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Tomorrow's cancer treatment

- how do we meet the future cancer patient in Scandinavia?



Introduction

Tomorrow's cancer treatment
- *how do we meet the future cancer patient in Scandinavia?*

The number of cancer patients is rising and will likely continue to do so in the coming years. At the same time, people live longer with their disease or survive due to advancements in treatment.

This development is expected to put even greater pressure on the health care systems in the Nordic countries.

Therefore, we need to take action now across professions, functions and borders.

In March 2022, Denmark's ambassadors to Norway and Sweden and Astellas Pharma organized a conference titled "Tomorrow's cancer treatment - *how do we meet the future cancer patient in Scandinavia?*"

As a pharmaceutical company, Astellas Pharma plays a role in driving the development of health care forward. We create platforms and arenas where stakeholders can meet across borders and cross-functionally to discuss and debate topics that benefit patients - in this case, the future's cancer patients.

The meeting offered panel debates and discussions centred around the challenges ahead and inspirational case presentations of future solutions.

Among the themes were the future of multidisciplinary teams, incorporating artificial intelligence in diagnostic tools and national perspectives on cancer courses.

The purpose of the conference was also to pave the way for a higher degree of collaboration and exchange of experience within cancer treatment across the Scandinavian borders.

This report aims to give an insight into the conference's many debates and the discussions that followed. The articles are centred around five different subjects.

Enjoy them in their entirety, or read them separately.

Louise Carmén Ekedahl
External Affairs & Communication Director



Improved collaboration between the Nordic countries can benefit the cancer patients of tomorrow

The Nordic countries have very similar healthcare systems and are facing the same challenges when it comes to cancer. Nevertheless, we do not traditionally collaborate in this field - something that experts, non-governmental organizations and public officials wish to change.

In Scandinavia, we have a long tradition of collaborating on everything from export to politics. It is relatively easy because we have many cultural commonalities, understand each other's languages, have relatively homogeneous populations, and our societies are built on the welfare state.

Denmark, Norway, and Sweden also have largely identical healthcare systems, and the cancer treatment is almost similar.

All three countries have introduced cancer packages, standardized treatments, and multidisciplinary team conferences (MDT). Initiatives which have improved cancer survival across the Nordic countries.

Our potential challenges are also similar in the field of cancer. This applies, among other things, to the rehabilitation of former cancer patients, the implementation of technological solutions in the diagnosis and treatment of cancer, better utilization of health data and the development of new treatments.

Nevertheless, we do not collaborate nearly as much as we could.

The importance of knowledge sharing

In March, Denmark's ambassadors to Norway and Sweden and Astellas Pharma organized a conference titled Tomorrow's cancer treatment - how do we meet the future cancer patient in Scandinavia? One of the focus areas of the conference was to highlight the benefits of collaborating on cancer treatment in Nordic countries to improve conditions for future cancer patients.

"The cancer area is highly complex, and it will not be less complex in the future. Therefore, we must become even better at collaborating so that we can inspire each other and stand together to help patients across national borders and disciplines," said Louise Bang Jespersen, Denmark's Ambassador to Norway, when she welcomed the attendees at the conference.

A message which was backed by Vibeke Rovsing Lauritzen, who is Denmark's Ambassador to Sweden:

"We are each a leader in different areas within cancer treatment, which is why it is so important that we share our knowledge with each other," she said.

Sharing patients

The Nordic cancer patient associations also agreed that cooperation is the best way forward.

"We imagine a future where Scandinavia is seen as a unified area where the patient can travel across borders for the best possible treatment. Patients are ready to travel today, but it only happens rarely because it is so complicated," said Ulrika Årehed Kågström, Secretary-General of the Cancer Foundation in Sweden.

Several attendees agreed that we must be better at sending the patients to other Nordic countries if there is a possibility of better treatment.

