

2021

NNF Impact Strategy: How to create societal impact

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Senior Vice President
Impact

novo nordisk fonden

The Novo Nordisk Foundation

- a history of how science creates impact in society
- it began with insulin



Our objectives

Corporate objective

- To provide a stable basis for the commercial and research activities of the Novo Group companies.*

Grant-giving objectives

- To support physiological, endocrinological, metabolic and other medical research,
- to support Danish research hospital activities within diabetes, and
- to support other scientific, humanitarian and social purposes.

Our vision:

“To contribute significantly to research and development that improves the lives of people and the sustainability of society”

The Novo Nordisk Foundation is an independent Danish enterprise foundation

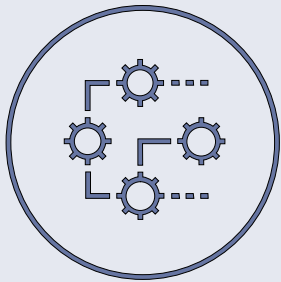


What does success look like for NNF? Nine impact principles for society

Output



Fostering the development of talent across different gender, life ages and scientific fields

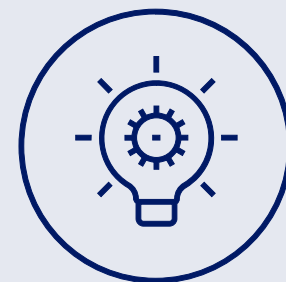


Supporting organisations, systems, and infrastructure to catalyse a knowledge-based societal development



Stimulating collaboration across international borders, scientific disciplines, and sectors in society

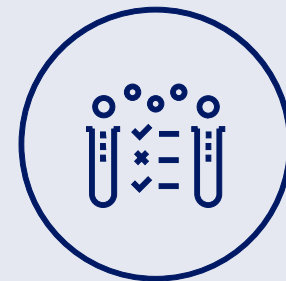
Outcome



Promoting excellent research and innovation



Developing innovative products and solutions supporting a sustainable development

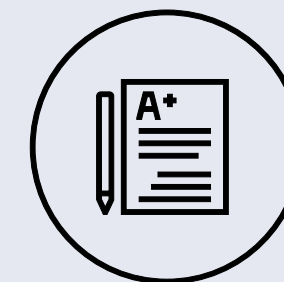


Developing new technologies, therapies and patient-centred and research-based care and disease prevention

Impact



Creating jobs, sustainable growth, efficient use of resources and productivity in society

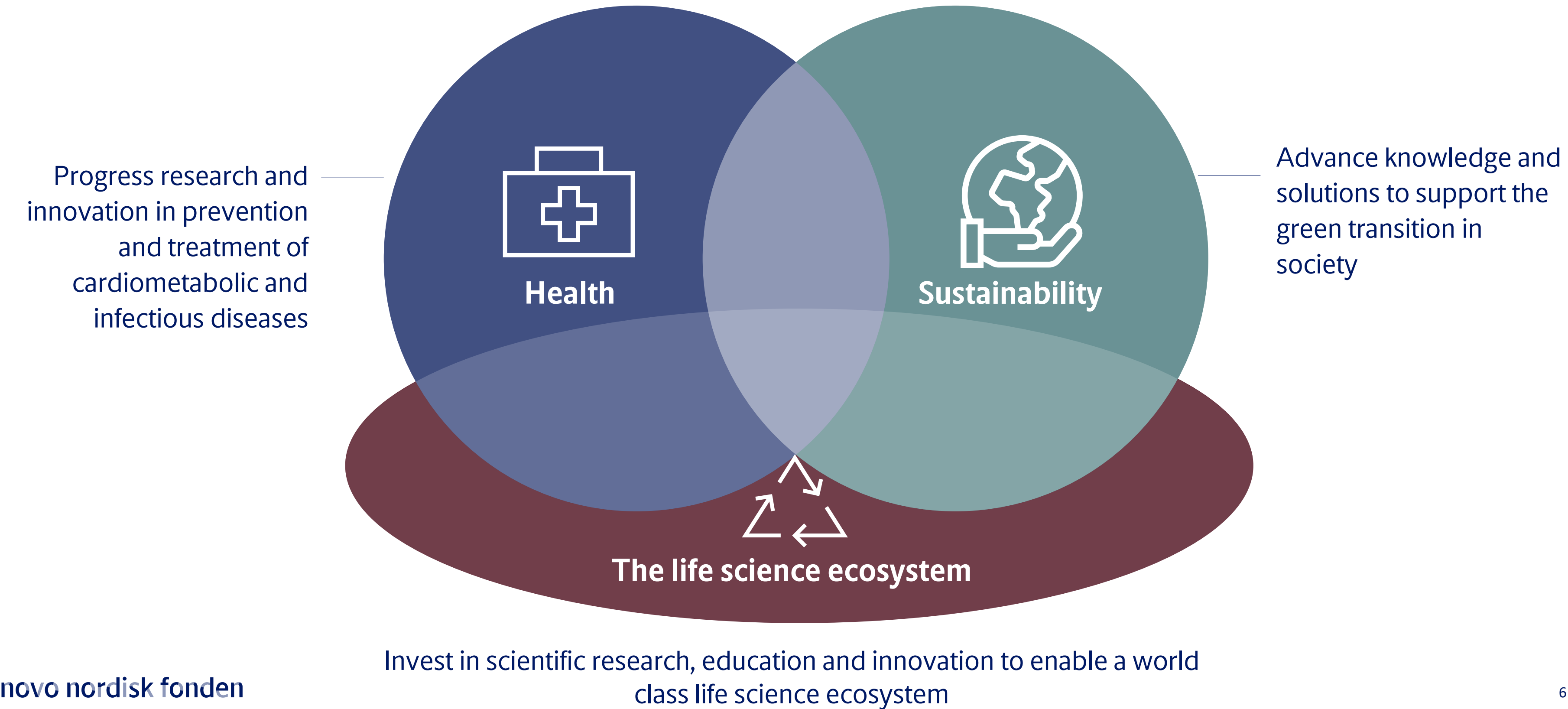


Support the development of world-class education at all levels and of a qualified and agile workforce



Supporting people in difficult health, social, environmental, and humanitarian settings

Our vision to improve people's health and the sustainability of society and the planet is pursued through a three-pronged mission



Impact of Science philosophy



Supply side
Funder/investor



Demand side
Grantee/investee



Society
Equilibrium for
People/citizens

The level of funder intent and input resources to create real-world impact via.....

Strategy, vision, missions, themes & key objectives

Impact mechanisms: Grant-giving models & instruments to optimise impact

Align funding with the NNFs strategy, vision, three focus-missions and nine impact principles

Contribute with non-financial support and co-development of initiatives in project centric organisation

Funding is directly linked to one of NNFs 12 themes and one or more of the NNFs 49 key objectives

Contribution with financial support, funding instrument, impact framework and KPIs signaling signal that societal impact matter

activities that the grantee carries out which result in production of

the outputs that the grantee generates...

to achieve the desired medium and long term outcomes and tangible short-term results

so they create the strategic impact changes that we ultimately seek

in order to fulfill our vision and long-term objective

- ❑ Operations of initiative and project intervention
- ❑ Monitoring of activities initiated and in progress

➤ Direct and immediate results of activities in terms of products or operations that intend to deliver future changes

❖ Changes in outcomes as result of activities

❖ Evaluate critical success criteria ("impact markers")

❖ Reduced or minimal control by recipient of grants

- ❑ Full control over initiated activities by recipient
- ❑ Monitor critical success criteria ("impact markers")

➤ Very high degree of influence over direct results from activities by recipient

- ✓ Changes in long-terms outcomes caused by activities, interventions and outputs
- ✓ Verify or reject long-term impact goal hypothesis

