue to grow into mini-replicas of the intestine with the same rare type of CF as the patient who gave the rectal biopsy. These "organoids" could hold the key to finding a drug that treats this patient's rare version of CF. The previous morning, Annelotte had pipetted a tiny dose of an experimental CF drug onto the organoids. Now, she's ready to see if the drug has managed to fix the faulty CFTR protein. With a steady hand, she pipettes in a few drops of an agent to stimulate the organoids. "We tell the microscope to take a picture every 10 minutes and we do that for an hour," says Annelotte, "then you have a mini-video of what happens to the organoids over that hour."

Organoids – the first success

Researchers have identified over 2000 CF-causing mutations, but to date, drug development has focused only on the most common mutations, such as dF508.

Around 10% of patients have mutations so rare that they are sometimes shared by only one or two other patients worldwide.

Few pharma companies have the resources or the economic motivation to develop drugs specifically for these patients.

In 2015, the CF team in Utrecht, Netherlands treating a very ill teenage boy with an ultra-rare form of CF were running out of treatment options. Using newly developed organoid technology, they showed that a recently licensed CF drug successfully activated intestinal organoids grown from the boy's rectal biopsy. The drug proved to be just as effective in real life, and the Dutch insurance company agreed to pay for the drug, based on the combination of organoid and real-life results.

The HIT-CF project was put together to capitalise on this success, and launched just a few years later in 2018, with over €6 million of funding from the EU Horizon 2020 research programme.



Dr Peter van MourikDoctor and CF researcher at UMC
Utrecht and HIT-CF study coordinator

Leave no patient behind

"The goal of HIT-CF is to focus on patients who are currently left out of the major drug development programmes and to help them get access to new treatments," says Dr Peter van Mourik, a doctor and CF researcher at UMC Utrecht and HIT-CF study coordinator. Four pharmaceutical companies will provide candidate drugs to be tested, first on organoids and later in personalised clinical trials on patients themselves. The more pharma companies participating, the better, according to van Mourik, because "patients will have a better chance to respond to one of the drugs being tested."

2018 - a busy year of set-up

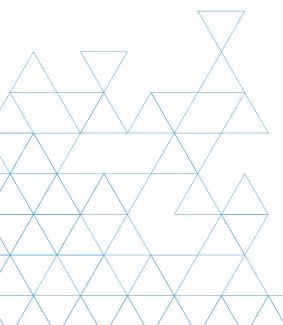
In the first phase of HIT-CF, organoids will be grown from 500 patients and screened to see how they respond to various CF drugs. It takes a lot of paperwork and logistical planning to get CF centres ready to participate in HIT-CF. "At the moment [in april] we have at least 5 countries with approval," says van Mourik, "but we're setting up in at least 12 countries. We want to be able to include patients all over Europe." The biopsies taken at local CF clinics are sent on ice to the specialist lab in Utrecht to be grown into organoids. "At this point it's about growing the organoids and freezing them down," explains van Mourik, "then we will send them out in batches to the different labs for drug screening."

"We want to include patients all over Europe"



In phase 2 of HIT-CF, due to start in 2020, patients whose organoids had a strong response will receive that drug in a real life clinical trial. These personalised trials are very different to traditional clinical trials that test drugs in groups of patients. Designing such an innovative trial involving multiple pharma partners is a big challenge. "The ECFS-CTN is important here to give input into the protocol - seeing what's reasonable, what is wise to do," says van Mourik, "having patients involved in this to see what they think is feasible is also important."

"The ECFS-CTN is important here to give input into the protocol. Seeing what patients think is feasible is also important."



Keeping patients updated



CF Europe, the umbrella European patient organisation, is the partner in charge of communicating about project progress. "Informing and communicating with people with CF is one of the top priorities of the consortium," says Elise Lammertyn, head of research at CF Europe.

"We regularly post updates about HIT-CF on our Facebook page, and there is a page on the HIT-CF website dedicated to the latest news. Every six months, we add a newsletter to the website which is disseminated to the national patient organizations. We also invest in educating patient representatives on HIT-CF; we dedicated a workshop to HIT-CF during the 2018 CF Europe annual general meeting."

www.hitcf.org

All on-board

Leaving nobody behind means getting everybody on board, including regulatory authorities, such as the European Medicines Agency (EMA). This is especially important for personalised medicines for rare diseases, where the gold standard randomised clinical trials are simply impossible due to limited numbers of patients. "One of the major advances in 2018 was that we started talking to the EMA about what we need to have in place to have the drugs approved," says van Mourik.

