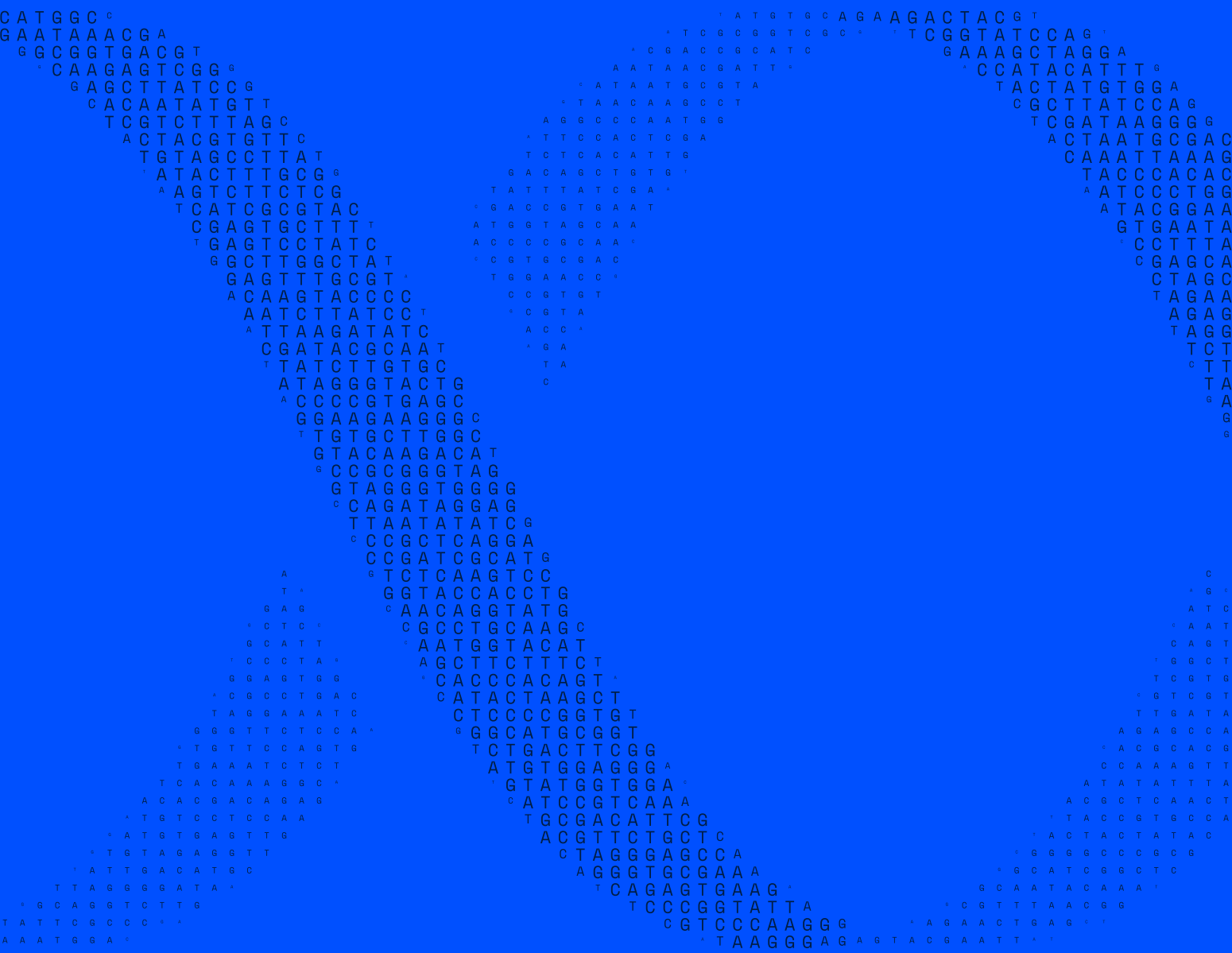
DANISH NATIONAL
GENOME CENTER

From Vision to Reality



NNF Final Report

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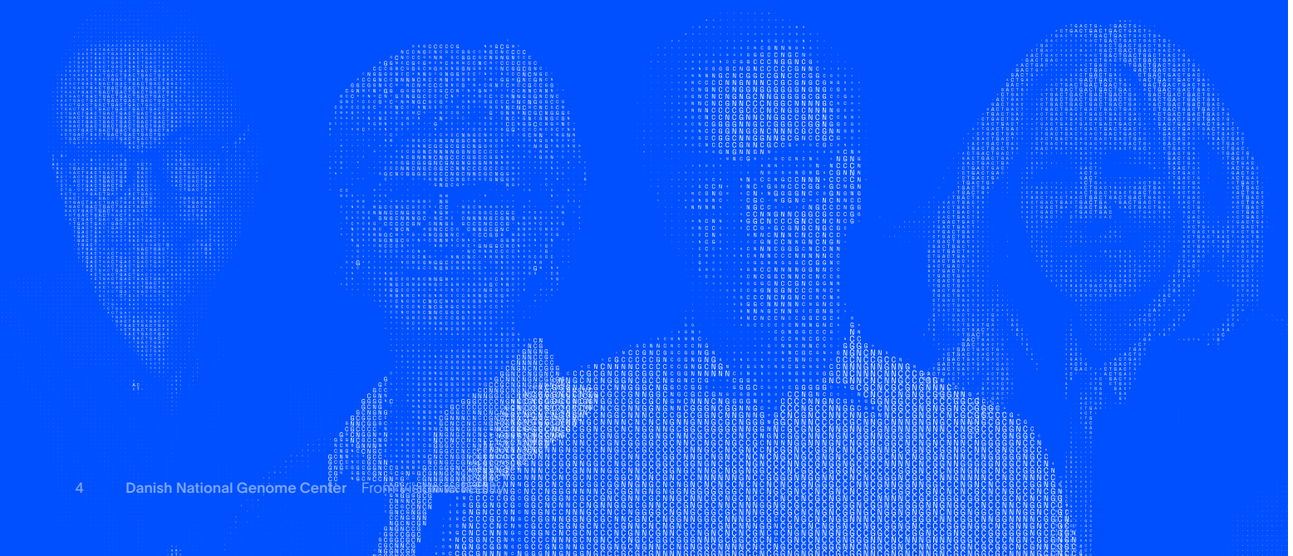
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A National Vision for Treatments of the Future

With the launch of the National Strategy for Personalised Medicine in 2017, Denmark took a decisive step away from a "one-size-fits-all" approach to healthcare and adopted a clear vision: treatment should be tailored to the individual patient.



There was a unique opportunity to build and apply genetic knowledge at scale, but this required a coordinated effort. The vision reflects a clear national priority: that Denmark must remain at the forefront of equitable, high-quality healthcare, where innovation is translated into tangible benefits for every patient. In 2019, the Danish National Genome Center was established, highlighting Denmark's commitment to furthering genomics.

Fast forward to 2026, the Center has reached a significant milestone: 60,000 genomes from Danish patients are now part of the National Genome Database. These are not merely numbers; they constitute a foundation that helps bridge critical knowledge gaps and provides patients with meaningful answers to health-related questions. The national implementation of whole genome sequencing and the supporting infrastructure have fundamentally transformed the Danish healthcare system, improved diagnostics and treatment for patients, and strengthened Denmark's position as a key player in global life science.

Realising a national programme of this scale required investments that reflected its ambitions. Through coordinated funding from the national budget, the Danish Regions, and the Novo Nordisk Foundation, Denmark has been able to evolve year after year. A grant of DKK 1 billion from the Novo Nordisk Foundation for establishing and operating the Danish National Genome Center represented a long-term investment that reaches far into the future and brings research closer to patients.

Since the establishment of the Center in 2019, keeping patient data secure has been of the highest priority.

As such, a model was created where the targeted use of genetic knowledge goes hand in hand with data security, ensuring the most effective patient care while maintaining high levels of ethics. Denmark has thus demonstrated that technological leadership and data security are not mutually exclusive. As a result, public trust functions not merely as a technical requirement, but a national commitment that underpins the legitimacy of using health data in a modern welfare society.

The Center has been tasked with transforming strategic goals into operational reality. This includes establishing nationwide infrastructure that integrates advanced genomic data directly into clinical care, making complex analyses available to healthcare professionals at the crucial moment of diagnosis.

The national infrastructure and technological advancements offered by whole genome sequencing have created direct clinical value for patients with rare diseases and cancer, while enabling research that will shape the treatments of the future.

The Center is now entering a new phase. The knowledge gained and infrastructure developed by the Danish National Genome Center will form an integral part of the upcoming Digital Health Denmark including the "Vision for Better Use of Health Data". The goal is to ensure that genome data can be used safely in conjunction with other health data for the benefit of patients, research, and society as a whole. The foundation has been laid. Now, Denmark must not only keep pace, but lead by example, demonstrating how digital transformation can strengthen patient outcomes while securing a sustainable healthcare system for future generations.

Ida Auken
Minister for Health and Minister for Ecclesiastical Affairs

Svend Særkjær
CEO, Danish Regions

Mads Krogsgaard Thomsen
CEO, Novo Nordisk Foundation

Bettina Lundgren
Previous CEO, Danish National Genome Center
Vice-president, The Preparatory Digital Health Denmark

From Vision to National Implementation

The Danish National Genome Center (DNGC) was created at a pivotal moment, when the promise of personalised medicine was rapidly accelerating and political ambition aligned with the need to translate scientific breakthroughs into better patient care.



Genomic technologies were continuously evolving, and there was broad recognition that Denmark required a coordinated, national effort to ensure that the benefits of genomics could be realised in a responsible, secure, and equitable way. Early policy analyses and personalised medicine strategies set out an ambitious vision: to implement a systematic genomics programme into the national healthcare system while upholding public trust and building on Denmark's strong health data foundation.