- ✓ Very little or no influence over medium and long-term outcome
- ✓ Evaluate strategic objectives and critical success criteria ("impact markers")

Societal change measured (additionality for society) in terms of before and after situation or in terms of differences for treatment group versus control group

The logic model for societal impact

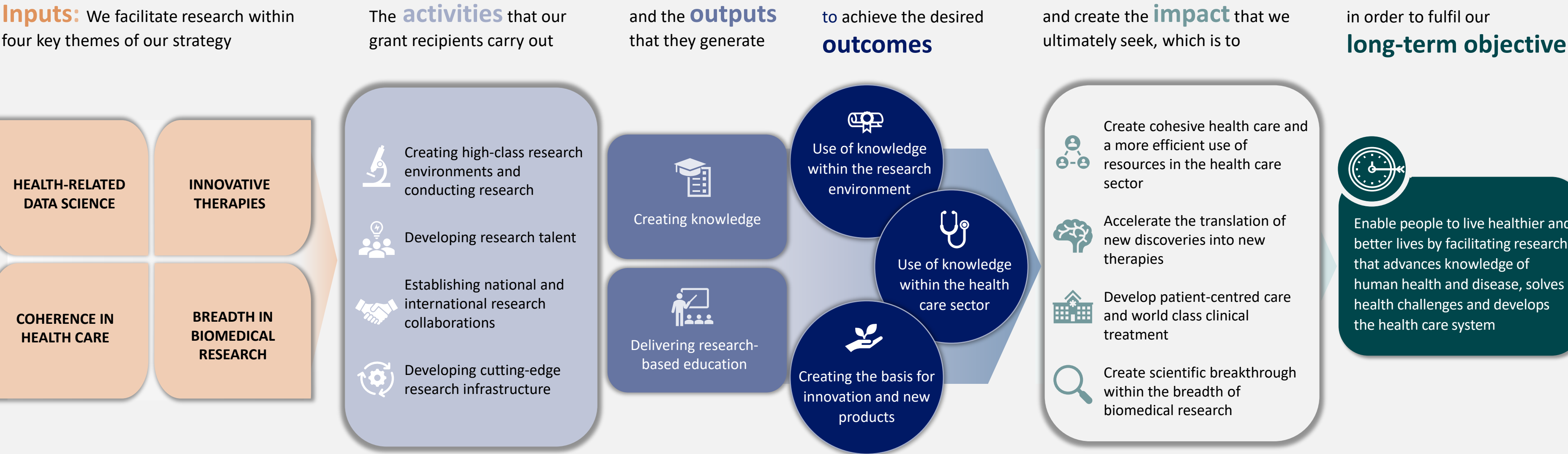
We collect data and analyse chains of **Critical Success Factors and KPIs** from **inputs** via **output** to **impacts**



Biomed: Logical Impact Model

Biomedical and health science research and applications

LOGICAL IMPACT MODEL: Chain of Critical Success Factors from inputs to impacts that link the grants, step-by-step, to the long-term objectives of our strategy













Example of Performance indicators (KPIs) for science: KPI's and application data for all research projects (BBM, Biotech, Nat-tech)	Data collection: Researchfish® (RF), NORMA, NNF Impact
# applicants (gender, age, institution, and research, educational and international background etc.) # applications (evaluationscriteria and scores, grants, declines, winners in the lottery etc.) # additional funding after grant start # grant and payout from Novo Nordisk Fonden	NORMA [application system of NNF] (Grant holder) NORMA NORMA (Grant holder) NORMA
# Basic research projects, applied research projects and translational research projects # Team members (MA-students, PhD, Postdoc, professors, assistants etc.) # Education activities (courses, lectures, digital activities, mentoring etc.) # Relevant collaboration partners (national, international, interdisciplinary, industry)	NORMA RF (Grant holder) RF (Grant holder) RF (Grant holder)
# Publications (all types) # Journal articles in journals ranked according to SNIP # Co-authorship with academia and industry, and interdisciplinary co-authorship # Databases, software and other IT-products # Research methods and models # Products, services, therapheitic interventions, medtech, etc. # Engagement activities (speeches, keynotes, presentations, media, conferences, etc.)	RF (Grant holder) NNF Impact NNF Impact RF (Grant holder) RF (Grant holder) RF (Grant holder) RF (Grant holder)
# Publications in PP(top 1%) og PP(top 10%) # Clinical trials # Field trials # Patents, patent applications and licences # Citations in patent documents # Citations in clinical guidelines # Influence on policies	NNF Impact RF (Grant holder) RF (Grant holder) RF (Grant holder) NNF Impact NNF Impact RF (Grant holder/NNF Impact)
# People in clinical trials # New technologies applied outside academia (in industry/public sector) # Products and services arrived at the market	NNF Impact NNF Impact NNF Impact

Biomed: Impact Assessment Framework

Biomedical and health science research and applications




Key Performance Indicators linked to the inputs, activities, outputs and outcomes of our grant recipients

Critical Success Factors	Key Performance Indicators
 Resources used to establish activities	→ # of grants, amount awarded and payouts (by key themes in strategy) → # of grants in collaboration with other GGAs
 Creating high-class research environments and conducting research	→ # of people fully or partly supported by the Foundation
 Developing research talent	→ # of PhDs and postdocs fully or partly supported by the Foundation
 Establishing national and international research collaborations	→ # of self-reported collaborations → % of articles with co-authorship (international, industry, or other national research institutions)
 Building cutting-edge infrastructure	→ # of users of infrastructure supported by the Foundation → # of papers acknowledging the infrastructure or resulting from using the infrastructure
 Creating knowledge	→ # of journal articles published → Median (and 90 th percentile) Impact Factor of journals in which articles are published
 Delivering research-based education	→ # of students participating in a course or activity organized by the grant recipients at BSc, MSc and PhD level (including number of courses with course responsibility or contribution)
 Use of knowledge within the research environment	→ % of publications that belong to the top 10% most frequently cited worldwide → Novelty score of how frequent referenced journals in an article are paired historically
 Use of knowledge within the health care sector	→ # of guideline documents that cite Foundation-funded journal articles
 Creating the basis for innovation and new products	→ # clinical trials → # products and medical interventions → # of patent documents → # of spinouts (including additional investments in spinouts)



In-depth evaluations of the long-term societal impact of our grant giving

 Enable people to live healthier and better lives	→ Degree to which people and patients live healthier and better lives as a result of products or interventions that are based on Foundation-funded research → Extent to which Foundation-funded publications are cited in patents that benefit people
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Reporting in Researchfish®/Foundgood