Medicine's last mile

Many projects claim to be "bench to bedside" – that they bring new drugs from the laboratory bench through trials and all the way to the patient's bedside. HIT-CF plans to live up to the "bench to bedside" claim by helping drugs jump the last big hurdle – reimbursement by national payment agencies. EMA and other regulators want to know if the drug is safe and effective, but payers need extra evidence showing that the drug represents good value for money – often demonstrated using patient-reported outcomes.

Designing trials that provide the evidence needed by both the regulators and the payers can speed up the arrival of drugs from the bench to the bedside. The HIT-CF team have started talking with reimbursement agencies "from them we will hear what's needed to reimburse the drugs," says van Mourik, "we've also been talking to the European working group MOCA - the mechanism of coordinated access to orphan medicinal products - who have payers on their committee."

Next steps

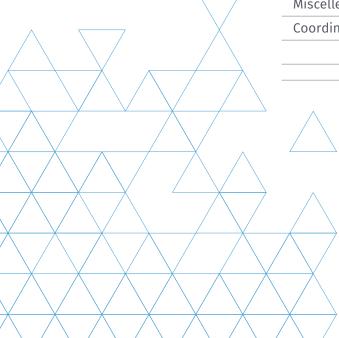
The HIT-CF team are working hard to obtain biopsies from the 500 patients needed in the first phase of the project. If you have a rare CF mutation, and would like to participate in the project, please contact your local CF care team, or your national patient organisation. You can visit the project website to find out more: www.hitcf.org

Financial report 2018

Our budget

Reflects book-keeping year 1 Jan – 31 Dec 2018:

CTN - Budget 2018	Euro €
ECFS Support	100.000,00
National CF associations	117.499,00
Services to companies	174.258,00
Other income	13.138,00
Total Income	404.895,00
Travel / Meetings	24.999,00
Human resources	239.322,00
Office equipment	1.285,00
Publication	2.285,00
Telecommunication	689,00
Training - Research coordinators Support	9.879,00
Software Development / Maintenance	42.674,00
Dedicated Server	10.268,00
Miscelleanous	116,00
Coordinating ARC programme	55.340,00
Total Expenditures	276.175,00
Year Result	128.719,00

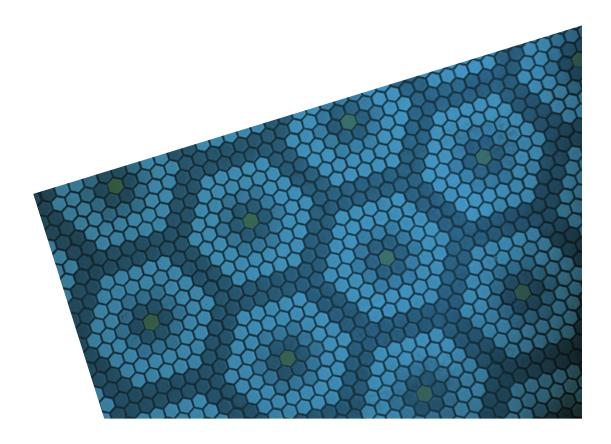


CFF grant for Additional Research Capacity ("ARC")

We are grateful to the US Cystic Fibrosis Foundation for the financial support granted to ECFS-CTN for the period 2017-2019 for the following :

- 1. Partial funding to hire additional research personnel for maximum 22 selected sites
- 2. Funding of an administrator at the CTN coordinating centre
- 3. Support to sites for entering data in the Trial Management System (2600€ per year)

In 2018 the maximum amount for this grant was \$961,212



Appendix

Studies supported by ECFS-CTN in 2018





Phase 1b safety and drug behaviour testing of GLPG2451 and GLPG2222 combination treatment with or without GLPG2737 in adults with 1 or 2 Δ F508 mutations (GLPG2737-CL-105)

Pharmacokinetics of GLPG3067 in Male Subjects With Cystic Fibrosis (GLPG3067-CL-104)