From its inauguration on 1st May 2019, DNGC benefited from a uniquely enabling framework. A clear political mandate, a dedicated legal foundation through the Act on the Danish National Genome Center (LOV nr 728 af 08/06/2018, "Lov om ændring af sundhedsloven (Organiseringen I Sundheds- og Ældreministeriet, oprettelse af Nationalt Genomcenter m.v."), and substantial investments from the Novo Nordisk Foundation, the Danish Regions, and the Danish Finance Act. In combination, these factors provided stable governance, long-term financing, and national alignment. These elements allowed Denmark to move quickly from vision to execution – focusing simultaneously on building clinical capacity within genomics and establishing a world-class national infrastructure.

Whole genome sequencing (WGS) became the cornerstone of this transformation. Offering a comprehensive and future-proof sequencing approach, WGS was introduced across 17 selected patient groups, covering patients with rare diseases and cancer.

The Novo Nordisk Foundation granted a generous donation to DNGC to sequence 60,000 genomes across the 17 patient groups. The experiences from the national implementation of WGS were gathered and the insights indicated clear clinical value and feasibility of WGS for the selected patient groups, leading to the programme being consolidated within the Danish healthcare system.

In January 2026, DNGC reached the initial target of 60,000 genomes financed by the Novo Nordisk Foundation in the National Genome Database, directly benefitting patients by contributing to more precise diagnoses and better treatment and care.

Beneath these clinical benefits lies a robust national infrastructure linking regions, hospitals, and researchers. Purpose-built for secure handling and large-scale use of sensitive data, it supports daily patient care and research while enabling broader ambitions for data reuse and innovation. In 2025, DNGC further strengthened this foundation by building a new high-performance computing (HPC) infrastructure. This next-generation supercomputer represents a significant milestone in Denmark's digital health landscape, increasing national capacity to use genetic and health data effectively for the benefit of patients.

The impact has been substantial. Within just a few years, Denmark has become recognised internationally as a national success story, showcasing how genomics can be implemented at scale in a publicly funded healthcare system. The initiative has also positioned Denmark as an international leader, contributing to complex and visionary projects under the EU initiative 1+ Million Genomes.

As a highlight of Denmark's international engagement, DNGC hosted an international conference on personalised medicine during the Danish EU presidency in 2025, welcoming more than 600 participants from 25 countries, further consolidating Denmark's profile as a pioneer in data-driven healthcare.

On 1st July 2025, DNGC became part of the Danish Health Data Authority, marking the transition from an independent authority to an integrated part of Denmark's health data ecosystem. In this new setting, the national infrastructure now supports data linkage and easier access to genomic data for research, aligned with the Vision for Better Use of Health Data and the National Strategy for Personalised Medicine 2025-2027. Looking ahead, DNGC, within the Danish Health Data Authority, will become part of the upcoming organisation Digital Health Denmark, which embodies Denmark's ongoing commitment to digital innovation and cross-sector collaboration within the Danish health data space. This new organisation will combine responsibility, knowledge, and resources to create better, more seamless patient care pathways.

Since its establishment, DNGC, together with the Danish Regions, has worked to improve patient care and has helped place Denmark at the forefront of a global movement towards personalised healthcare. Having built a world-class infrastructure and a rich national genomic resource, DNGC is now looking to put this foundation to use to continue to support patients with data-driven healthcare.

Milestones

2016

The first National Strategy for Personalised Medicine (2017-2020) is launched, setting a clear direction.

2017

The national collaboration on personalised medicine is aligned around a shared vision.

2018

The legal framework for the National Genome Center is adopted.

The Novo Nordisk Foundation allocates DKK 990 million to DNGC.

2019

DNGC is established as an agency under the Ministry of Interior and Health.

2020

A new national infrastructure for personalised medicine is implemented.

The National Strategy for Personalised Medicine (2021–2022) is launched.

17 patient groups are nominated and selected for whole genome sequencing.

2021

2022

DNGC is ISO-certified (ISO/IEC 28001 and ISO/IEC 27701).

All 17 patient groups are established.

2023

Evaluation of the impact of implementing whole genome sequencing begins for the 17 patient groups.

Transition to full operational mode.

DNGC is merged with the Danish Health Data Authority, becoming a more integrated member of Denmark's health data ecosystem.

The Danish Regions consolidate offering whole genome sequencing to the 17 patient groups.

The National Strategy for Personalised Medicine (2025-2027) is launched.

2024

Researchers gain access to the National Genome Database.

2025

A new supercomputer is built.

2026

The National Genome Database reaches a milestone and contains more than 60,000 genomes from patient treatment and research.

Operations and rollout accelerate with standardised processes, improved monitoring and management, and increased alignment with the EHDS.

Whole genome sequencing runs reliably, and linkage to other data supports both patient care and research.

2027

Digital Health Denmark is established where DNGC's infrastructure helps promote a more data-driven health-care system.

Key figures

60,134 Genomes in the database

55,996 patients have benefitted from WGS as part of their clinical care. The remaining 4,138 genomes are from patients enrolled in research projects. These genomes can be used to support clinical decision-making, research, and personalised healthcare.

900M DKK

Donation from the Danish State and Regions

(DKK 881.8 million precisely) To kick-start the establishment of DNGC, the Danish Regions donated (in-kind) DKK 732.3 million and the State donated 149.5 million through the national budget.

1B DKK

Donation from the Novo Nordisk Foundation

(DKK 992.1 million precisely) DKK 102.1 million was initially granted to initiate the establishment of DNGC and in December 2019, The Novo Nordisk Foundation awarded up to DKK 890 million to support the collection of 60,000 genomes.

5

Strategic partners

The collaboration with strategic partners supports a future where health and socio-economic data can be used more effectively.

Statens Serum Institut
Statistics Denmark
The Danish Health Data Authority
The Danish Medicines Agency
The Pioneer Centre for AI

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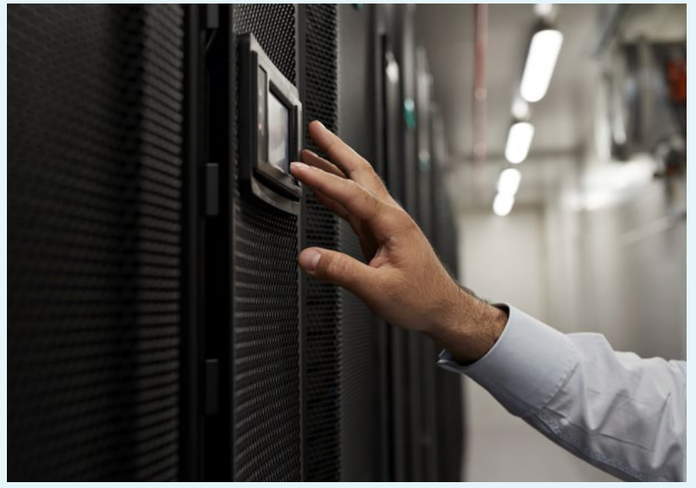
Research projects

Researchers can utilise DNGC´s supercomputer for research in personalised medicine via a tailored cloud, accessing its storage and computing power.

17

Patients groups

17 patient groups including patients with rare diseases and cancer are offered WGS as part of their diagnosis and treatment, contributing to faster and more accurate diagnostics and improving care pathways and treatment options.



27001 & 27701 ISO /IEC-certification

Security Certifications

Storing the genomes of Danish patients requires the highest level of security.

DNGC is certified according to the most known and recognised international security and privacy standards, which were recertified in 2025.

Whole Genome Sequencing in Patient Care

CASE

INFO

NAME	Kirstine Kvist Jakobsen
ILLNESS	Acute myeloid leukaemia

"WGS provides faster, more precise diagnosis of blood cancers and represents the future of diagnostics. It rapidly detects cancer-related changes with high sensitivity, has the potential to consolidate diagnostic methods, and, most importantly, benefits patients."



Anne Roug
Kirstine Kvist Jacobsen's attending physician, Senior Consultant, PhD, Associate Professor, Aarhus University Hospital

FROM WHOLE GENOME SEQUENCING IN DENMARK

From Suspicion to Life-Saving Treatment

Kirstine Kvist Jakobsen, a 55-year-old woman, experienced fatigue and shortness of breath and consulted her general practitioner, who carried out blood tests. The results were mildly abnormal, showing slight signs of anaemia, somewhat reduced platelet levels and a mildly weakened immune system. Kirstine was therefore referred for further assessment at the Department of Haematology at Aarhus University Hospital.

The doctors in the department examined her bone marrow using their standard analyses and identified a very indolent, low-risk condition known as myelodysplastic syndrome, which over many years can potentially develop into acute leukaemia. However, the clinicians assessed that she was too young to be experiencing so many symptoms if it were "just" a precursor condition. Kirstine was therefore offered further genetic investigations, including WGS.

The WGS revealed a serious acquired chromosomal abnormality which in itself is diagnostic of acute leukaemia and is also associated with an adverse prognosis. The doctors carried out supplementary analyses, which confirmed the finding. On the basis of the identified genetic abnormality, they were able to establish the correct diagnosis – acute myeloid leukaemia. This made it possible to offer a bone marrow transplant before Kirstine developed overt disease, thereby improving her chances of survival.

Today, it is approximately six months since Kirstine underwent her bone marrow transplant. The treatment has been demanding and she is still experiencing side effects, but her most recent bone marrow sample showed no signs of haematological disease.

Kirstine says of her treatment journey: "It is a strange feeling that I have not been ill in the way people normally are with leukaemia. Many patients do not become well enough to undergo transplantation and become terminally ill. I have a number of side effects from the treatment, but I have never actually been ill from the cancer."