IT-platforms help us collect data on the output and outcome

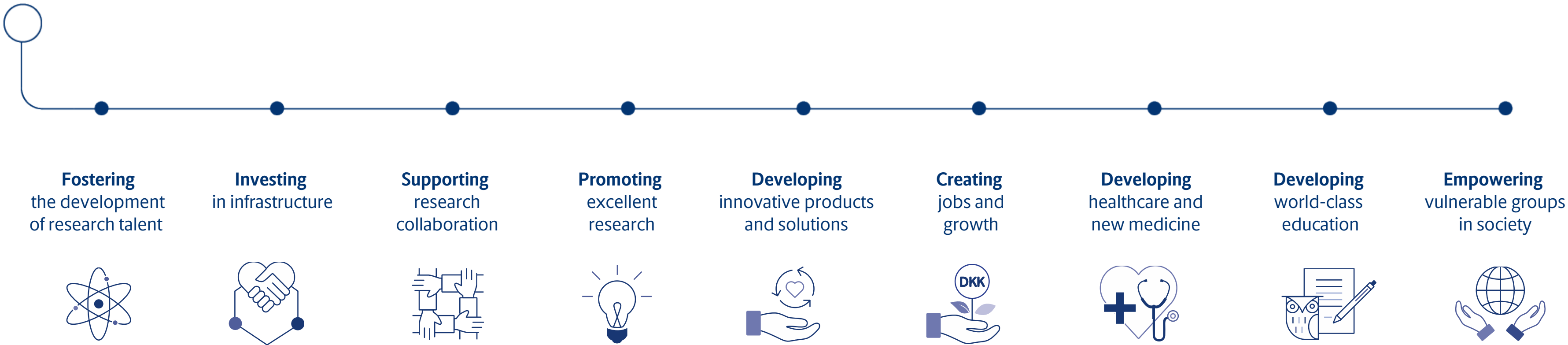
Questions

- Publications
- Collaborations & Partnerships
- Further Funding
- Next Destination
- Engagement Activities
- Influence on Policy, Practice, Patients & the Public
- Research Tools & Methods
- Research Databases & Models
- Intellectual Property & Licensing
- Medical Products, Interventions & Clinical Trials
- Artistic & Creative Products
- Software & Technical Products
- Spin Outs
- Awards & Recognition
- Other Outputs & Knowledge/Future Steps
- Use of Facilities & Resources

Questions

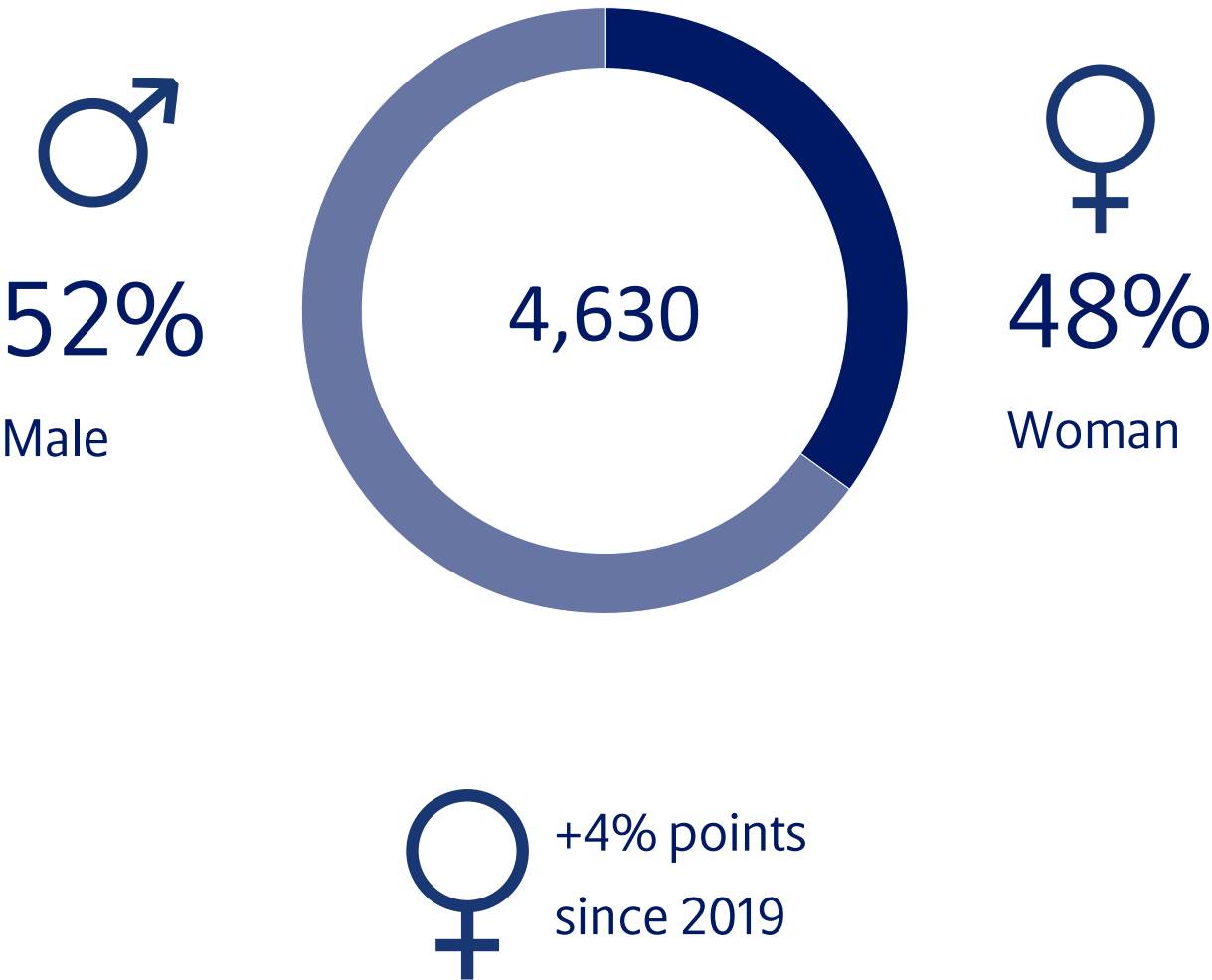
- Education and Professional Training
- Research-Team Information
- Supervisor and Mentor Activities
- Project Summary and Reflection
- Invention Disclosure & Ownership

Selected results within our nine principles for societal impact



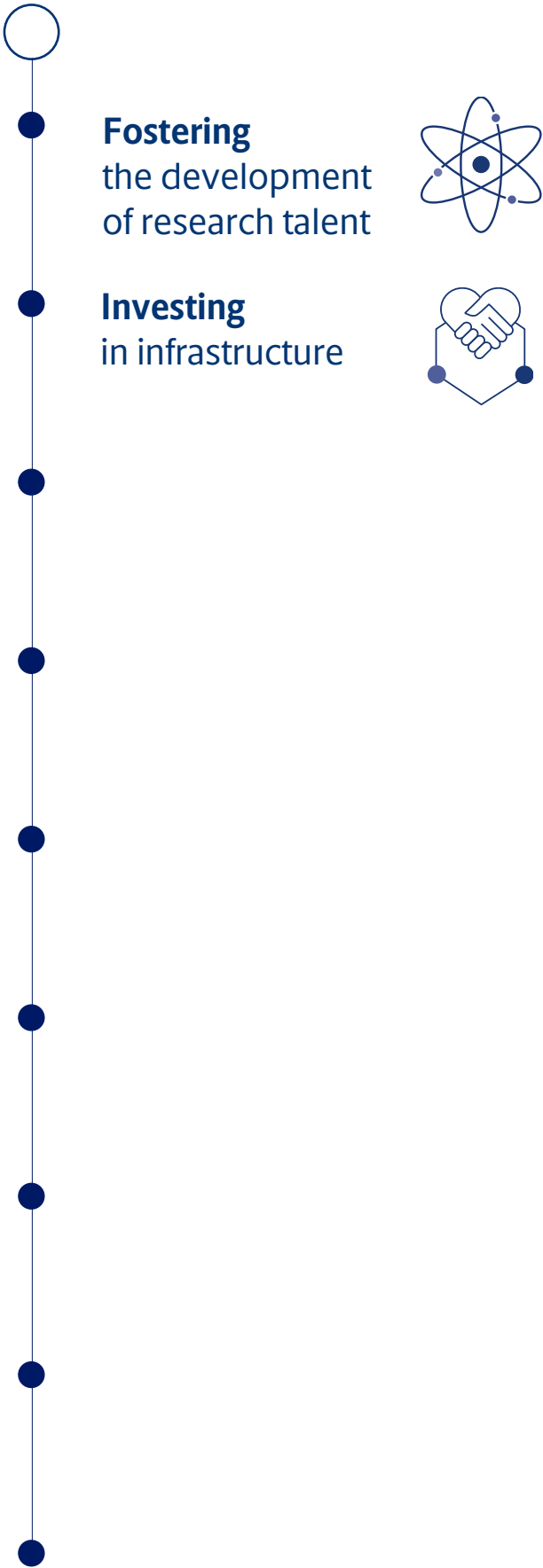
22% increase in number of people fully or partly supported by the Foundation in 2020

