



Nivel
SEP evaluation 2016-2021

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1. Foreword by the committee chair

It is with great pleasure that we present the report of the SEP evaluation (2016-2021) of Nivel. This report is based on Nivel's self-evaluation document which was rich in information and yet concisely written. The assessment committee prepared the site visit in depth, which helped in making the conversations during the assessment days (22 and 23 September 2022) open, challenging, and interesting. We have met representatives of the Supervisory Board, management team, heads of departments, research program leaders, postdocs/senior researchers, PhD students. In addition, we observed a peer review research meeting. We noticed much appreciation for Nivel's work in a meeting with high-level representatives of important stakeholders such as National Health Care Institute, Ministry of Health, Welfare and Sport, Association of Medical Specialists, National Institute of Public Health and Environment, Netherlands Patient Federation and ZonMw, highlighting Nivel's unique position and added value for society. We thank the involved and well-prepared Nivel staff, and you can be sure that we have noticed your spirit of pride and of being inspired to innovate!

We have used the Strategy Evaluation Protocol (2021-2027) as a pleasant and helpful guide for on-site interviews. This has led to the following main findings. Nivel's mission and core values are clear. The mission 'research for better care' fits a comprehensive health services research institute, but is broad and may evoke the question 'what is the specific unique value proposition'. We recommend that Nivel invests in a dialogue about a vision on the landscape of healthcare and welfare in the distant future, and derives from this vision long-term in addition to short-term goals.

Nivel is highly productive with, over the period 2016-2021, over 800 peer-reviewed publications and more than 80 PhD projects with Nivel supervision or involvement. It has a unique research and data infrastructure and explores new methodologies and technologies. Nivel's identity comprises 'science for policy'. The four recently formulated societal challenges are clearly articulated and organization-wide internalized. Nivel's staff and stakeholders are proud of Nivel, but modest as well, and the committee believes that Nivel with its profound scientific knowledge could take a more proactive role by influencing policy agendas. Nivel can build on high employee satisfaction ratings. The increasing competition with consultancies, universities, and universities of applied sciences in attracting and retaining talent may lead to offering job security sooner and may provide the impetus to pay even more attention to balancing the workload and to including diversity in the HR policy.

Nivel is a great institute with added value for science, policy and healthcare practice. The continuity in leadership, the credibility as a natural partner of the stakeholders and its strong academic culture are certainly strengths. We felt honoured by the invitation to evaluate Nivel's strategy. As assessment committee we have learned a lot from this SEP evaluation. Finally, we believe that Nivel can benefit from our recommendations which we hope will contribute to the continued flourishing of Nivel.

On behalf of the entire assessment committee,

Kees Ahaus

2. Procedure

2.1 Scope of the review

Nivel asked a review committee of external peers to perform a review of its research over the period 2016-2021. In accordance with the Strategy Evaluation Protocol 2021-2027 (SEP) for research reviews in the Netherlands, the committee was requested to carry out the assessment according to a number of guidelines. The assessment was to include a backward-looking and a forward-looking component. The committee was asked to judge the performance of Nivel on the main assessment criteria specified in the SEP and to offer its written conclusions as well as recommendations based on considerations and arguments. The main assessment criteria are:

- Research Quality;
- Societal Relevance;
- Viability.

During the evaluation of these criteria, the committee was asked to incorporate four specific aspects relating to how Nivel organises and actually performs its research, its composition in terms of leadership and personnel, and how Nivel is run on a daily basis. These aspects are:

- Open Science;
- PhD Policy and Training;
- Academic Culture;
- Human Resources Policy.

For more information on the criteria and categories of the Strategy Evaluation Protocol 2021-2027, see Appendix 1.