You can read more examples of how WGS has benefitted patients at ngc.dk



National Implementation of Whole Genome Sequencing

A key priority in the first National Strategy for Personalised Medicine in 2017 was to support the use and increase in knowledge of comprehensive genomic testing as a first, important step to advance personalised medicine in the Danish healthcare system.

To achieve this vision, WGS was chosen as a comprehensive and future-proof sequencing approach. The clinical implementation was kick-started by the generous donation from the Novo Nordisk Foundation to fund 60,000 WGS of Danish patients and was implemented nationally based on guiding principles of health equality, clinical evidence, and value for the patient.

In the beginning, the patient group "Rare diseases in children and young people under 18 years" served as the pilot for the clinical implementation of WGS and the subsequent evaluation of the initiative. Based on the technical and clinical experience gained from this pilot group, the initiative was expanded to ultimately include 17 patient groups, which were consolidated nationally following onboarding.

The patient groups were selected through a comprehensive medical review process to include patients with a suspected genetic disease who were deemed by experts to benefit from WGS in terms of improved diagnosis and treatment. The 17 patient groups who were given access to WGS as part of their diagnostic assessment and treatment include 13 patient groups with rare hereditary diseases and four patient groups with cancer.

The ambitious target of 60,000 WGS for the benefit of patients was achieved in January 2026. More than 60,134 genomes are now securely stored in the National Genome Database. Of these, 51,556 genomes come from patients enrolled in the 17 patient groups, while 4,440 genomes come from patient treatment outside of the 17 patient groups, and 4,138 genomes come from patients enrolled in research projects. The distribution of genomes from patients enrolled in the 17 patient groups is shown below.

Total number of WGS performed for each patient group as per 31st January 2026[1]
Genome and RNA samples divided into patient groups

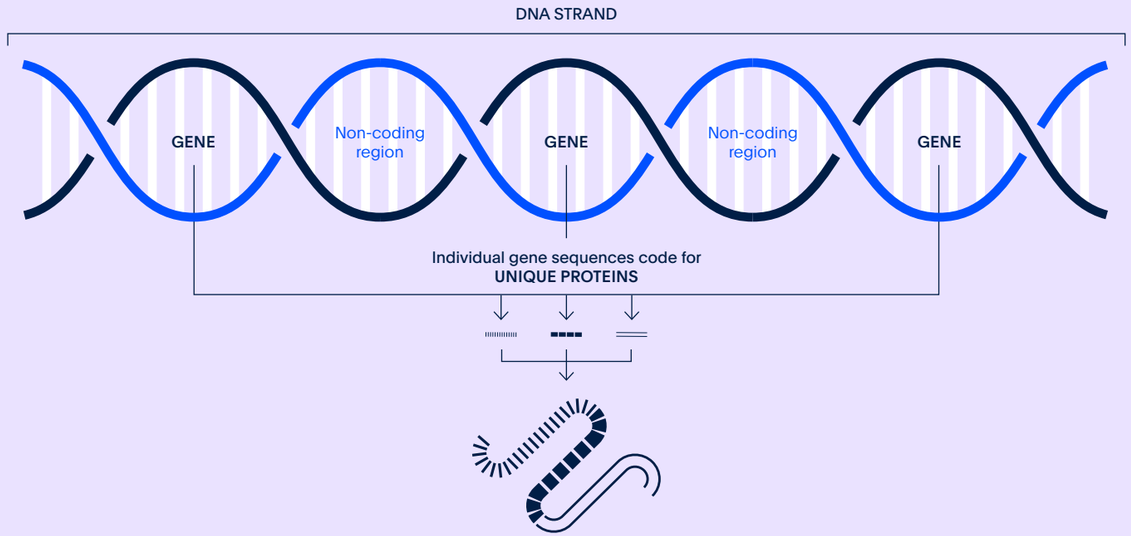
Rare disease	36,312
Hereditary heart disease	3,268
Hereditary haematological disease	1,196
Hereditary cholestatic and fibrotic liver disease	284
Audio genetics	1,754
Endocrinological patients	1,425
Fetal medicine	2,750
Neurogenetic patients	3,729
Kidney failure	837
Ophtalmology	933
Primary immune deficiency	1,738
Psychiatry (children and young people)	783
Severe hereditary skin diseases	554
Rare diseases in children and young people 18< years	14,789
Rare diseases in adults	2,272

Cancer groups	15,244
Children and young people	2,284
Haematological cancer	518
Young adults[2] and adults with hereditary cancer	867
Advanced and incurable cancer	11,575

[1] Please note, these numbers reflect the number of WGS samples (not genome equivalents) funded by the Novo Nordisk Foundation. The National Genome Database also holds WGS samples from other sources, therefore, the total number of WGS in the National Genome Database is higher than that showed in this table.

[2] 18-30 years

FACTS



What is a genome?

The human genome is the complete set of genetic material present in each person. A genome contains all the information needed for an individual to develop and function. The instructions in our genome are determined by a unique DNA sequence, which is made up of chemical building blocks: nucleotide bases.

The human genome is made up of 3.2 billion nucleotide bases. If printed, the 3.2 billion bases in the genome would extend 3000km which is approximately the distance from Copenhagen to Cairo or if printed on A4 paper, would stack as high as the Round Tower in Copenhagen – approximately 35m tall.

Genomes vs genes

A genome is the entire DNA sequence, including protein-coding areas called genes and non-coding areas of DNA. Genes are segments of DNA that give your cells instructions. Your genes determine physical traits like hair and eye colour, and impact health and disease including, for example, how your immune system works.

Genes make up about 1-5% of the entire genome. The rest of the DNA between the genes used to be considered as 'junk' DNA. However, we now know that this 'junk' plays an important role in regulating genes, and we have a lot more to learn.

Why sequence a genome?

Whole genome sequencing determines the order of the nucleotide bases. The sequence of bases can influence an individual's health, appearance, and risk of developing certain diseases. Sequencing a genome can offer many benefits for patients and society, including:

- More precise diagnoses – a clinician may be able to see the exact cause of a certain condition.
- More targeted treatment – people with certain genomes may respond better to certain treatments.
- Greater disease prediction – when the genomes of patients with the same condition are compared, sometimes we can see patterns. Once these patterns are confirmed, we can better predict the onset of diseases or other genetic conditions.

Accumulation of Genome Equivalents

In principle, WGS analyses in the 13 patient groups with rare diseases are performed on blood (“germline”) samples, while WGS analyses in the 4 patient groups with cancer are performed on blood samples and tumour (“somatic“) samples. Tumour samples are sequenced three times more than blood samples because you need a higher level of detail to analyse tumour tissue.

To relate the two when counting towards the 60,000, the term “genome equivalents” was implemented and as such, a genome from a germline WGS counts for one genome equivalent, while a genome from a somatic WGS counts as three. Consequently, the 51,556 Novo Nordisk Foundation-funded genomes equate to 60,886 genome equivalents. The figure shows the cumulative development of genome equivalents from July 1, 2019, until January 31, 2026.

The gradual growth of genome equivalents from 2020-2023 highlights the complexity of clinical implementation of WGS, which required the reorganisation of regional workflows in the laboratory and clinic. As more patient groups were implemented and workflows adapted, the growth rate increased significantly. From 2023, when all 17 patient groups were operational, a steady rise in growth rate can be observed. At the end of 2023, monthly production of genome equivalents was roughly 1,200, rising to roughly 1,600 at the end of 2025.

With a record monthly production of 2,016 genome equivalents for January 2026, the target of 60,000 genomes was achieved. As of 31st January 2026, a total of 60,886 genome equivalents had now been produced.