People supported in science

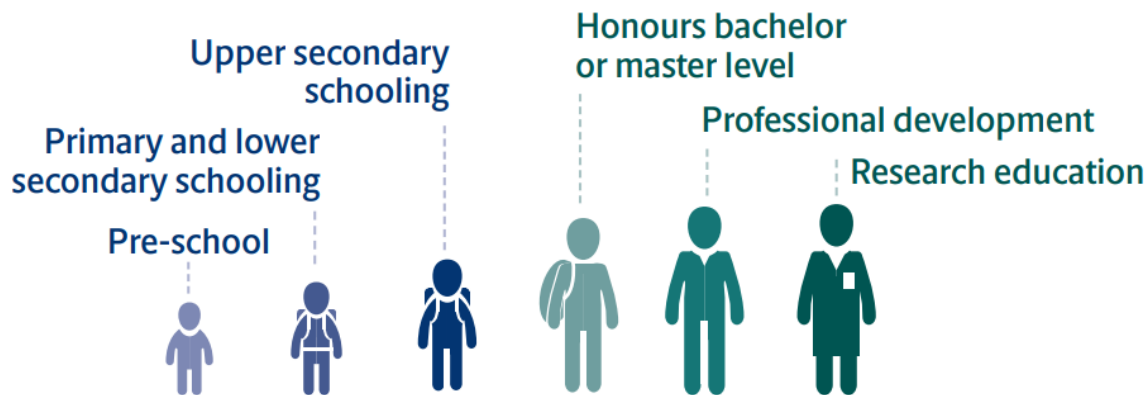


24% of PhDs in Denmark
within health sciences is
funded by NNF

Novo Nordisk Foundation has awarded EUR 2.5 billion to infrastructure initiatives



In **education** we support initiatives at all levels



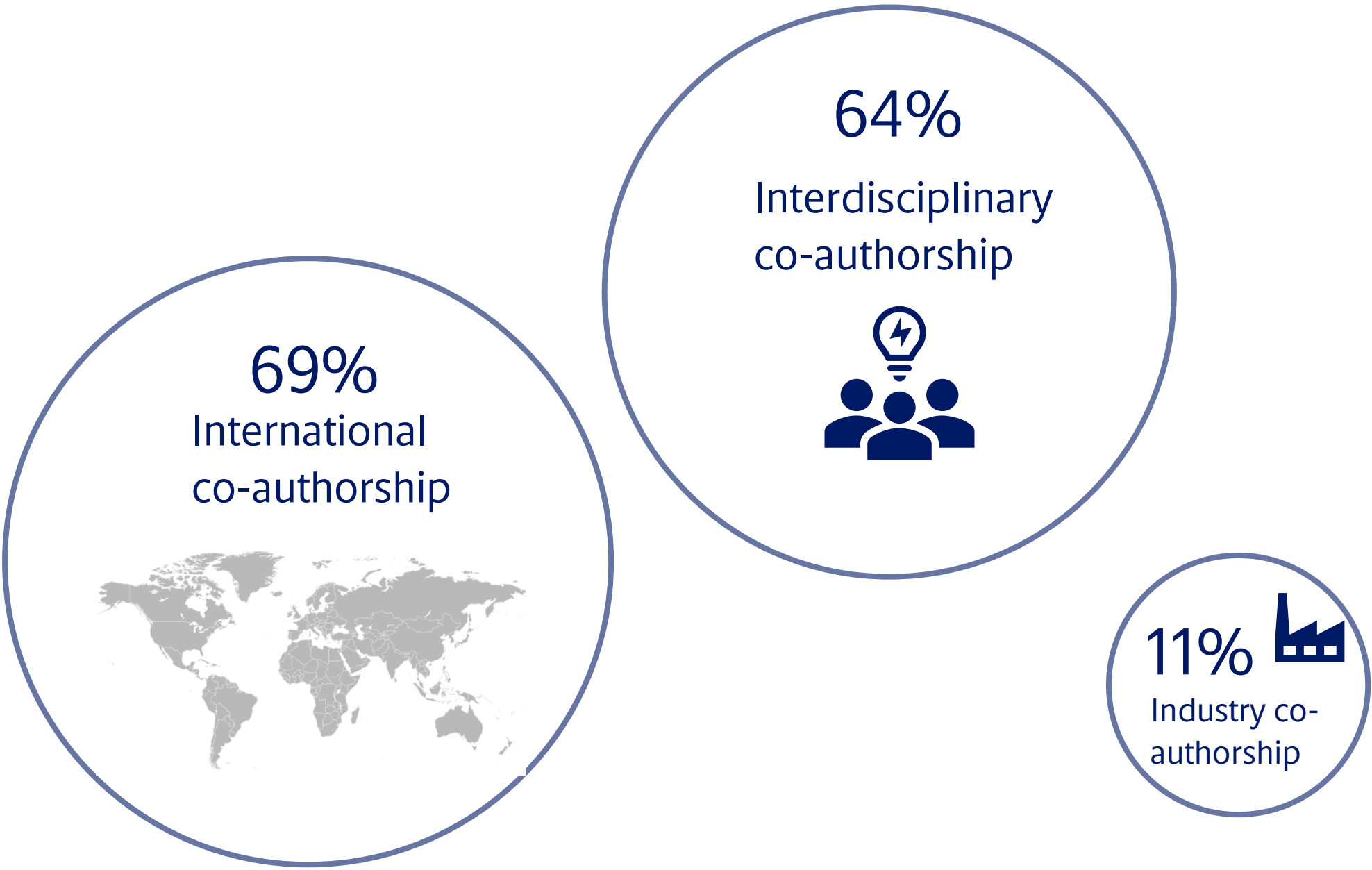
In the **health sector** we support hospital and patient care initiatives on



Within **research and innovation**, we support NNF research centres, build new research facilities, and provide equipment for existing facilities