2.2 Composition of the committee

The composition of the committee was as follows:

- Prof. dr. ir. C.T.B. (Kees) Ahaus, Professor of Health Services Management and Organization, Erasmus University Rotterdam
- Prof. C. (Kate) O'Donnell, Professor of Primary Care Research and Development, University of Glasgow
- drs. F. (Florence) Heijsters, MD, advisor Strategy & innovation, and PhD at Amsterdam UMC
- Prof. H.T. (Helle Terkildsen) Maindal, Professor of Public Health and Health Promotion, Aarhus University
- Dr. P. (Peter) Makai, senior supervisor, Netherlands Authority for Consumers and Markets (ACM)
- Prof. dr. ir. A.J. (Jantine) Schuit, Professor of Health, Behaviour and Society, member of Executive Board, and Vice Rector Magnificus, Tilburg University
- Prof. dr. K. (Kris) Vanhaecht, Professor in Quality Management, KULeuven

The committee was supported by dr. Fiona Schouten, who acted as secretary on behalf of Academion.

2.3 Independence

All members of the committee signed a statement of independence to guarantee an unbiased and independent assessment of the quality of the research performed by Nivel. Personal or professional relationships between committee members and Nivel were reported and discussed at the start of the site

visit amongst the committee members. No specific risk in terms of bias or undue influence existed and all members were sufficiently independent.

2.4 Data provided to the committee

The committee received the self-evaluation report from Nivel, including all the information required by the SEP. The committee also received the SEP 2021-2027.

2.5 Procedures followed by the committee

The committee proceeded according to the SEP 2021-2027. Prior to the site visit, all committee members independently formulated a preliminary evaluation of Nivel based on the written information that was provided before the site visit. They also identified questions to be raised during the site visit. The committee was briefed by Academion about research reviews according to the SEP 2021-2027.

The site visit took place on 22-23 September 2022 (see the schedule in Appendix 2). After the interviews, the committee discussed its findings and comments in order to allow the chair to present the preliminary findings and to provide the secretary with argumentation to draft a first version of the review report. The final review is based on both the documentation provided by Nivel and the information gathered during the interviews with management and representatives of Nivel during the site visit.

The draft report by the committee and secretary was presented to Nivel for factual corrections and comments. In close consultation with the chair and other committee members, the comments received were reviewed to draft the final report. The final report was presented to the Supervisory Board of Nivel.

3. Research review of Nivel

3.1 Introduction

Nivel, the Netherlands Institute for Health Services Research, is a key player in the knowledge infrastructure of the Dutch healthcare system. Nivel started in 1965 as the scientific institute of the Dutch College of General Practitioners, and gradually expanded its domain to all primary and secondary care. Today, Nivel functions as an independent foundation. Its research covers the entire healthcare system. Since its beginnings, Nivel has developed a unique and long-running infrastructure of databases, registries and panels of care professionals and patients, which include the Nivel Primary Care Database, the Nivel Healthcare Professional Registries, the Nivel Nursing Staff Panel and citizen and patient panels.

Nivel's staff consists of 185 employees (2021), including 116 scientific staff members and 69 administrative, management support and other staff members. Scientific staff is organised in three departments. These focus on 1) the perspective of patients, clients or citizens; 2) professionals and primary care; and 3) the organisation and system of healthcare. Together, the departments host 13 smaller research teams involved with multidisciplinary and multi-perspective Health Services Research (HSR). Nivel relies on an institutional subsidy from the Ministry of Health for the funding of several large research infrastructures, which include its specific databases and panels and its monitoring infrastructure. This covers around 45% of the annual budget and is negotiated every six years. The other 55% of funding consists of project grants from a range of funders, including ZonMw, collection box funds, and Horizon 2020.

3.2 Aims and strategy

Mission and identity

Nivel's mission statement is 'Research for better care'. Nivel aims to inform policy-making and professional practice in healthcare to continuously improve healthcare for patients. It also aims to support patient participation and to contribute to a sustainable healthcare system. Nivel connects the world of scientific healthcare research with that of policy makers, healthcare professionals, and healthcare and patient organisations, translating societal issues into scientific research questions, and translating scientific knowledge into knowledge that can be used in society. Nivel defines four core values for doing so: relevance for society; scientific reliability; connecting science, policy and practice; independence but involvement.