Among them was Daniel Heinrich, consultant clinical oncologist, Sykehuset Innlandet in Norway:

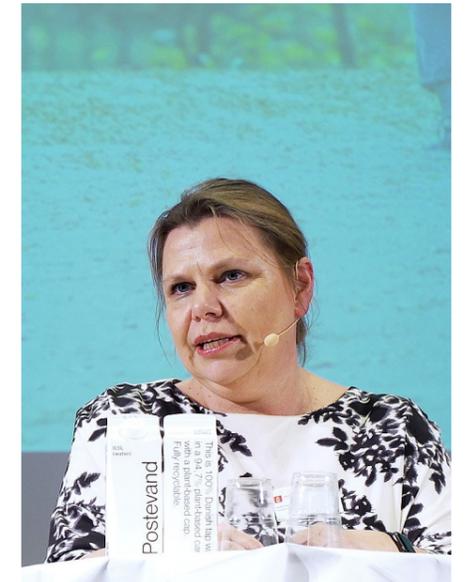
"It should be easier for me to call a hospital in Denmark and say: I have a patient who fits into your study. Today, there are many countries that do not take in patients because the health care system is publicly funded and just getting a patient to Stockholm or Copenhagen can be unaffordable, even if it does not cost a lot of money. Things can and should be made smarter, but it requires action now."

The obstacles

The question is, if everyone agrees that we need to be better at collaborating, how come it is not happening already?

There is not one clear answer to that question but one thing that was mentioned again and again was, that we record health data very differently in the Nordic countries which makes it difficult to share patient data. This is already a big focus area for both Denmark, Norway and Sweden since the countries also record data differently on a regional basis.

One thing was made very clear, though. There is a great willingness to collaborate in the future and the many benefits of doing so were emphasized during the conference.



We imagine a future where Scandinavia is seen as a unified area where the patient can travel across borders for the best possible treatment

Great need to improve the care of recovering cancer patients in the Nordic countries

Better rehabilitation of recovering cancer patients is a hot topic in the Nordic countries, where more people than ever are surviving their disease.¹

Today two out of three cancer patients survive¹, and many are living longer with the disease in the Nordic countries. This is largely thanks to continued advancements in cancer treatments, earlier diagnosis, the introduction of cancer patient pathways and prevention efforts.

This is great news we can be proud of, but it has led to a new challenge.

More than half of all cancer survivors are struggling with lingering effects like post-traumatic stress, nerve damage, pain and fatigue and may have lost touch with the job market during their sick leave. In other words, this is a vulnerable group often needing both physical and mental rehabilitation to ensure the best possible quality of life.²

Projections based on data from Eurostat show that cancer cases in the EU will increase by 21 per cent in 2040.³

Consequently, even more, recovering cancer patients will need rehabilitation in the future. Experts agree that we are not fully equipped to handle this development today. Perhaps because the focus primarily has been on survival.

An area of importance

In March, Denmark's ambassadors in Norway and Sweden and Astellas Pharma organized a conference titled Tomorrow's cancer treatment - how do we meet the future cancer patient in Scandinavia? Even though the subject was not part of the official agenda, many attendees mentioned better rehabilitation as an area of importance.

Among them was Jesper Fisker, CEO of the Danish Cancer Society, who is frustrated with what happens when the treatment ends.

"About half of all recovering cancer patients experience lingering effects that affect their lives in many ways, and we are not good enough at taking care of them today – especially not in Denmark, where we are lagging behind the other Nordic countries. We can and must do better," he said.

Different initiatives

In Sweden, legislation and national guidelines for cancer rehabilitation are in place; however, a review of Swedish breast cancer rehabilitation published by the Swedish Breast Cancer Association and the Swedish Cancer Society shows that they are not followed, and accessibility varies greatly across the country.⁴

In Denmark, an analysis of lingering effects and the healthcare system's efforts published by the Danish Cancer Society in 2021 showed that many patients are left alone with their problems and lack knowledge about how to address these. They call for more knowledge and nationwide consistent rehabilitation offers for the patients.⁵

In Norway, the Ministry of Health has decided to implement a new patient pathway (Pakkeforløp hjem) for recovering cancer patients to, among other things, ensure that the transition from hospital care to municipality care is better.⁶ The new patient pathway was implemented in 2021 and has yet to be evaluated.