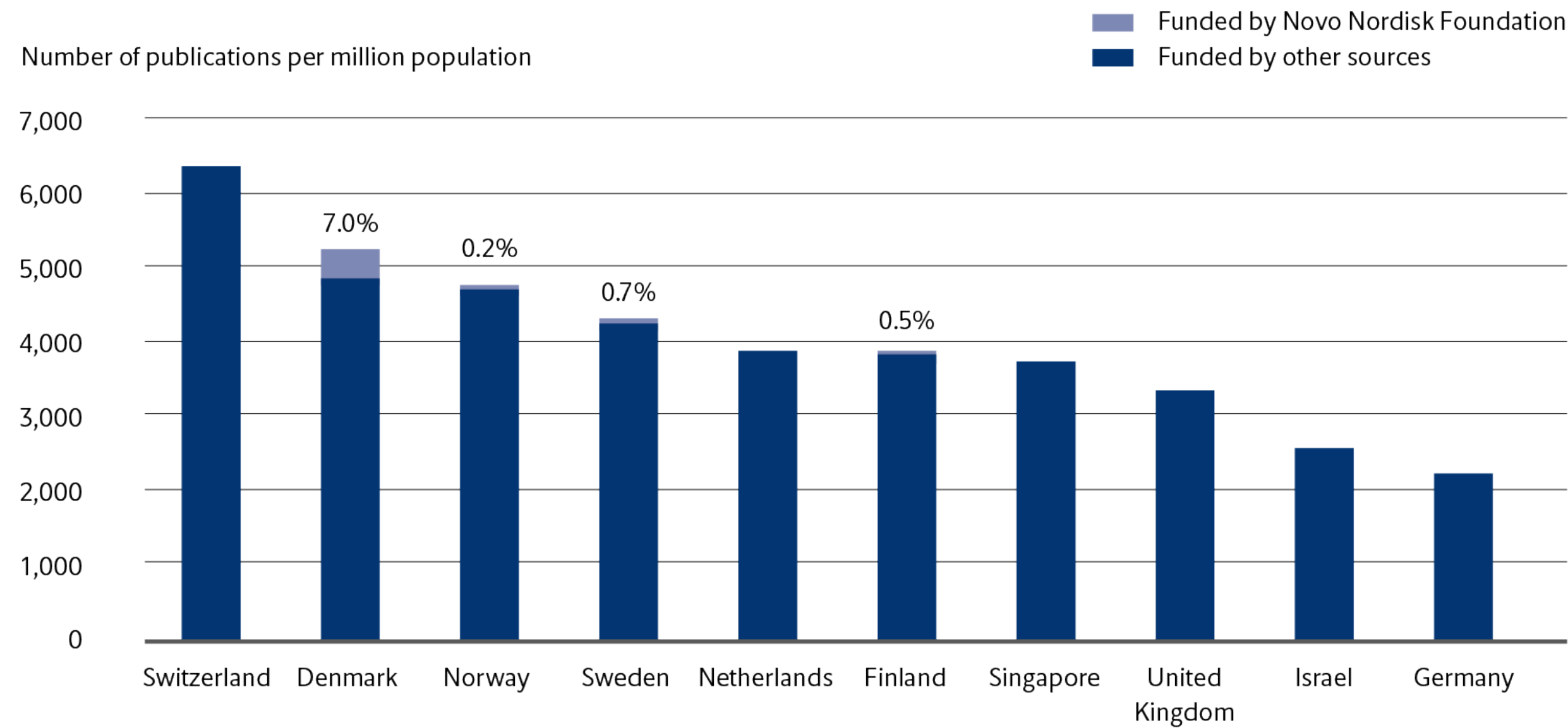
Research collaboration in 10,000 journal articles funded by NNF since 2016



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- **Fostering** the development of research talent 
- **Investing** in infrastructure 
- **Supporting** research collaboration 
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-
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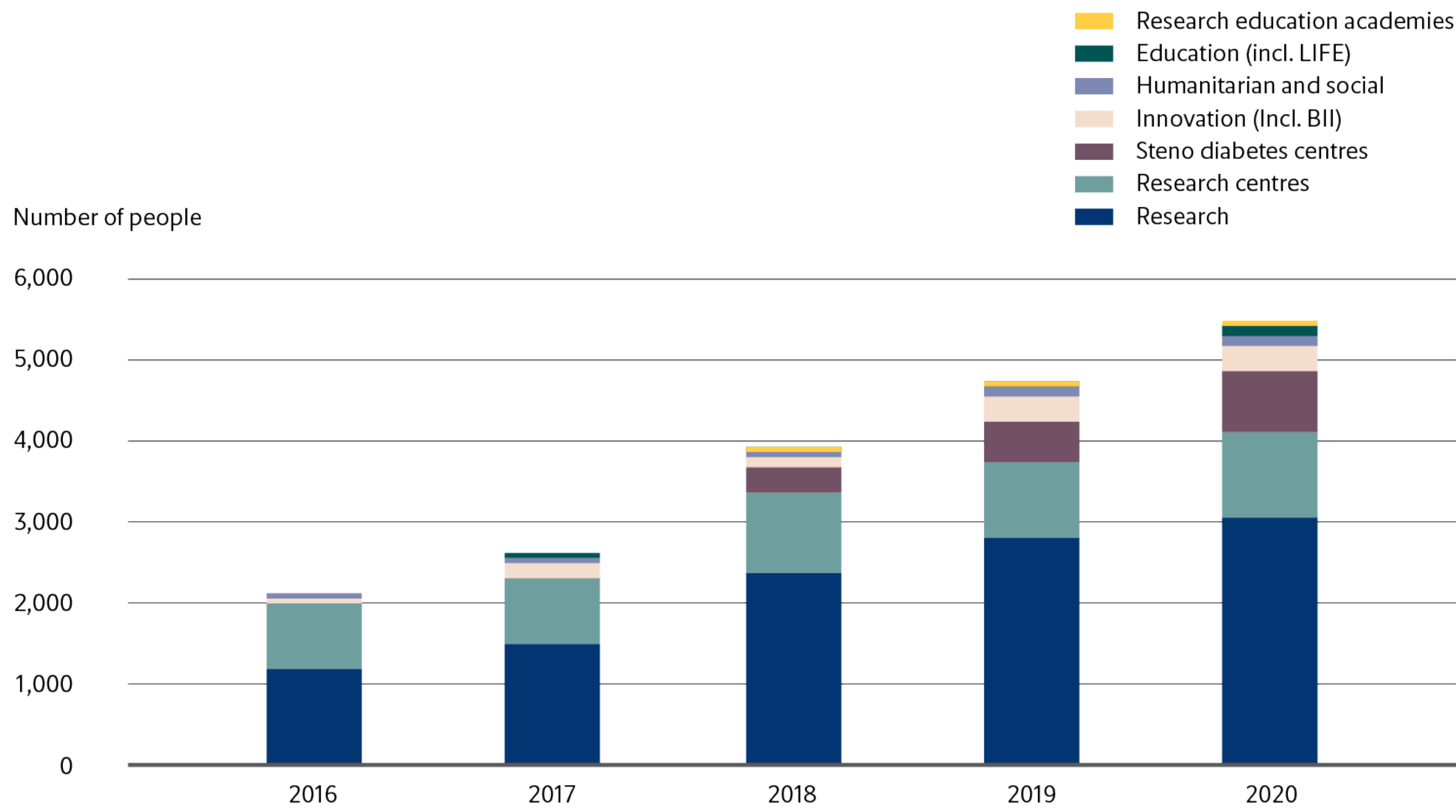
7% of the journal articles in Denmark are supported by the Novo Nordisk Foundation grants