The committee finds Nivel's overall mission clear, and considers its values to be well aligned with this mission. At the same time, the mission is formulated quite broadly. This raises the question of Nivel's specific niche and its unique selling proposition. What is Nivel's position within the field of HSR, where universities, related institutes such as RIVM (National Institute for Public Health and the Environment), and consultancy companies are also active? The committee discussed Nivel's identity with its management, supervisory board, senior and junior staff, and external stakeholders. It learnt that Nivel is still widely known and appreciated for its GP and primary care heritage, which has resulted in a strong infrastructure of databases, registries and panels of healthcare users and providers. However, Nivel is more than just this heritage. Both stakeholders and Nivel staff pointed out that they highly value Nivel's practice and policy orientation, combined with its clear scientific soundness and robustness. Nivel is flexible in addressing short-term needs and demands from policy and practice, yet it does so in a robust scientific manner that makes its work reliable.

According to the committee, Nivel's flexible but solid 'science for policy' approach and its values of relevance, independence, scientific reliability and connectedness to others are distinguishing features within the Dutch HSR landscape. Its preparedness to collaborate with others and transparently share its results (see also 3.3 'Research Quality') makes Nivel a natural and valued partner of universities and other research

institutes, as well as policy-makers, practitioners and patients. The committee noticed that Nivel's staff and stakeholders show a justified pride in Nivel's historically rooted, societally relevant, yet scientifically robust approach.

The committee established that Nivel management is hesitant to connect its identity to consultancy activities. At the same time, some of its senior staff members consider consultation a part of their work. This discrepancy seems to have been caused by different definitions of what 'consultancy' means. It is clear to the committee that a too commercial approach does not fit with Nivel's identity. This was demonstrated when, upon a recommendation of the previous evaluation committee, Nivel attempted to diversify its sources of funding by looking into the development of new products and services. Diversification was given priority partly due to financial cutbacks at the start of the period under evaluation. These attempts were abolished as Nivel found that such commercially oriented activities were not a good fit for its research orientation or its financial structure as an independent foundation. The committee agrees with this decision. However, it points out that if a broader definition of (scientific) consultation is used, i.e. doing research for government and patient organisations, Nivel research fits the description. The committee therefore advises Nivel to discuss its understanding of consultation. In doing so, it can further clarify its position and its tasks as an institute positioned between universities and consultancy firms.

Aims and strategy

For the period 2016-2021, Nivel defined three main goals that were operationalised in subsets of three strategic aims:

1. To carry out high-quality research
 - To be an active and respected partner in the academic community.
 - To invest in our people to achieve scientific quality and relevance.
 - To invest in our research infrastructure and in the innovation of our methods.
2. To achieve a demonstrable impact on society
 - To respond to the issues that matter in healthcare.
 - To be a key player in the network of stakeholders in healthcare by contributing with research that is properly aligned with challenges these stakeholders face.
 - To improve our communications strategy in order to be more visible for our stakeholders.
3. To be a sustainable organisation
 - To strengthen the solidity and sustainability of our financial base
 - To improve, continuously, the Nivel organisation
 - To anchor our system of quality control within our organisation and to make it relevant for everyone's day to day work.

The committee agrees with these goals, that are in line with Nivel's identity and values. The committee points out, however, that the core values of Nivel have not been linked explicitly to the aims and strategy, so that it remains unclear how they are deployed and operationalised within Nivel. This could be made more explicit.

A recommendation of the previous committee was to bring more focus into Nivel's goals and strategy. Nivel did this primarily by introducing three perspectives on healthcare: 1) that of patients, clients or citizens; 2) that of professionals and primary care; and 3) that of the organisation and system of healthcare. All research groups in Nivel address at least one of these pillars. The committee appreciates these perspectives, but notes that they serve to classify and organise existing research rather than inform strategic decisions and choices on what kind of research does or does not belong at Nivel.