Projections based on data from Eurostat show that cancer cases in the EU will increase by 21 per cent in 2040²

National rehabilitation guidelines

The Nordic countries, in general, see evidence-based national guidelines and standards as the way forward to ensure all patients are given the same opportunities.

They also agree that we need more clinical studies that evaluate the effectiveness of current rehabilitation measures.

The conference was an opportunity to share experiences and new ideas on rehabilitation across the Nordic borders. Something that was well received by the attendees.

"Exchange of experience where we build on the best ideas from countries that have come further than us is a prerequisite for fewer people to be affected by cancer and surviving the disease in the future," said Ulrika Årehed Kågström, Secretary-General of the Cancer Foundation in Sweden.

Ingela Franck Lissbrant, chief physician and oncologist at Sahlgrenska Universitetssjukhuset in Sweden agreed:

"The conference provided a possibility for discussing the actual problems in cancer treatment and an opportunity for learning from one another," she said.

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Multidisciplinary team conferences in the Nordic countries

Better rehabilitation of recovering cancer patients is a hot topic in the Nordic countries, where more people than ever are surviving their disease.

The multidisciplinary team (MDT) conferences enable experts with different specialities to meet and discuss treatment options for cancer patients and layout treatment plans.

The goal of the MDT conference is to ensure each patient's disease is treated in the best possible way and according to clinical guidelines regardless of where they live and their social status.

They have been an essential part of the Danish cancer treatment since the implementation of Cancer Plan II in 2005.

Sweden and Norway have also incorporated a version of the MDT conferences in their patient pathways.

Studies documenting the effect of the MDT conferences are sparse, but those which have been made show that MDT is associated with better and more timely treatment as well as improved compliance with clinical guidelines and inclusion of patients in clinical trial protocols.¹

But there is still much room for improvement.

Lack of time

In March, Denmark's ambassadors in Norway and Sweden and Astellas Pharma organized a conference titled Tomorrow's cancer treatment - how do we meet the future cancer patient in Scandinavia?

At the conference Leading experts from Denmark, Norway and Sweden took part in a panel debate where they discussed a multidisciplinary approach to cancer treatment.

One of them was Michael Borre, professor and chief physician at Aarhus Universitetshospital and chairman of the Danish Multidisciplinary Cancer Groups.

He asked the attendees how much time they thought was dedicated to each patient during the MDT conferences. Some believed it to be five minutes, while other answered 30 minutes.

The answer turned out to be less than two minutes, according to Michael Borre.

"Consequently, the experts must be well prepared before the conference, which is very time consuming – time they do not have, or which must be taken from the time otherwise allocated to patients. We need to do things differently, and we need to recognize that clinical work is more than pills and operations," he said.

A simpler hospital chart

In Sweden, attempts to solve the challenge of lack of time has resulted in a new tool for recording hospital charts.

"The number of cancer patients is rising and will continue to do so in the coming years. We already have too little time for the conferences today, so to make them more effective, we have introduced a simplified digital hospital chart that sums up many pages in one single image. The aim is to shorten the time spent on recording patient data as well as time spent on reading the charts. It makes consultations more efficient and focused and information gathering faster" said Ingela Franck Lissbrant who is chief physician and oncologist at Sahlgrenska Universitetssjukhuset in Sweden.

Lack of time and need for more acknowledgement was also a main point for Mads Nordahl Svendsen, who is chief physician and oncologist at Sjællands Universitetshospital in Denmark

"The task of the multidisciplinary teams is to develop the treatment standards across disciplines, and this is extremely important in terms of ensuring that we can all work together across disciplines. The work must be recognized and acknowledged so that we can structure the work in the best possible way," he said.

Room for more knowledge

In Norway, they have introduced an expert panel that resembles the Danish MDT conferences in many ways.

"I believe it has resulted in better treatment because cancer is a highly complex disease, and one person cannot know everything," said Daniel Heinrich, who is chief physician and oncologist at Sykehuset Innlandet and chairman of the board of the Norwegian Oncology Association Sweden.

But there is still room for improvement, he said.

"I would like to expand the expert panel so it becomes possible to include more specialists in the meetings because we need each other's speciality knowledge".