22% are among world's top 10% most frequently cited



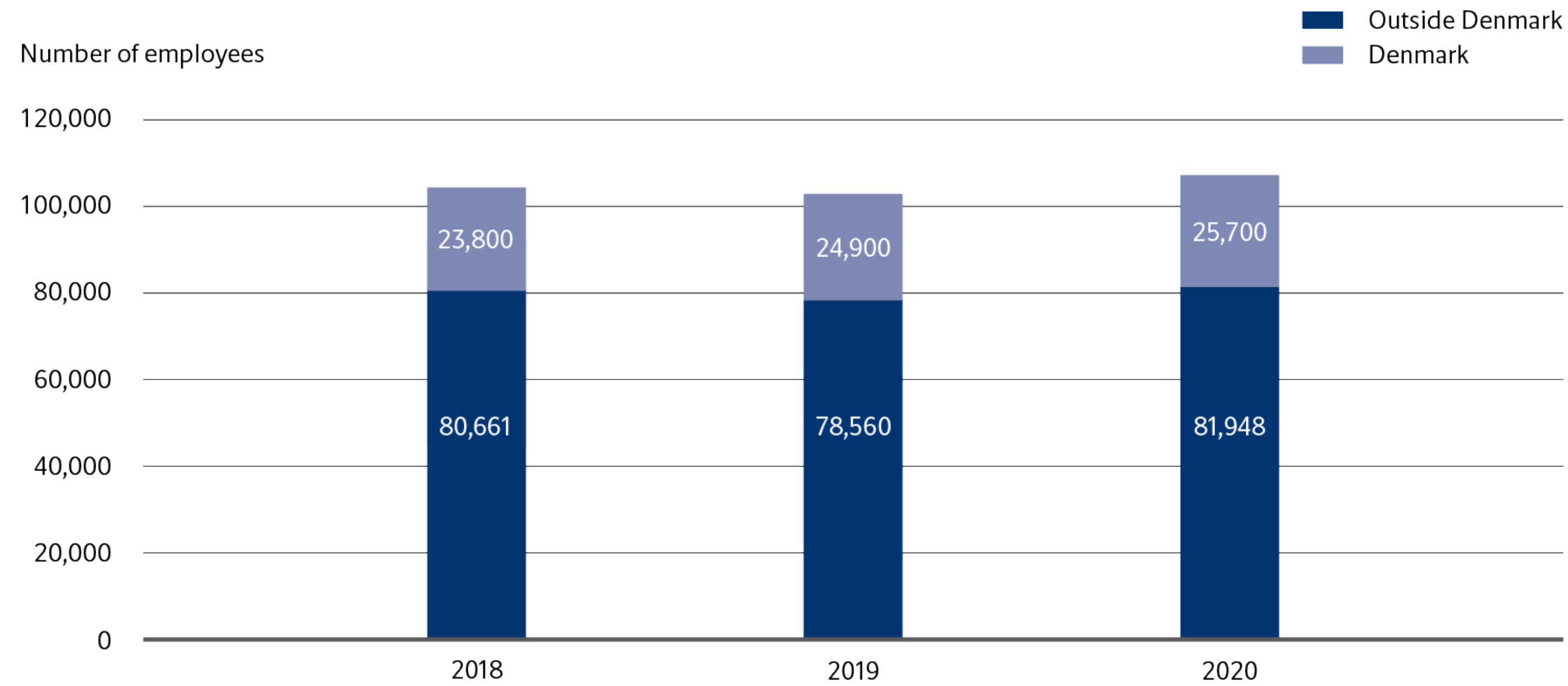
-  **Fostering** the development of research talent
-  **Investing** in infrastructure
-  **Supporting** research collaboration
-  **Promoting** excellent research

5,500 jobs in Novo Nordisk Foundation funded grant activities in 2020



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- **Fostering** the development of research talent 
- **Investing** in infrastructure 
- **Supporting** research collaboration 
- **Promoting** excellent research 
- **Developing** innovative products and solutions 
- **Creating** jobs and growth 
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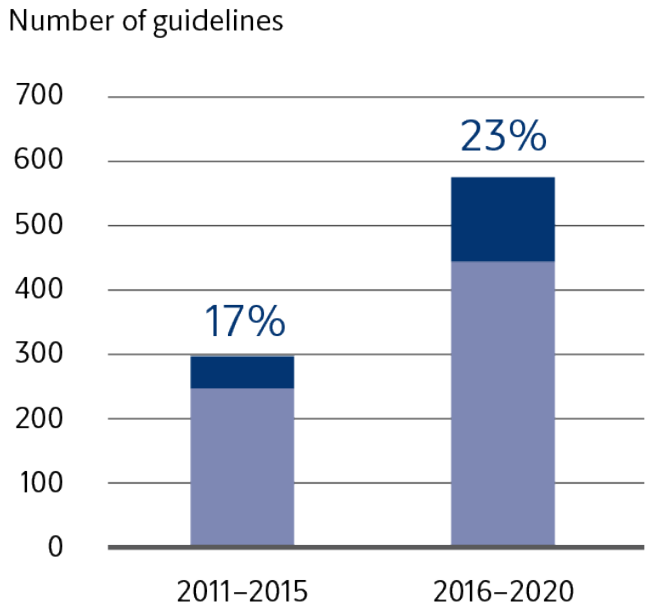
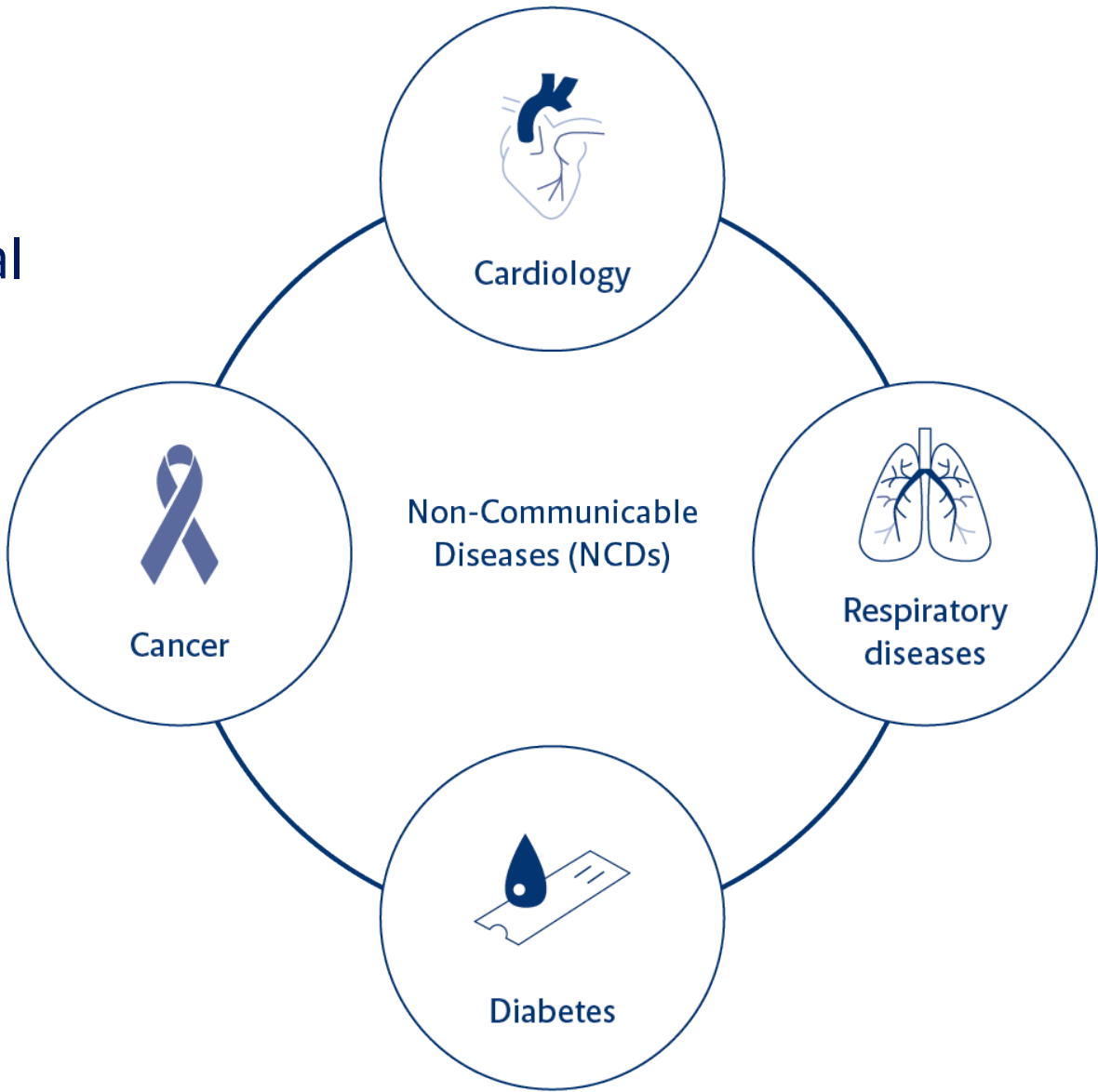
Number of people employed in Danish based and foreign based companies controlled or invested in, 2018–2020