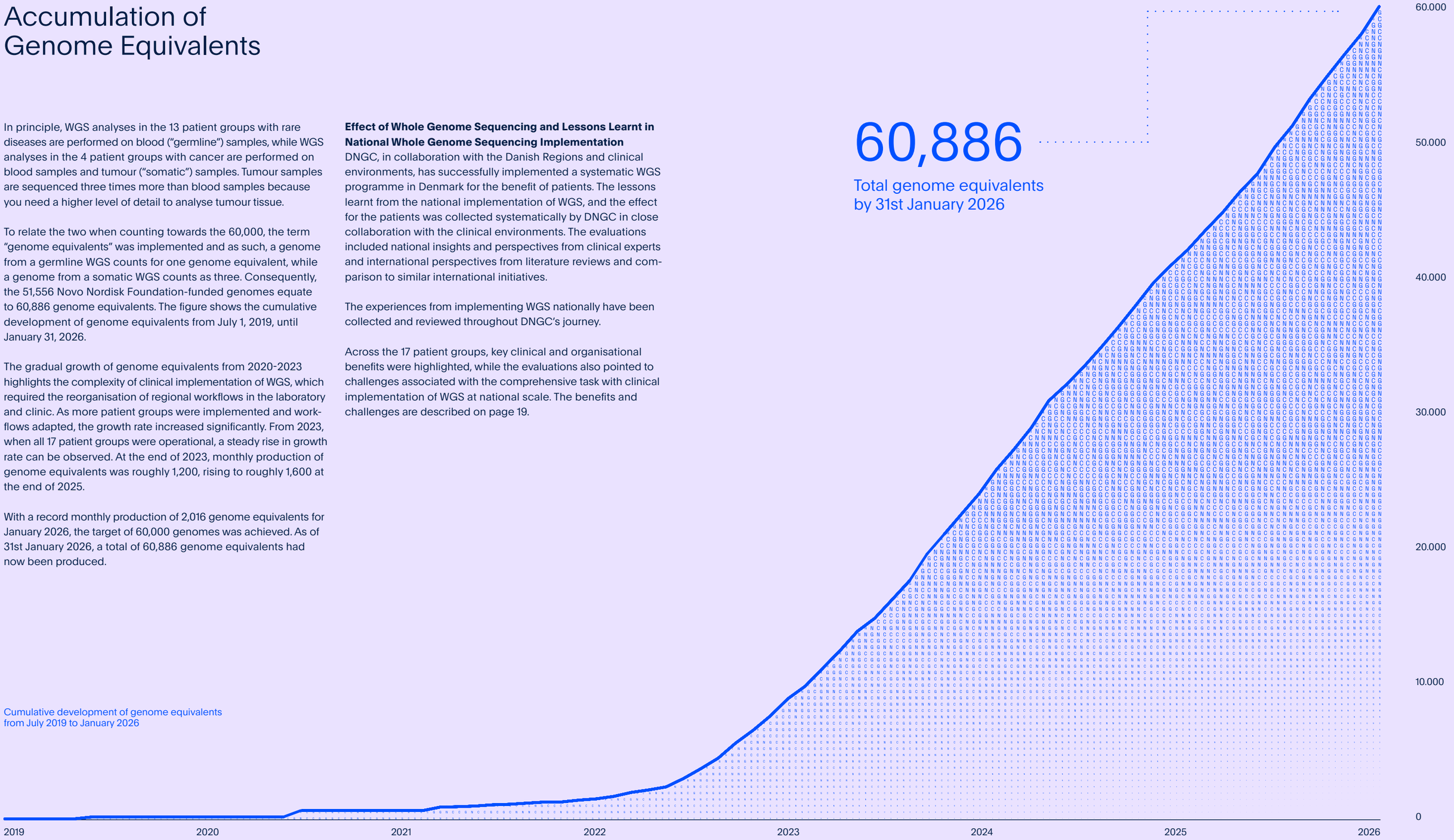
Effect of Whole Genome Sequencing and Lessons Learnt in National Whole Genome Sequencing Implementation
DNGC, in collaboration with the Danish Regions and clinical environments, has successfully implemented a systematic WGS programme in Denmark for the benefit of patients. The lessons learnt from the national implementation of WGS, and the effect for the patients was collected systematically by DNGC in close collaboration with the clinical environments. The evaluations included national insights and perspectives from clinical experts and international perspectives from literature reviews and comparison to similar international initiatives.

The experiences from implementing WGS nationally have been collected and reviewed throughout DNGC’s journey.

Across the 17 patient groups, key clinical and organisational benefits were highlighted, while the evaluations also pointed to challenges associated with the comprehensive task with clinical implementation of WGS at national scale. The benefits and challenges are described on page 19.

60,886

Total genome equivalents by 31st January 2026



Cumulative development of genome equivalents from July 2019 to January 2026

"The establishment of the Danish National Genome Center has been a key driver in transforming diagnostics in Denmark.

With the implementation of whole genome sequencing, advanced genomic analysis has become an integrated part of routine clinical practice for a number of disease areas. The national setup has not only improved the quality and speed of advanced diagnostics but has also laid the foundation for scaling genomic and personalised medicine to a much broader level.

Looking ahead, this will enable more precise treatments, smoother patient pathways, and more personalised care."

Maria Rossing
Chief Physician Department of Clinical Biochemistry, MDxCore,
Clinical Research Associate Professor, PhD, Rigshospitalet



Major organisational and clinical benefits include:

- The national implementation of WGS represents a significant and important technological advancement, transforming the use and knowledge of genomics in the Danish healthcare system.
- The uniform and systematic programme has contributed greatly to health equality and has served as a common platform for collaboration and knowledge-sharing.
- The technological advantages of WGS provide significant clinical value by contributing to faster and more accurate diagnostics, improving care pathways and treatment options. The programme is highly valued by patients and clinicians alike due to its clinical benefits.
- The clinical environments and patient organisations recommend the programme to continue as patients benefit in terms of better diagnostics and treatment options, and it is fully in line with programmes offered abroad.
- The national implementation has significantly strengthened interdisciplinary cooperation. It has contributed to competence building in terms of knowledge and use of advanced genomic diagnostics, national harmonisation across patient groups and regions.
- A genetic diagnosis provides clarity about heredity and recurrence risk. This opens for reproductive options and genetic testing in family members, so only the relevant at-risk individuals are offered follow-up and treatment.
- The programme has increased international collaboration through strengthening genomics for clinical use and research in Denmark.
- The development of a national infrastructure for personalised medicine and a National Genome Database, allows for reanalysis and reuse of data for future research and development of personalised medicine in Denmark.

Key challenges in implementing WGS nationally include:

- The national implementation of WGS has been a comprehensive and time-consuming process, requiring significant reorganisation of regional workflows in the laboratory and clinic. Furthermore, it underscores that continued investment and commitment is an important prerequisite to realise the still untapped potential of the programme.
- There is a shortage of interpreters, doctors, and bioinformaticians specialised in the field, underscoring the need for training and competence building in a broad sense.
- There are logistical challenges related to requisition, and a time-consuming process for obtaining written consent, highlighting these as areas for improvement.
- There was a desire from clinicians to realise parts of the ambition that had not yet been realised, such as frequency- and variant classification databases. Similarly, systematic data collection to document the effect, and linking genetic and clinical data, was highlighted as important areas for improvement to realise the full potential of the programme.

The 60,000 WGS were distributed across 17 patient groups, including 13 patient groups with rare hereditary diseases and four patient groups with cancer. Some of the insights are particularly relevant to patient groups with rare diseases or with cancer.

These insights are described on page 21.

Insights

— from implementing WGS in the 13 patient groups with rare hereditary diseases

- The improved diagnostic capabilities of WGS help shorten an often-prolonged diagnostic odyssey which is a well-known problem for patients with rare diseases.
- A timely diagnosis enables early and individualised treatment and care, while reducing unnecessary treatments or interventions in patients with unknown or uncertain diagnoses.
- A genetic diagnosis may provide access to clinical trials and contribute new knowledge to the field, which is particularly relevant for rare diseases.
- There is emerging evidence that using WGS as the first choice may be cost-effective compared to standard genetic testing, for example, in children with developmental disorders or a suspected rare disease.

— from implementing WGS in the 4 patient groups with cancer

- WGS contributes to faster and better diagnostics by generating more knowledge, improving diagnosis and risk stratification for patients with cancer.
- A genetic diagnosis may have therapeutic implications by informing the treatment strategy and possibly opening new treatment options, including clinical trials, which will increase treatment effectiveness, reduce side effects and ultimately improve patient survival.
- A genetic diagnosis can help to clarify heredity by confirming or disproving suspicion of heredity with clinical implications for family members to patients with cancer.

OVERALL PERSPECTIVES

How Development of a National Infrastructure for Personalised Medicine has Benefitted Current and Future Patients

- National implementation of WGS has demonstrated clear clinical benefits for patients in the Danish healthcare system.
- The programme has strengthened health equity, competence building, and interdisciplinary collaboration at all levels for the benefit of the patients.
- Evaluations highlighted a strong desire for continued systematic patient involvement and continued national coordination to ensure a uniform approach when offering WGS to Danish patients.
- The evaluations pointed to important areas for development to realise the full potential of the programme, including systematic data collection and consolidation with clinical data to monitor the effect, and developing tools and data-sets to utilise the genome data. e.g., in knowledge databases.
- WGS data generated to diagnose and treat current patients is simultaneously contributing to research, informing future treatments, and benefiting future patients.
- Collaborating across geographical and professional boundaries enables the realisation of ambitious healthcare strategies.

"The Danish National Genome Center demonstrates what can be achieved when healthcare, research, and government work together across the country.

We are proud to have supported the creation of a national infrastructure that has enabled clear patient benefits from whole genome sequencing and laid the foundations for the continued development of personalised medicine in Denmark in the years to come."

Mads Krogsgaard Thomsen
CEO, Novo Nordisk Foundation



Infrastructure, Research, and Strategic Partners

A comprehensive technical infrastructure is required to sequence, store, and analyse WGS data. With the funding from the Novo Nordisk Foundation, the National Infrastructure for Personalised Medicine was developed. In Denmark, this National Infrastructure originally consisted of one supercomputer, one National Genome Database, two sequencing sites, five regions, 54 public hospitals, and many departments and units. Since the consolidation of WGS in the regions, more centres are performing sequencing, processing, and interpretation locally, with the number of centres expected to continue to grow. The organisation of the infrastructure is shown on the following page:

DNGC is a central part of the national infrastructure for genomic data as described in the National Strategy for Personalised Medicine, the Strategy for Life Science, and the Vision for Better Use of Healthcare Data. A common goal of the strategies is to improve the access to and use of healthcare data, including genomic data in Denmark.

Whole Genome Sequencing Centres

WGS centres are specialised laboratory facilities that perform comprehensive genetic analyses through WGS. Patient samples undergoing WGS generate vast amounts of data. These data are then processed and analysed by bioinformaticians, enabling the precise identification of genetic variations within each patient's genome.

Initially, WGS was carried out at two National WGS Centres: East and West, which formed a central part of DNGC's infrastructure and served clinical departments nationwide. The East site covers the Capital Region of Denmark and Region Zealand and is located at the Molecular Diagnostic Sequencing and Core Facilities (MDxCore) unit at Rigshospitalet. The West site covered the Region of Southern Denmark, Central Denmark Region, and North Denmark Region and was located at the Molecular Medicine Department (MOMA) at Aarhus University Hospital.