All panellists agreed that the MDT conferences are valuable in the treatment of cancer patients and a key reason for the improved survival seen across cancer forms. But to fully exploit the potential MDT conferences must be recognized and prioritized as such.

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1. Ugeskrift for Læger: Multidisciplinary team in cancer treatment. Published 08.01.2016. Available at: <https://ugeskriftet.dk/videnskab/multidisciplinaere-team-i-kraeftbehandlingen>. Cited May 2022.



Better incorporation of AI and Technology in diagnostics and treatment of cancer

Experts agree that there is a great potential in making better use of AI (artificial intelligence) and technology in diagnosing and treating cancer. Both healthcare professionals and politicians are interested in exploiting that potential, and innovative companies are eager to showcase their new solutions. Nevertheless, implementation is relatively slow.

We are facing a future where the population in the Nordic countries is getting older, and thus more people will get cancer. This development will likely put even greater pressure on the health care systems in the Nordic countries.

Therefore, both healthcare professionals and politicians agree that it is necessary to incorporate innovative technology and AI (artificial intelligence) when we diagnose and treat cancer.

Both Sweden, Norway and Denmark have already experimented with new ways of using AI in cancer screening programs, but there is a huge demand to take it to the next level.

Move forward but with caution

In March, Denmark's ambassadors in Norway and Sweden and Astellas Pharma hosted a conference titled Tomorrow's cancer treatment - how do we meet the future cancer patient in Scandinavia? Among other things, the panellists discussed how we could utilize AI as a diagnostic tool in the future.

A discussion Martin Eklund, who is an associate professor of epidemiology at the Department of Medical Epidemiology and Biostatistics at Karolinska Institutet in Sweden, participated in.

During the last couple of years, he has researched how AI can be used for diagnosing and grading prostate cancer. He was the last author of a study published in Nature in 2022, which shows that AI systems can identify and grade prostate cancer in tissue samples from different countries equally well as pathologists.¹

What he has also seen is that AI is a way to reduce overdiagnosis and treatment costs. However, Martin Eklund still emphasized the importance of moving forward with caution:



AI can save us time and money, but it is also associated with high risk because the systems are very vulnerable. A small change can lead to uncertain predictions, which must be clearly marked each time. That is why we have very specific and high requirements for IT in health

1. Bulten, W., Kartasalo, K., Chen, P.H.C. et al. Artificial intelligence for diagnosis and Gleason grading of prostate cancer: the PANDA challenge. Nat Med 28, 154–163 (2022). <https://doi.org/10.1038/s41591-021-01620-2> Cited May 2022.

"AI can save us time and money, but it is also associated with high risk because the systems are very vulnerable. A small change can lead to uncertain predictions, which must be clearly marked each time. That is why we have very specific and high requirements for IT in health," he said.

Need for managerial focus

Frederik Baastrup was one of the other panellists. He is the founder and partner in Human Bytes - a company specializing in developing and implementing AI and high-end workflow technologies in Nordic healthcare.

Human Bytes and the Capital Region of Denmark have recently entered into an agreement about testing an AI solution for assessing screening images in the breast cancer screening program.

The preliminary results are promising. Already within the first two months, the algorithm has relieved the doctors who look at the X-rays by approximately 30 per cent of their task.

When asked whether it is easy to implement a solution like this at other hospitals, Frederik Baastrup answered:

"The technology is here, and it is ready to be used, so the real barriers are the need for managerial focus and continued quality control".

Specific regulatory requirements

Norway was represented by Klas H. Pettersen. He is the CEO of the Norwegian Artificial Intelligence Research Consortium, which aims to strengthen Norwegian research, education and innovation within AI, machine learning and robotics.

He also highlighted the many fantastic possibilities, but at the same time, he pointed out the enormous safety measures that need to be in place because the systems are very sensitive.