-
- **Fostering** the development of research talent 
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- **Promoting** excellent research 
- **Developing** innovative products and solutions 
- **Creating** jobs and growth 
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Foundation-funded journal articles contribute to the treatment of patients within the four Non-Communicable Diseases (NCDs)

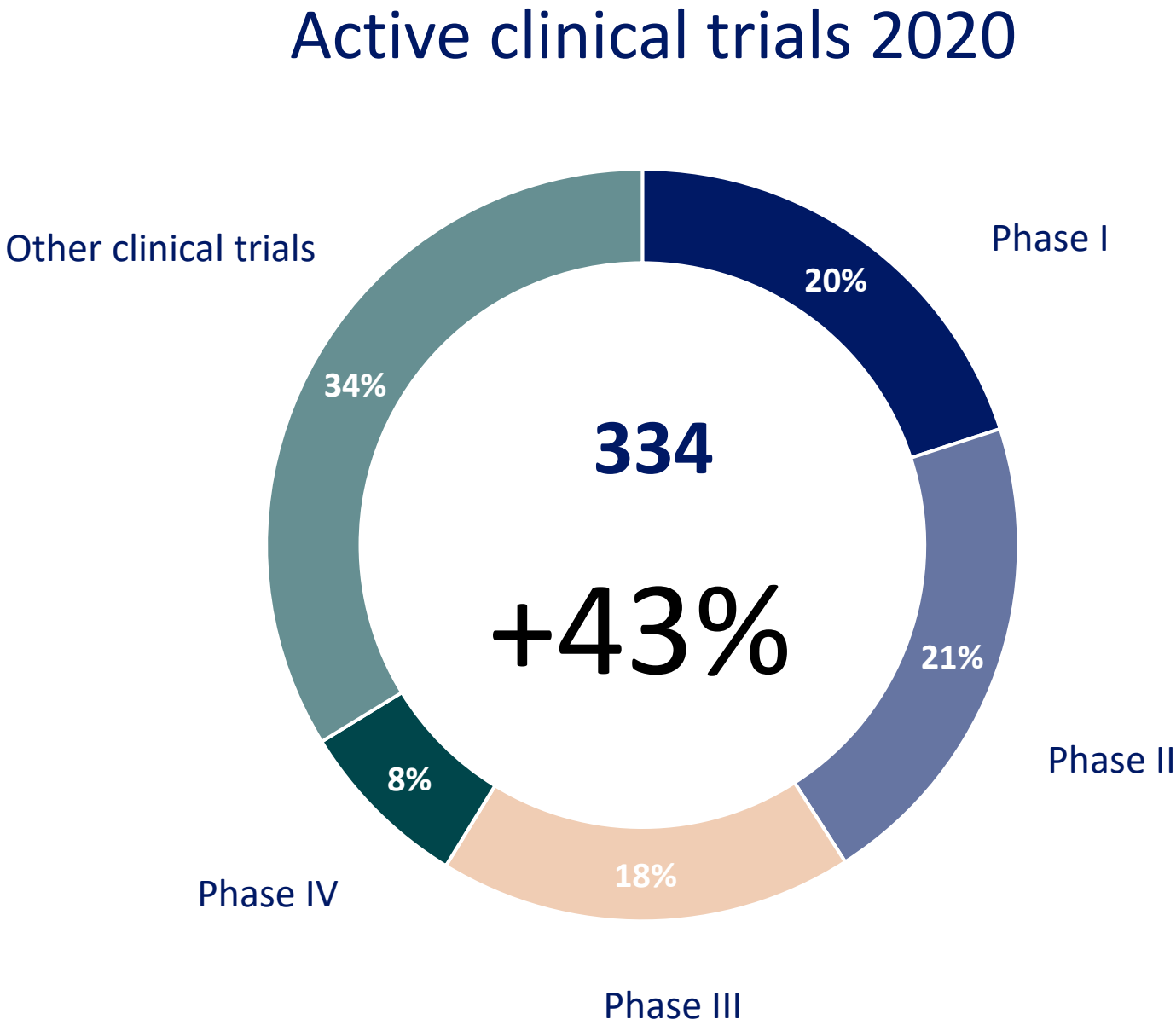
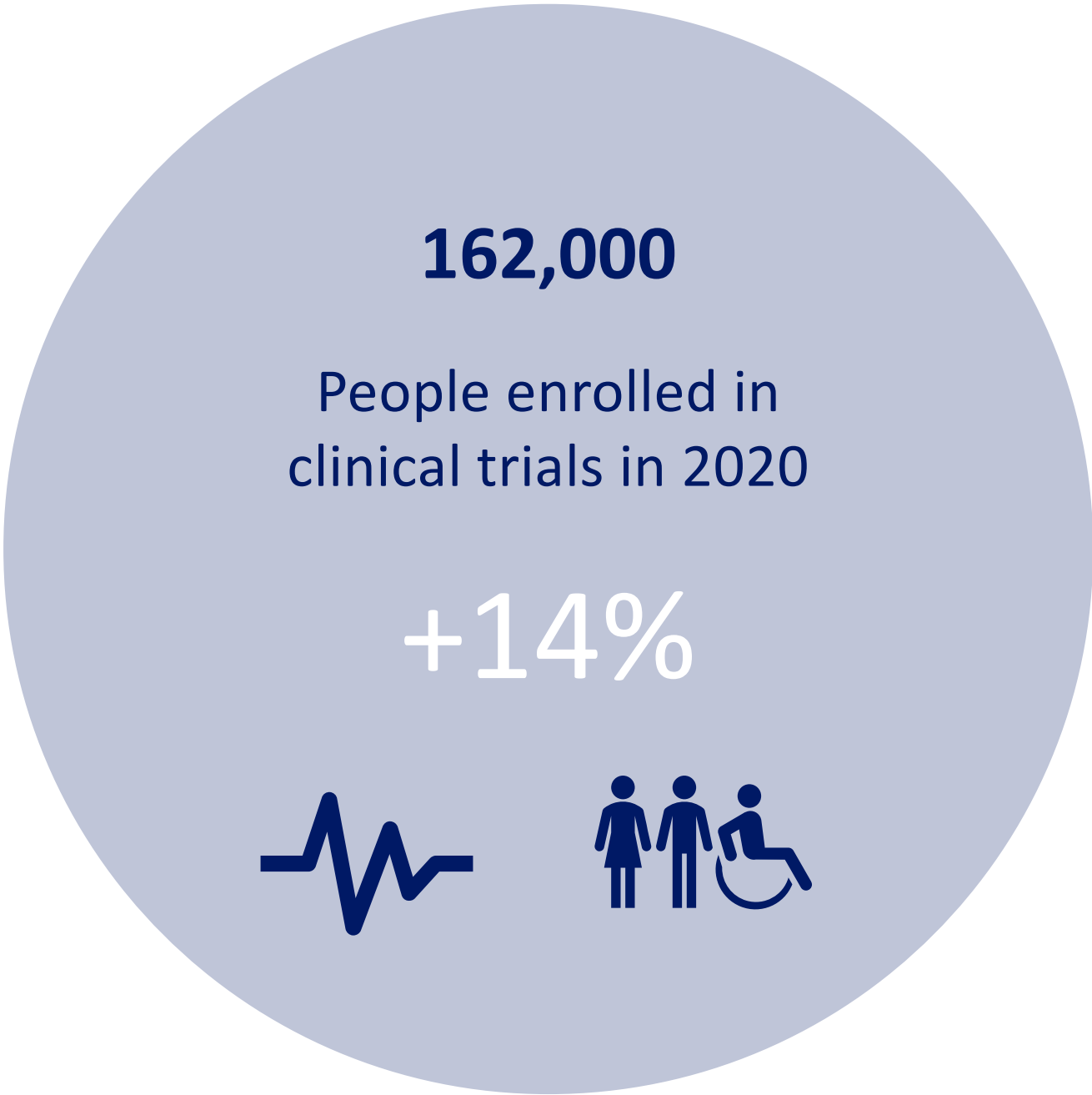
21% of 870 national and international clinical guidelines and treatment recommendations cite Foundation-funded research (2011-2020)