As WGS activities were consolidated in the regions, three already established sequencing laboratories (the Department for Clinical Genetics at Odense University Hospital, the Department for Clinical Genetics at Vejle Sygehus, Sygehus Lillebælt, and the Department for Molecular Diagnostics at Aalborg University Hospital) joined the national infrastructure for personalised medicine, marking an important milestone in the collaboration between the regions and DNGC. Together, the Danish Regions and DNGC achieved the target of 60,000 genomes across the 17 patient groups, made possible by the donation from the NNF.

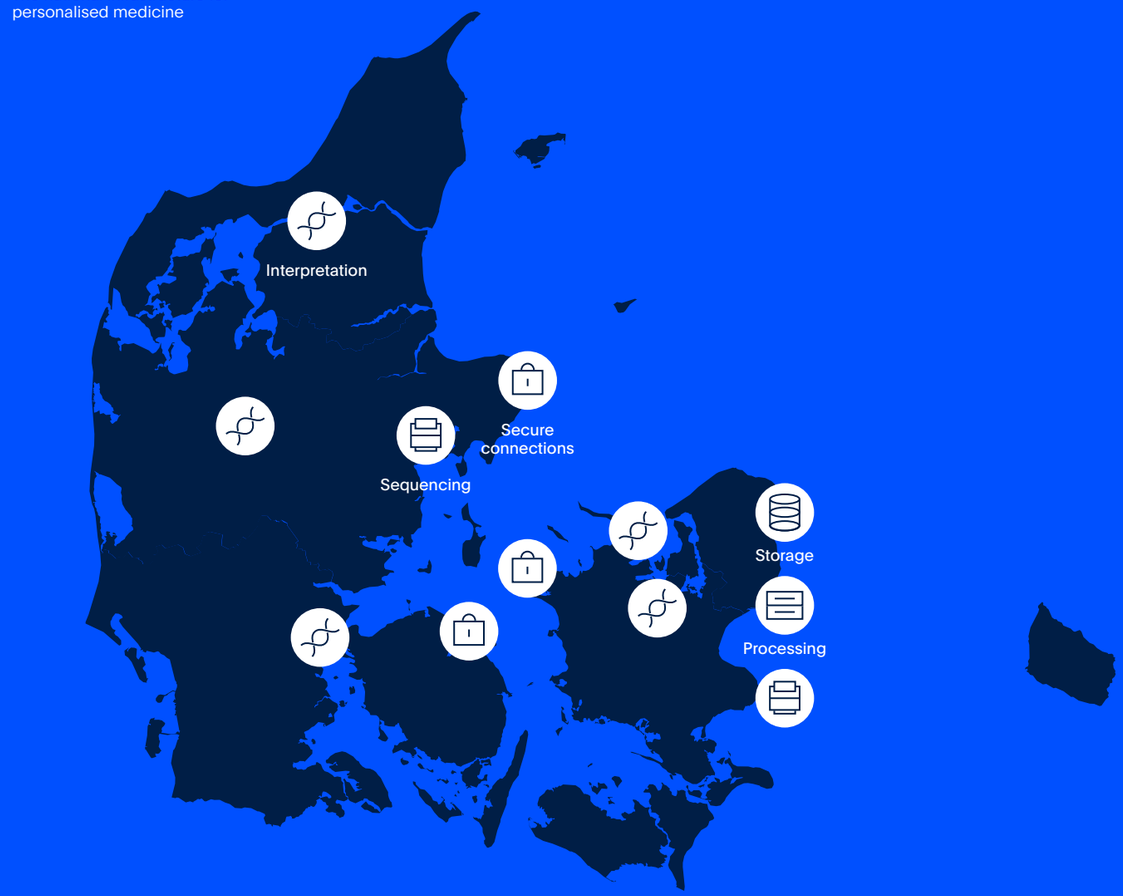
Looking forward, it is expected that more sequencing sites will be established and WGS will be performed more broadly across Denmark. The goal is to continue the implementation and consolidation of WGS in the regions, strengthening Denmark's national capacity for genomic medicine.

"The implementation of nationwide whole genome sequencing has fundamentally improved our ability to deliver precise diagnostics and better treatment decisions.

The next step is to fully integrate genomic data with other health data and clinical workflows, which will be essential to realise the full potential of personalised medicine and digital health in Denmark."



Ole Halfdan Larsen
Head of Department, Chief Consultant, MD, PhD,
Clinical Associate Professor, Aarhus University Hospital



Infrastructure Use (2020-2025)

National High-Performance Computing	2020	2021	2022	2023	2024	2025
Number of users of DNGC infrastructure**	121	280	457	557	649	572
Number of DNGC-managed clouds	5	5	47	65	74	26
Number of self-managed clouds	17	7	11	18	21	17
Uptime	99,95%	99,92%	98,7%	99,2%	99,6%	98,7%

* The number of users of DNGC's infrastructure and the number of DNGC managed clouds decreased in 2025 when the Danish Regions, Region of Southern Denmark, Central Denmark Region, and North Denmark Region, localised their activity in line with the consolidation of WGS in the regions. The WGS data continues to be reported to DNGC and is stored in the National Genome Database.

** Clinicians and researchers

FACTS

Fun facts on DNGC's new HPC infrastructure

The new supercomputer has a compute capacity of 3 petaflops, meaning it can perform 3 quadrillion calculations per second.

It comprises of nearly 34,000 cores and 60 petabytes (60 million gigabytes) of storage.

It has more than 7 kilometres of cabling and weighs approximately 17 tonnes. Overall, it is designed to handle millions of genome analyses in a secure, efficient, and sustainable manner.

What is ISO/IEC 27001:2022 and ISO/IEC 27701:2019

ISO/IEC 27001:2022 and ISO/IEC 27701:2019 were created by the International Organization for Standardization (ISO) and the International Electrotechnical Commission (IEC).

In combination, they lay out the requirements for a strong information security management system and privacy information management system.

These certifications demonstrate that the Danish National Genome Center works systematically, and risk-based with information security and personal data protection. The certifications provide documented assurance of strong governance, clear processes, and continuous improvement in protecting sensitive data.

Supercomputing and Cloud Systems
Processing WGS data requires a large compute capacity, therefore, supercomputers have been an integral part of DNGC's infrastructure since the beginning. The HPC and custom cloud infrastructure systems store, process, and analyse large amounts of genomic data with the highest level of security.

From 2019 to 2025, the Danish Technical University (DTU) supplied the hardware backbone for the DNGC platform. This collaboration agreement allowed DNGC to quickly access compute infrastructure and kick-start the implementation of the platform, without needing to build its own HPC infrastructure in parallel.

In 2025, as the collaboration agreement between DNGC and DTU expired, DNGC sought to establish its own foundation for the infrastructure. The next-generation HPC infrastructure was fully operational by mid-2025, and it will continue to provide more efficient computing power and better opportunities to support the needs of clinical departments, research projects, and strategic collaborators. Statistics on infrastructure use are shown on page 23.

Security Certifications
Denmark is one of the most highly digitalised countries in the world, with broad-spread digitalisation in the healthcare system. While this high level of digitalisation creates many opportunities, it also places strong demands on information and data security. From the establishment of DNGC, there has been a strong organisational and political focus on security. DNGC has ensured the secure handling of genomic data, embedding high standards of data protection and ethical governance into all activities, ensuring that sensitive health data is handled in a secure, trustworthy, and responsible manner.

"We have placed strong emphasis on control, security, and sustainability. This is not merely a technological investment, but an investment in trust – ensuring that the most sensitive data is handled with the highest level of security."



Jacob Drasbeck
Head of Section for HPC and Cloud Platform,
The Danish Health Data Authority

DNGC is certified under ISO/IEC 27001:2022 and ISO/IEC 27701:2019, reflecting DNGC's commitment to adhere to international standards for information and data security, embedding robust policies, procedures, and technical measures across all operations.

Looking ahead, DNGC remains committed to following international best practices in security and data protection. By continuously strengthening its systems and governance, DNGC ensures that Denmark's national infrastructure remains a secure, reliable, and ethical foundation for personalised medicine, providing confidence for patients, healthcare providers, and researchers.

The National Genome Database
Since 2019, WGS analyses performed in connection with patient diagnosis and treatment have been reported to the National Genome Database. The collection of genomic data in a national database is a crucial step towards a new understanding of diseases and driving the development of more effective treatments. This data is available for clinicians and, with the right permissions, can now also be reused for research in personalised medicine. Research into patients' genetics is essential for advancing diagnostics, treatment, and prevention, and it helps strengthen the healthcare system's use of data. As such, knowledge generated for patients today can improve diagnostics and treatments for patients of tomorrow.

From the first National Strategy for Personalised Medicine, there has been a strong political focus on patient information and consent. The law (LOV nr 728 af 08/06/2018, "Lov om ændring af sundhedsloven (Organiseringen I Sundheds- og Ældreministeriet, oprettelse af Nationalt Genomcenter m.v.") mandates that patients receiving comprehensive genomic testing through the Danish healthcare system must give written informed consent to the analysis and be informed that their data will be stored in the National Genome Database.

The genetic data is stored in a secure environment accessible only to authorised personnel. Researchers can gain access to this data for research within personalised medicine that has significant societal benefit. The project needs approval from The National Committee on Health Research Ethics and will only be granted access to the data relevant for the research project. Researchers work within a secure processing environment on DNGC's infrastructure, and they are only allowed to export their results, not raw data.

The National Genome Database represents a shared national investment in better health. As the database grows, so does its potential to transform healthcare for generations to come.

It is a story of collaboration between patients, clinicians, and researchers, each playing a vital role in shaping the personalised medicine of the future.

Research
Researchers can utilise the supercomputer for conducting research in the field of personalised medicine. Through a customised cloud, researchers can leverage the supercomputer's computing power and storage capacity. The supercomputer can accommodate large amounts of data and perform advanced analyses, which researchers can use to gain a better understanding of diseases and develop new treatment methods.