Phase 2 testing of GLPG2737 in people with 2 Δ F508 mutations, being treated with Orkambi (GLPG2737-CL-202)

Early testing of FDL169 in people with 2 ΔF508 mutations (FDL169-2015-04)



Phase 1 safety and drug behaviour testing of PTI-801 in healthy volunteers and in adults with CF (PTI-801-01)



Phase 1 safety and drug behaviour testing of PTI 808 in adults with and without CF (PTI-808-01)

Phase 2 testing of VX-659 combination therapy in adults (VX16-659-101)



Phase 3 testing of VX-659 in combination with ivacaftor and tezacaftor in people aged 12 years and older with the Δ F508 mutation and a minimal function mutation (VX17-659-102)



Phase 3 testing of VX-659 in combination with ivacaftor and/or tezacaftor in people aged 12 years and older with 1 or 2 ΔF508 mutations (VX17-659-103)



Phase 3 open-label testing of VX-659 in triple combination with ivacaftor and tezacaftor in people aged 12 years and older with 1 or 2 ΔF508 mutations (VX17-659-105)



Phase 3 testing of tezacaftor in combination with ivacaftor in children aged 6-11 years with 1 or 2 ΔF508 mutations (VX16-661-115)



Phase 3 open-label extension observation of long-term treatment with tezacaftor in combination with ivacaftor in children aged 6 years and older with 1 or 2 ΔF508 mutations (VX16-661-116; parent studies: VX16-661-113 and VX16-661-115)

Long term rollover testing of VX-661 in combination with ivacaftor in people aged 12 years and older with 1 or 2 ΔF508 mutations (VX14-661-110)



Phase 3 testing of VX-445 in combination with ivacaftor and tezacaftor in people aged 12 years and older with ΔF508 mutation and a minimal function mutation (VX17-445-102)



Phase 3 testing of VX-445 in combination with ivacaftor and tezacaftor in people aged 12 years and older with 2 ΔF508 mutations (VX17-445-103)



Phase 3 open-label extension testing of VX-445 in combination with ivacaftor and tezacaftor in people aged 12 years and older with 1 or 2 ΔF508 mutations (VX17-445-105; parent studies: VX17-445-102 and VX17-445-103)



Long term rollover testing of Orkambi (Lumacaftor/Ivacaftor) in people aged 6 years and older with 2 Δ F508 mutations (VX15-809-110)



Phase 2 open-label long-term observation of Orkambi's (Lumacaftor/Ivacaftor) effect on CF progression in children aged 2-5 years with 2 ΔF508 mutations (VX16-809-121)

Phase 3 testing of ivacaftor in children with CF aged under 2 years with a gating mutation (VX15-770-124)

Phase 3 testing of ivacaftor in children with CF aged under 2 years with a gating mutation (VX15-770-126)

Early testing of VX-445 in people with and without CF (VX16-445-001)

Appendix

Studies supported by ECFS-CTN in 2018





Optimising eradication of Pseudomonas (TORPEDO-CF)



Phase 2 testing of lenabasum in in people aged 12 years and older with recent antibiotic treatment for pulmonary exacerbation (JBT101-CF-002)

Phase 2 testing of CTX-4430 in adults with CF (CTX-4430-CF-201)

Phase 2 testing of (R)-Roscovitine in adults with 1 or 2 ΔF508 mutations and chronic Pseudomonas infection (ROSCO-CF-1)



MUCOCILIARY CLEARANCE

Inhaled hypertonic saline in preschoolers (UMC Erasmus SHIP-002)

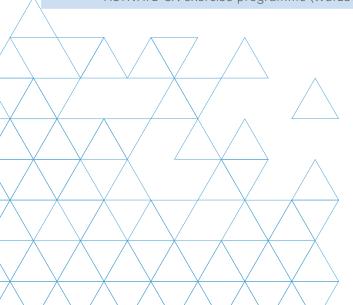
Phase 2 testing of inhaled SPX-101 (SPX-101-CF-201)

Early testing of inhaled QBW276 in adults (CQBW276X2201)



EXERCISE

ACTIVATE-CF: exercise programme (Würzburg University Hospital ACTIVATE-CF)



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And get new medicines to patients faster



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