■ Guidelines citing Foundation-funded research
■ Other guidelines

- **Fostering** the development of research talent
- **Investing** in infrastructure
- **Supporting** research collaboration
- **Promoting** excellent research
- **Developing** innovative products and solutions
- **Creating** jobs and growth
- **Developing** healthcare and new medicine

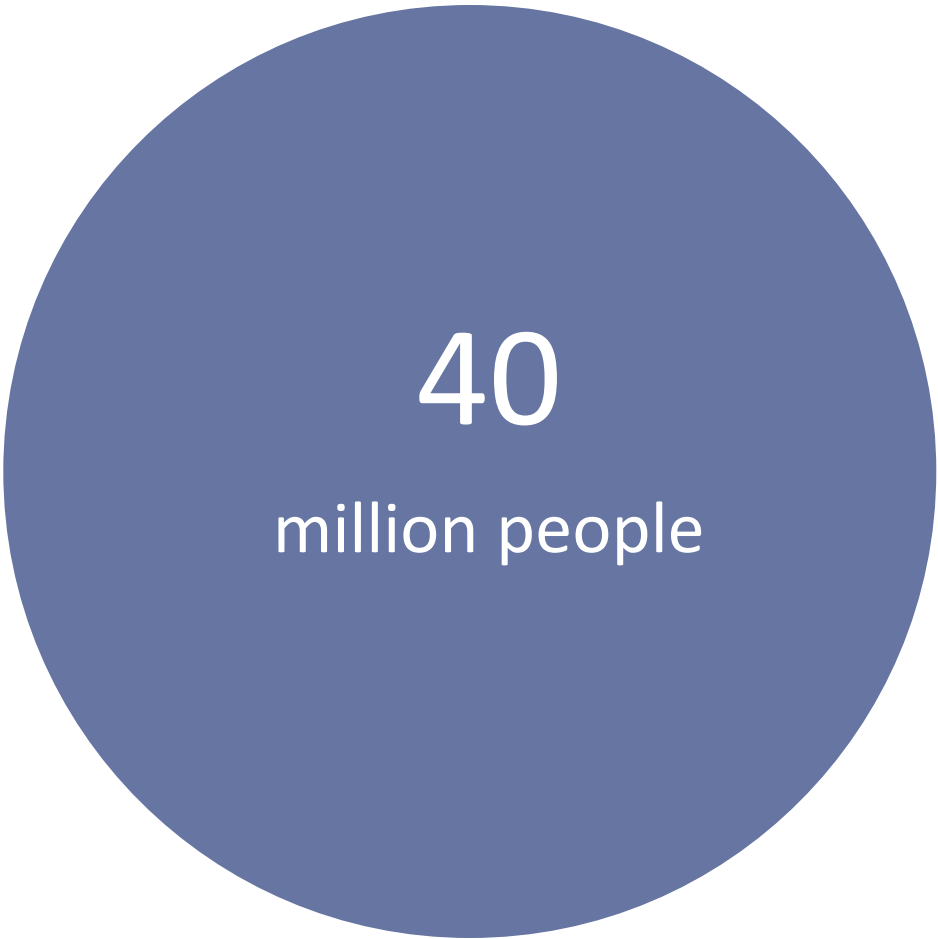
The Novo Nordisk Foundation Group contributed to translation of research to medicines through 334 clinical trials in 2020



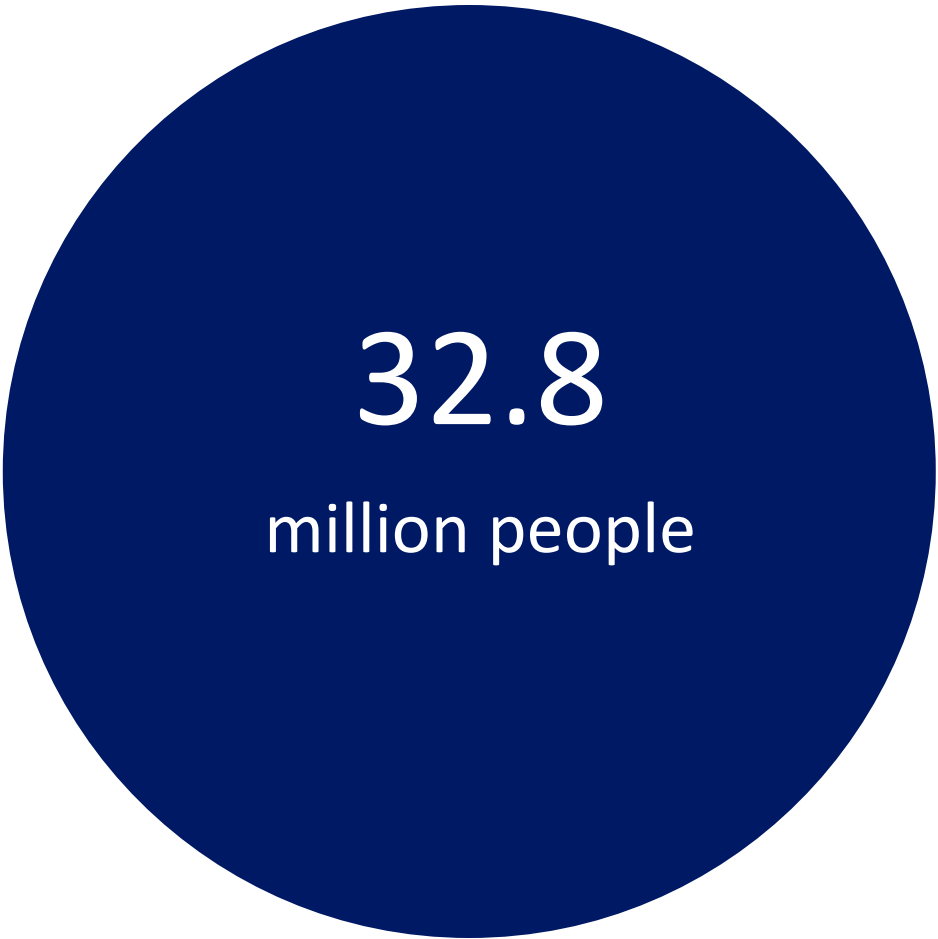
- Fostering** the development of research talent
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- Developing** innovative products and solutions
- Creating** jobs and growth
- Developing** healthcare and new medicine

Number of people using the products from the Novo Nordisk Foundation Group in 2020


Users of
MedTech products



Users of
medicine



+9%

- **Fostering** the development of research talent 
- **Investing** in infrastructure 
- **Supporting** research collaboration 
- **Promoting** excellent research 
- **Developing** innovative products and solutions 
- **Creating** jobs and growth 
- **Developing** healthcare and new medicine 
- **Developing** world-class education 
- **Empowering** vulnerable groups in society 

Thank you!