In addition to researchers being able to bring their own data to perform analyses on, they can also apply for access to WGS data stored on the National Genome Database. To gain access to this data, the research must fulfil the following criteria:

- The research must be within personalised medicine and be of significant societal relevance.
- The research project must be anchored at a Danish research institution.
- The project must be approved by the Scientific Ethics Committee system.
- The project must have an agreement with DNGC to use the supercomputer for the research project.

For an overview of the research articles published using Danish genomic data, please see page 40-43.

Research in Practice:
Joachim Weischenfeldt, PhD, is a Clinical Professor at the Biotech Research & Innovation Centre (BRIC), University of Copenhagen, and Group Leader at Finsen Laboratory, Rigshospitalet, and Biotech Research & Innovation Centre (BRIC), University of Copenhagen. He is an expert in cancer genomics, genomic structural variants, data analysis, next-generation sequencing, bioinformatics, and tumour heterogeneity. Joachim's recent project aimed to uncover the molecular determinants of disease progression and treatment response, made possible with WGS data from Rigshospitalet and Danish National Genome Center.

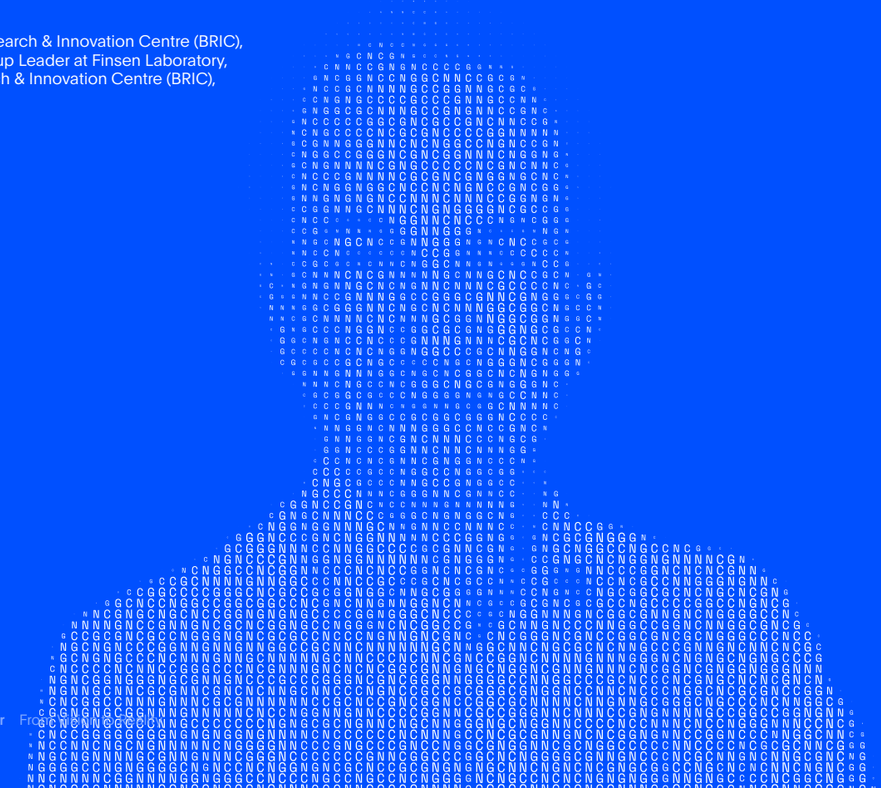
”Glioblastoma is the most common and aggressive brain tumour in adults with a median survival of 15 months and limited therapeutic options.

Thanks to the availability of high-quality WGS data from Rigshospitalet and the Danish National Genome Center, we were able to study glioblastoma in unprecedented detail, analysing 274 tumours from 217 Danish patients. Having access to such a large and well-annotated dataset allowed us to track how these tumours change from diagnosis to relapse and to uncover three main disease progression pathways.

One of our key discoveries is a genetic pattern that makes certain tumours more responsive to standard chemotherapy. Because large cohorts of patients with glioblastoma analysed with WGS are extremely rare internationally, we collaborated with Genomics England to confirm this discovery, helping pave the way for future clinical trials designed to ensure that patients ultimately benefit from this research.”

Joachim Weischenfeldt

PhD, Clinical Professor, Biotech Research & Innovation Centre (BRIC), University of Copenhagen, and Group Leader at Finsen Laboratory, Rigshospitalet, and Biotech Research & Innovation Centre (BRIC), University of Copenhagen.



This work highlights how the Novo Nordisk Foundation funded sequencing effort positions our country at the forefront of personalised cancer research, with a substantial WGS cancer cohort generated from patient care.

This study was a collaboration between Biotech Research & Innovation Centre at the University of Copenhagen, and Finsen Laboratory and Department of Oncology, Neurosurgery, Pathology and Genomic Medicine at Rigshospitalet and Genomics England (UK).

Strategic Partners Working on the Supercomputer

Since its establishment in 2019, DNGC has taken important steps towards a future where health data and relevant socioeconomic data can be put to use for the benefit of patients. DNGC offers secure storage of health data related to personalised medicine and is developing and testing solutions for providing infrastructure capacity to research services related to personalised medicine in other Danish agencies. The Danish Health Data Authority has previously been a strategic partner of DNGC and since the merge of the two organisations, DNGC continues to host the National Health Data Platform.

DNGC works with five strategic partners on its supercomputer: Statens Serum Institut, Statistics Denmark, The Danish Medicines Agency, and The Pioneer Center for AI, as well as providing technical infrastructure for The Danish Health Data Authority. Each partner contributes to and benefits from DNGC’s infrastructure in different ways, demonstrating the versatility and impact of the national infrastructure.

Statens Serum Institute

Monitoring og infection spread, modelling, and research

Statens Serum Institute (SSI) built up a platform on DNGC infrastructure for monitoring COVID-19. During the pandemic SSI sequenced and analysed samples that tested positive for COVID-19 for the monitoring of infection spread, mapping of virus variants and contact tracing. This platform has been expanded and is now used for other types of infections and other purposes within the range of preparedness and research at SSI, including a wide range of model calculations used in the authorities’ management of epidemics and outbreaks.

Statistics Denmark

Compute capacity for researchers using Statistics Denmark data and the possibility to combine data from Statistics Denmark with other research data or data from The National Genome Database

Researchers using data from Statistics Denmark (SD) that are in need of HPC capacity can use SD’s analyses platform om DNGC’s infrastructure. The research must be within personalised medicine and have significant societal relevance. Researchers also have the possibility to combine data from SD with data from The National Genome Database on a special shared processing environment on DNGC’s infrastructure.

Danish Medicines Agency

Advancing new knowledge about medicines at Data and Data Analytics Division

The Data and Data Analytic (DAD) division is the Danish Medicines Agency’s data analysis centre. DAD translates information and data about medicines and medical devices into knowledge that can benefit citizens not only in Denmark, but in EU as a data partner in Darwin EU consortium. DAD utilises DNGC’s supercomputer for analysing aspects such as drug side effects and identifying relevant risk factors for different patient groups.

Pioneer Center for AI

Artificial Intelligence (AI) for patient care

The Pioneer Centre for Artificial Intelligence generally focuses on fundamental research and, within an interdisciplinary framework, develops platforms, methods, and practices that address society’s most significant challenges. More specifically, the Centre works on projects involving the use of AI to assess the effectiveness and side effects of treatments for individual patients.

The Danish Health Data Authority,

The Health Data Platform

DNGC has, since June 2022, hosted the National Health Data Platform on behalf of the Danish Health Data Authority. The platform ensures visibility and transparency of healthcare outcomes by providing health data on quality, activity and finances to citizens and healthcare decision-makers and personnel.



Collaborations — National and International

National Collaboration

DNGC operates at the intersection of healthcare, public administration, and research, making strong national collaboration essential to its work. From the outset, the development of personalised medicine in Denmark has been built on close cooperation between national authorities, the Danish regions, clinical environments, and research institutions. These collaborations provide the expertise needed to translate genomic knowledge into improved patient care across the Danish healthcare system.

National Board for the Operation of the Genome Database

The development of personalised medicine in Denmark relies on strong national coordination and a governance model capable of bringing together stakeholders across the healthcare system. This collaboration has taken many forms during the time of DNGC.

The National Board for the Operation of the Genome Database was established in January 2025 and must ensure the overall management of the future operation of the National Genome Database and its storage within the personalised medicine infrastructure. Furthermore, the purpose is to ensure managerial and business anchoring among stakeholders, guaranteeing ongoing validation of the technical setup and expenses related to the infrastructure in DNGC.

Strategic Work Program for the Operation and Development of Comprehensive Genetic Analyses

In December 2025, the National Board for the Operation of the National Genome Database approved the Strategic Work Program for the Operation and Development of Comprehensive Genetic Analyses 2026-2028. With the National Strategy for Personalised Medicine (2025-2027) embracing a broader perspective on personalised medicine, the establishment of the Strategic Work Program reflects a sustained and ambitious commitment to advancing genomics in Denmark.

Co-funded by the Danish Regions and the Danish State, the Program sets out eight strategic areas of action designed to support the continued development of genomic medicine in Denmark. The initiatives focus on strengthening the operation and accessibility of the National Genome Database and the national infrastructure and ensuring the uniform access to and quality of WGS, to support the effective clinical application of WGS now and in the future. Together, these efforts aim to further consolidate the national infrastructure and ensure that genomic data continue to deliver tangible value for both patients and the healthcare system in the years ahead.