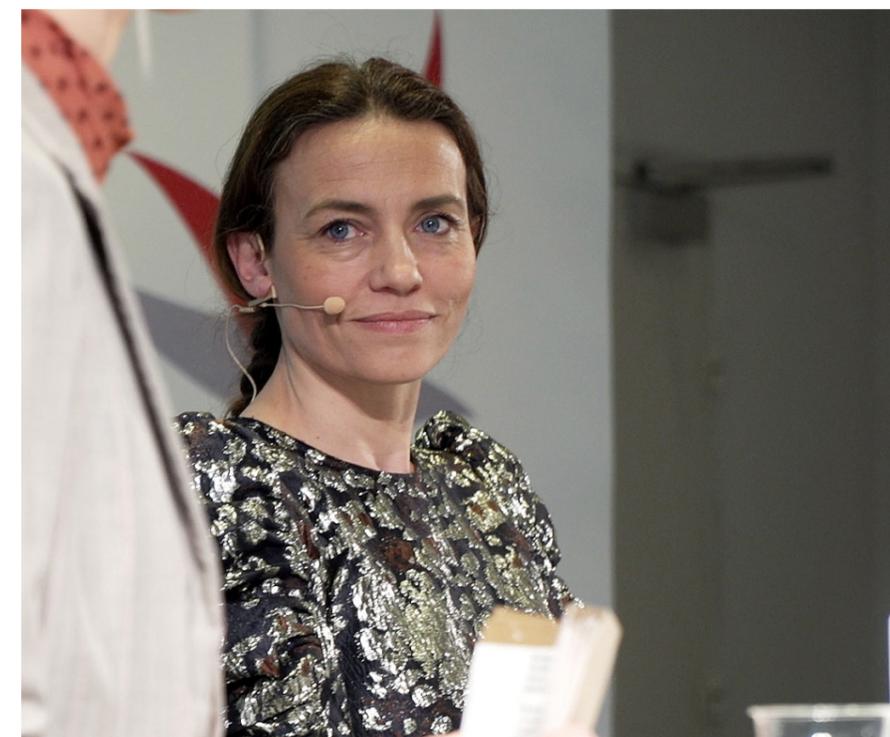
"It is a form of AI that must live up to very specific regulatory requirements for it to be used in medical treatment. Therefore, the implementation must be done in a proper way so that it does not cause more harm than good," he said.

What is next

During the discussion, one of the attendees asked the panellists why AI is not already integrated in Nordic cancer diagnostics since staff shortage has long been an issue.

Martin Eklund agreed that things could happen faster, but at the same time, he once again underlined the need to move forward with caution.

Klas H. Pettersen agreed and called for more collaboration between clinicians and scientists specialized in AI to move things forward.



Incorporating health data in future cancer treatments

Politicians, clinicians, researchers, and the pharmaceutical industry have long discussed how we can become better at systematically collecting and using health data. Nevertheless, development is relatively slow in Norway, Sweden, and Denmark.

It has become increasingly clear that not all patients benefit from standardized cancer treatment, even though they have the same diagnosis.

Some respond well to a given treatment, while others experience little effect. The same applies to side effects and late effects, where some have almost no side effects, and others are significantly affected by the treatment. The challenge is that it is impossible to predict which patients will benefit from a given therapy.

Experts agree that better use of health data can help us move towards more individualized cancer treatment.

Scandinavia can be a pioneer

Many believe that we are sitting on a goldmine in the Nordic countries thanks to our personal identification number, making it easy to follow the patient during a lifetime and across their course of treatment.

In other words, this is an area where Scandinavia has the opportunity to be a pioneer and, at the same time, attract more clinical studies from international drug developing companies.

Some go as far as calling health data the new oil. That is probably one of the reasons why Scandinavian politicians are also very interested in taking better advantage of health data.

In 2019, the Swedish government presented a new life science strategy where they mentioned the importance of using health data for research and innovation to contribute to improved patient care and business development.¹

Denmark's latest life science strategy also emphasizes the importance of health data. The Government's vision is for Denmark to be an international leader in using health data for research, development and public authority tasks in a contemporary, innovative and secure way.²

The general population also appear to be ready.



According to a Swedish publication published in 2021, 93 percent of the Swedish population are favourably disposed toward sharing their health data anonymously.³

But the road to success is paved with many challenges.

Facing the next giant leap

In March, Denmark's ambassadors in Norway and Sweden and Astellas Pharma hosted a conference titled Tomorrow's cancer treatment - how do we meet the future cancer patient in Scandinavia?

Health data was not an independent topic at the conference, but virtually all panellists mentioned it as a central topic.

One of them was Cecilia Halle, who is Deputy Head of Unit at the Ministry of Social Affairs in Sweden.

She told the attendees that Sweden has a decentralized healthcare system which makes things very complex, but a lot has happened during the last years.

"Ten years ago, we introduced patient pathways in the Swedish cancer treatment – an essential step in securing equal treatment. Now we are facing the next giant leap – taking advantage of the evolution of genetics and health data. To do that, we need a national strategy, and we need to make it easier to share health data".

Cecilia Halle also mentioned legislation as a challenge.

"Health data intervenes in many areas; therefore, legislation must always be entirely in place, but it quickly becomes obsolete because development in this area goes so fast".

Michael Borre, a professor and chief physician at Aarhus Universitetshospital and chairman of the Danish Multidisciplinary Cancer Groups, agreed that there are many challenges – one of them being the need for a standardized system for journaling patient records.

"We have a lot of different databases in Denmark, but it is hard to extract data when there is no standard journaling system. I believe a common procedure for hospital records would take us to the next level," he said.

Daniel Heinrich, Chief Physician and Oncologist at Sykehuset Innlandet and Chairman of the Norwegian Oncology Association, saw many of the same challenges.

"We have a vision that data should flow and be accessible, but it is difficult to achieve because there are many ways of gathering health data in Norway, and they do not integrate well with each other," he said".

And the challenges get even more significant when the ambition is to share data across borders.

For the sake of the patients

Even though the road to better use of health data appears to be very bumpy, everyone agreed that there is no way around it.

"If our societies do not react, the inequality in health care becomes even greater because patients with money can pay for special examinations resulting in better treatment," said Cecilia Halle.

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Ten years ago, we introduced patient pathways in the Swedish cancer treatment – an essential step in securing equal treatment. Now we are facing the next giant leap – taking advantage of the evolution of genetics and health data. To do that, we need a national strategy, and we need to make it easier to share health data.

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3. Forska Sverige: New Sifo survey shows: 93 percent want to share their health data. Published 12.22.2022. Available at: <https://www.forskasverige.se/ny-sifo-undersokning-visar-93-procent-vill-dela-sin-halsodata-2021-12-22/>

Key learnings from the conference

The number of cancer patients will continue to rise in the coming years putting pressure on health systems all over. To give the cancer patients of tomorrow the best possible treatment, we must take action now and make radical changes in our approach to cancer treatment. Here's a top five of actions identified at the conference:

1

Evidence-based national rehabilitation guidelines and standards are the way forward to ensure all patients have the same opportunities for rehabilitation.

2

Strategies for national health data that focus on the potential of sharing data across borders are an essential part of tomorrow's cancer treatment.

3

Multidisciplinary team conferences will continue to play a critical role in cancer treatment and must be further developed as a means for achieving optimal treatment standards across disciplines.

4

Artificial Intelligence and machine learning hold many fantastic possibilities as diagnostic tools of the future; however, the systems are sensitive and all aspects must be taken into account - from regulatory requirements to ethical concerns.

5

The future belongs to partnerships and collaborations; both between public sectors and private companies as well as across specialities and borders.



Conclusion

Better together

Overall, it is safe to say that we are good at treating cancer in the Nordic countries.

However, the discussions at the conference emphasize we still have a lot to do, especially considering the prediction that the number of cancer patients will grow by 21 per cent in 2040 and the fact that cancer treatment is becoming increasingly complex.

Among the panellists and attendees, there was a general understanding that closer collaboration across specialities and national borders is the way forward if we want to ensure the best possible treatment for the cancer patients of tomorrow.

Therefore, continued formal and informal dialogue at conferences and meetings is essential in building the necessary bridges that allow knowledge and experience to flow freely between the Nordic countries.

Because together, we are better equipped to face the challenges and exploit the opportunities that will allow us to continue improving and providing the best possible cancer care.

Astellas Pharma will continue to be a part of and create platforms for future meetings.

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