National Strategies for Personalised Medicine

National strategies for personalised medicine have been adopted to outline a national vision and organise the efforts from diverse national actors. To date, there have been three iterations of the National Strategy for Personalised Medicine which are outlined on the following page.

Strategies

NO. 1.

2017 – 2020

- The Danish State and Regions took the first steps towards more personalised healthcare with the first National Strategy for Personalised Medicine.
- Focused on building foundational capabilities for precise diagnostics and targeted treatments using genetic knowledge and emerging technologies.
- Established Denmark's initial national governance structure for personalised medicine.
- Strengthened ethical, legal, and data-security frameworks to support genomic data use at scale.
- Launched the creation of a secure national technological infrastructure for handling genomic information.
- Supported by DKK 100 million from the 2017 Finance Act, alongside funding from regional budgets, research programmes, and private partners.
- Initiated research and development projects to build knowledge, capacity, and readiness across the healthcare system.

NO. 2.

2021 – 2022

- In the second strategy, the Danish State and Regions shifted focus from planning to implementation, emphasising clinical and patient-centred needs.
- Governance model (2019–2024) ensured coordinated development and operations across national authorities, regions, and stakeholders, supported by a central steering group.
- Framed personalised medicine around specific diseases and risk groups to strengthen research and clinical use.
- Marked the transition from infrastructure development to embedding genomic medicine in everyday clinical practice.
- Advanced implementation through three parallel tracks:
- Commissioning the national WGS infrastructure
- Establishing a national research infrastructure for personalised medicine
- Expanding the integration of multiple health data sources

NO. 3.

2025 – 2027

- With the third iteration, the Danish State and Regions presented an ambitious plan for personalised medicine of the future, aiming to deliver the most value to patients and society.
- Introduced a new governance framework to ensure stable operation, joint financing, and continued development of the national infrastructure.
- Aimed to create more dynamic, operationally aligned decision-making and strengthen collaboration among stakeholders.
- Expanded the scope of personalised medicine beyond genome sequencing to encompass the entire patient journey.
- Supported by a three-year investment of DKK 90 million.
- Positions Denmark to extend personalised medicine to more disease areas while leveraging new technologies such as artificial intelligence for precision care.
- Defined five major initiatives and thirteen work packages to advance Denmark's leadership in personalised healthcare.
- DNGC contributes directly to several initiatives, including:
- Developing pharmacogenetic analysis
- Strengthening national variant and frequency databases
- Enhancing clinical use of genomic data

Advisory Board and Working Groups

To support the continued development of personalised medicine in Denmark, DNGC draws on the expertise of advisory boards and working groups that provide strategic guidance across key areas of the centre's work. These forums play an important role in ensuring that the centre's activities remain closely aligned with the needs of its users and partners across the healthcare and research communities.

Professional Council for Genomic Medicine

- Advises the National Board on operation and development of the National Genome Database.
- Focuses on medium- and long-term development of comprehensive genetic analyses.
- Ensures high-quality, uniform implementation of WGS across the healthcare system.
- Strengthens collaboration and professional networks among institutions working with genomic medicine.
- Supports continuous improvement of the national infrastructure for clinical genomics.

National Advisory Board for Patients, Citizens and Ethics

- Advises on ethical issues related to personalised medicine and the use of genomic data.
- Addresses key ethical considerations and dilemmas to ensure responsible practice.
- Promotes transparency, public dialogue, and clear communication about genomic data use.
- Helps safeguard public trust and ensure that developments remain grounded in strong ethical principles.

International Advisory Board

- Provides independent, external perspective from ten international experts in genomics, research, and high-performance computing.
- Advises on genomic technologies and infrastructure required for personalised medicine.
- Acts as an impartial sparring partner for DNGC's strategic and technical priorities.
- Ensures that national efforts are informed by international experience and best practice.
- Strengthens Denmark's position within the global development of genomic medicine.

Advisory Board on Research and Infrastructure

(from January 2025, Working Group on Research)

- Provides guidance on the development and operation of the research infrastructure and other research-related activities.
- Brings together stakeholders from regions, universities, and research environments.
- Ensures research perspectives and needs are integrated into infrastructure development.
- Strengthens the link between clinical practice and research activities and strategic partners.
- Supports the use of genomic data for both patient care and scientific advancement.

Technical Working Group

- Advises on the operation and further development of the National Genome Database.
- Works closely with the regions to provide practical insights into clinical use of the infrastructure.
- Supports the National Board for the Operation of the Genome Database.
- Helps ensure high performance, reliability, and quality across the technical infrastructure.
- Ensures the infrastructure continues to meet the evolving needs of the healthcare system.

International Collaboration

Through active international partnerships, DNGC brings global best practices to Denmark, ensuring the responsible advancement of genomic medicine and personalised healthcare. By participating in both multi- and bilateral initiatives across Europe and beyond, the centre draws on global expertise to develop state-of-the-art solutions and infrastructure for the benefit of patients and society. This engagement includes strategic partnerships and collaborative projects, and also hosting and contributing to international events, serving on advisory boards, and exchanging knowledge with leading genome initiatives worldwide.

DNGC's experience with the implementation of WGS in healthcare is in high demand on the international stage. DNGC sits on international advisory boards including the Genomics Sweden Advisory Board and the Pan-Canadian Genome Library, offering recommendations based on previous experience and findings. DNGC is also very active as a coordinator, presenter, and participant at various international events on personalised medicine.

"International collaboration is key in advancing genomics both nationally and abroad. By looking beyond our national borders, we gain valuable insights, knowledge, and experiences from other initiatives and countries, which can be adapted and implemented locally.

This collaboration is also essential for co-developing innovative solutions, ensuring the best outcomes for patients. DNGC is proud to represent Denmark on the international stage, sharing our expertise while bringing home insights to strengthen genomic efforts for the benefit of patients."



Lene Cividanes
Head of Department, Research and Genome Center,
The Danish Health Data Authority



Bi- and Multilateral Collaborations

Bilateral

DNGC maintains bilateral partnerships with countries that share the ambition of building strong national infrastructures for genomic medicine. DNGC has established official collaborations with Sweden, England, and France, formalised through Memorandums of Understanding. Through these collaborations, the partners exchange knowledge on the development and operation of infrastructure for advanced genomic medicine, as well as on the practical integration of genomic technologies into national healthcare systems and research environments.

In addition to these formalised collaborations, DNGC participates regularly in meetings focused on knowledge sharing, with a broad range of other countries. By working closely with countries that are pursuing similar national ambitions, these bilateral collaborations help accelerate progress and strengthen the collective under-standing of how genomic medicine can best be implemented in healthcare.

Multilateral — 1+ Million Genomes Initiative

DNGC plays an active role in the European 1+ Million Genomes (1+MG) initiative, a collaborative effort between European countries with the aim to enable secure access to genomics and the corresponding clinical data across Europe for better research, personalised healthcare, and health policy making. As part of this engagement, DNGC leads and contributes to several key projects supporting the realisation of the initiative.

Related Projects

Beyond 1 Million Genomes (plus)

To support the operationalisation of the 1+MG initiative, two coordination and support actions (CSA) have been implemented; Beyond 1 Million Genomes (B1MG) (2020-2023) and Beyond 1 Million Genomes Plus (B1MGplus) (2025-2028).

These CSAs coordinate and support the work under the 1+MG initiative and help create a European cross-border network of genomic and corresponding clinical data to improve healthcare outcomes.

Genomic Data Infrastructure

The Genomic Data Infrastructure (GDI) project is a large-scale technical project that aims to enable access to genomic and related phenotypic and clinical data across Europe by establishing a federated, sustainable, and secure infrastructure. In this model, analyses are performed locally within the country that holds the data, and only the resulting insights can be exported, not the raw data.

Through this approach, the initiative enables cross-border collaboration while safeguarding sensitive data. The infrastructure integrates genomic and clinical information from data-bases across Europe, with a particular focus on cancer, rare diseases, and infectious diseases.

Genome of Europe

The Genome of Europe (GoE) project aims to build a collective reference genome cohort (GoE Cohort) of European citizens, selected to mirror the genetic composition of the European population. These reference data-sets will be embedded in GDI and support both clinical interpretation and research by improving the understanding of genetic varia-tion across European populations.

Future Perspectives

Lessons for Personalised Medicine

Building on almost a decade of experience, Denmark has gained valuable insights into the challenges and opportunities of implementing genomic medicine at scale into the publicly funded healthcare system. Looking forward, DNGC's work is guided by clinical needs, national strategies, strategic work programs, and its broader integration into the emerging national and international health data ecosystems.

Lessons Learnt and Recommendations from the Danish Experience

Supporting the shift from a "one-size-fits-all" healthcare model toward an approach that enables more targeted, patient-centred care requires sustained effort and the development of robust, enabling infrastructure. These experiences have provided valuable insights into what it takes to establish a national infrastructure for genomic medicine that is effective, sustainable, and centred around patient benefit.

Based on these experiences, DNGC recommends the following principles for building national genomic initiatives:

- Keep the patient in the centre – work closely with patient voices and clinicians to understand patient needs in order to build a future that fits them.
- Work together across sectors, country, and national strategies – foster strong collaboration between policy makers, experts, healthcare providers, regional authorities, funders, and patients to ensure that all perspectives are represented and aligned towards common goals.
- Centralise where possible, but build an inclusive governance – a centralised structure provides efficiency and consistency, while inclusive decision-making ensures buy-in and engagement from all stakeholders.
- Work together across disciplines in the clinical settings, foster education and knowledge sharing through the national and local networks.
- Follow international standards and best practices – learning from already established global experiences can accelerate implementation, reduce costs, and help avoid common pitfalls.
- Think strategically across the entire pathway (diagnostics, treatment, prevention, public health, pharmacogenomics, and secondary data use) so that the full value of genomic information is realised from day one, integrating all insights generated through the workflows into patient care and research to continuously create new knowledge and improve outcomes.
- Evaluate continuously – access to high-quality data is critical, accompanied by ongoing assessment of both clinical outcomes and economic impact, and recalibrate when needed.
- Take your time – building national-scale infrastructure for personalised medicine is complex and resource-intensive; patience and realistic timelines are essential for success.
- Secure legislation and formal agreements before starting – clear legal frameworks and partner agreements provide stability, accountability, and a foundation for sustainable collaboration.
- Establish sustainable financing early – long-term funding is crucial to support both operations and the continuous development of genomic infrastructure and services.
- Involve and empower local experts to take ownership throughout the journey – its key to success.

Infrastructure Use in a Broader Context

The foundation for a strong national infrastructure for personalised medicine has successfully been established, and the next step will be to consolidate what works and ensure stronger coherence across systems. The goal is to ensure that genome data can be used safely in conjunction with other health data for the benefit of patients, research, and society as a whole. As the infrastructure and data foundation are integrated into the new strategic investment from the Novo Nordisk Foundation, the Vision for Better Use of Health Data, DNGC will support Denmark in realising its long-term ambitions for personalised medicine and data-driven healthcare.

In the next phase, DNGC, as part of the Danish Health Data Authority, will come together with sundhed.dk, MedCom, and regional IT solutions to form a coherent national organisation, Digital Health Denmark. In doing so, DNGC's expertise, infrastructure, and operational experience will contribute to the broader healthcare data ecosystem and support the coordinated implementation of the National Strategy for Personalised Medicine, the Life Science Strategy, and the Vision for Better Use of Healthcare Data.

As part of Digital Health Denmark, the centre's infrastructure will help promote a safer, more connected, and more data-driven healthcare system – Digital Health Denmark will build on a strong foundation where genomic knowledge contributes directly to better treatment and better lives for patients across Denmark. The experience gained through building and operating DNGC as a large-scale, complex national infrastructure, with an inclusive and collaborative governance model provides valuable lessons that will be carried forward into the upcoming Digital Health Denmark.

Future Work in the Field of Genomics

As part of Digital Health Denmark, DNGC continues to play a central role in facilitating national collaboration on personalised medicine, working closely with strategic partners across the healthcare and research sectors to advance the field in Denmark. Looking forward, the centre's efforts are guided by both the National Strategy for Personalised Medicine 2025–2027 and the Strategic Work Program for Comprehensive Genetic Analyses 2026–2028, which together provide a roadmap for expanding the clinical and research applications of genomics.

In line with expectations from professionals both in Denmark and internationally, the use of WGS is anticipated to continue growing rapidly, offering increasing benefits for patient care and enabling new research discoveries. This expansion will be supported by ongoing improvements in infrastructure, data integration, and analytic capabilities, ensuring that genomic knowledge can be translated efficiently into clinical practice. As a result, the National Genome Database is projected to grow significantly beyond its initial milestone of 60,000 genomes, reflecting both the increasing adoption of WGS in clinical pathways and the ambition to create a robust, scalable foundation for personalised medicine in Denmark.

By continuing to strengthen national collaboration, ensure data quality, and integrate new technological and methodological advances, Denmark can remain at the forefront of genomics and personalised healthcare in the years to come.

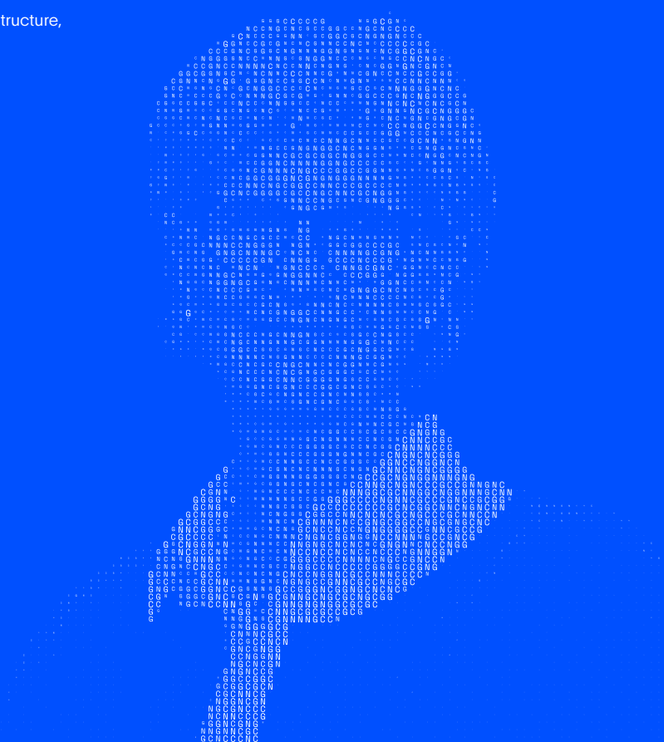
"I am happy and extremely proud on behalf of Denmark that, in just five years, we have succeeded in implementing whole genome sequencing directly into patient care while simultaneously generating new knowledge through research. They were the two core objectives assigned to the Danish National Genome Center under the first National Strategy for Personalised Medicine – and we have delivered on both.

The Danish National Genome Center can now enter Digital Health Denmark with a strong professional and national foundation, and in doing so become part of a broader joint effort around health data and digital development. This is the natural next step.

The National Strategy for Personalised medicine has evolved from being primarily about genes and genetic diagnostics to becoming a broader way of thinking about health. 'One size fits all' is not the answer. We must use data, knowledge, and technology more precisely and responsibly, so that treatment can increasingly become what it should be: tailored and personalised."

Bettina Lundgren

Deputy Director General for Research and Data Infrastructure,
The Danish Health Data Authority and Previous CEO,
Danish National Genome Center



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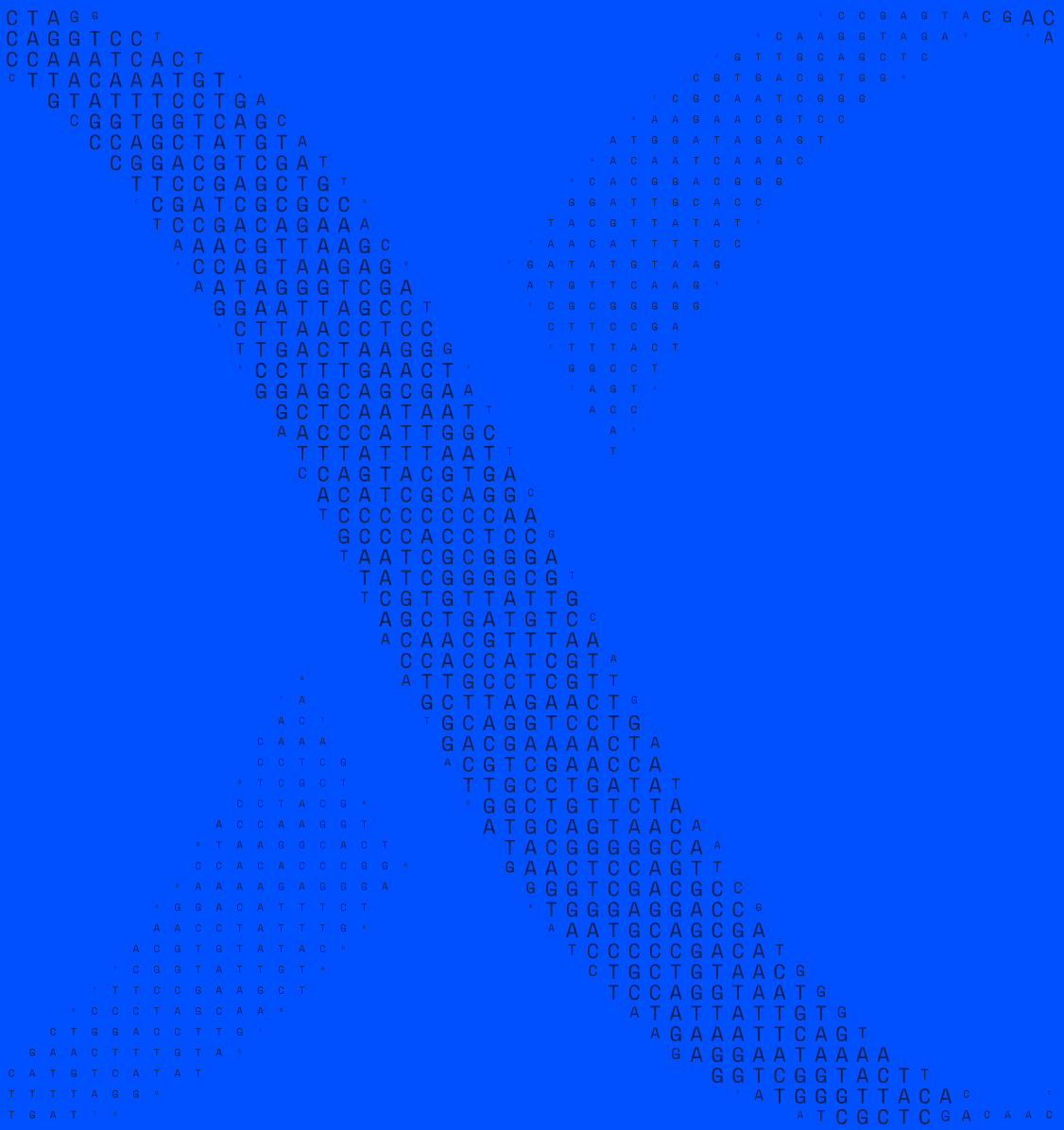
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