An important new step was taken over the past period by formulating and developing a new research agenda for 2022-2024. This agenda focuses on four societal challenges: Being healthy and staying healthy; Towards an inclusive society; Healthcare professionals of the future; and Sustainable healthcare. The committee learnt to its satisfaction that this agenda was developed, evaluated and adapted in close collaboration with Nivel's researchers and stakeholders and that it has found resonance within the organisation. The researchers that the committee saw during the site visit could all reflect on these challenges and pinpoint where their research addressed one or various of these challenges.

The committee appreciates the new agenda with societal challenges, which creates connections between the various research groups that previously didn't exist. The committee urges Nivel to take these four societal challenges and to henceforth use them to evaluate all existing and future research, demarcating Nivel's scope as well as its priorities. The committee encourages Nivel to use the four challenges as a starting point in making choices on the focus of its research rather than as a retrospective tool to categorise its research. In doing so, Nivel should not hesitate to discontinue research programmes which no longer fit the strategy. The four themes should also be used by Nivel management to trace any gaps or blind spots, determining for each challenge what aspects or groups are not yet (sufficiently) present in Nivel research. In this way, the new agenda can serve to strengthen Nivel's identity and approach and to make this clear to internal and external stakeholders.

The committee further advises Nivel to distinguish between short-term and long-term aims and outcomes. This includes formulating its vision on the future development of healthcare during as well as beyond the next 10-20 years, both within and outside the Netherlands. In doing so, Nivel should forecast what is needed for that future, formulate short-term as well as long-term goals and determine the consequences for its position in healthcare. In formulating such a vision and thinking further ahead, Nivel will be better positioned to anticipate the changes in the healthcare landscape (see also 3.5 Viability).

3.3 Research Quality

Output and peer recognition

The organisation of Nivel's research is determined by the 13 research programmes, which are each led by either a senior researcher or an endowed professor who is also parttime appointed at a university. Usually, this professor is flanked by one or two other senior researchers. As a result of this structure, Nivel research is programme-driven. During the site visit, the committee was presented with a variety of strong, high-quality research on topics such as dealing with disasters, nursing care policy, disease prevention and health promotion, labour market participation of elderly patients etc. As mentioned previously, each of the 13 research programmes falls under one of the three departments representing the patient, practitioner, and organisational perspectives. This structure allows for collaboration and cross-fertilisation between programmes and departments. This effect has been heightened by the outbreak of COVID-19, which prompted the Nivel organisation to focus on reporting to the government on the pandemic's development and the reception of measures by the general public. Cross-fertilisation is currently boosted by Nivel's introduction of its new strategic agenda and the four overarching societal challenges its researchers work on.

Over the period 2016-2021, Nivel researchers have been involved in a great number of highly relevant research projects, publishing over 800 peer-reviewed articles in influential journals. This output includes prize-winning research concerning patient safety and palliative care, articles in prominent journals on themes such as dementia, infectious threats, or air pollution, and a variety of publications originating in national and international research collaborations, such as the Sonar Global network of 15 international partners who work together on strengthening the participation of the social sciences in the prevention and response to infectious threats. 40 Nivel PhD students published their theses, and 44 dissertations appeared that had Nivel (co-)promotors. Nivel also participated in 24 large proposals regarding the Dutch national

research agenda (NWA). Its researchers obtained grants from NWO, charities, and ZonMw, among others, with a success rate of around 30%. Nivel also collaborates in a number of national and international consortia and is present nationally and internationally on scientific conferences and colloquia. Societal relevance is a constant in all of this output, which the committee applauds.

A promising new development is the increasing focus on international funding and research opportunities. For instance, Nivel leads the EU Health Support Consortium. The committee also appreciates the strong connection with research groups in Amsterdam (APH), Maastricht (CAPHRI) and Nijmegen (Radboud) (e.g., in Health Services Research school CaRe), which demonstrates Nivel's importance for peers in the HSR field and the recognition its research receives. As mentioned before, Nivel has an outstanding reputation among its external stakeholders for the scientific quality of its work. Nivel is considered an engaged, valued and trusted networking partner for the academic community.

Due to the outbreak of COVID-19, Nivel's scientific output shifted from scientific publications towards contributions to policy and practice (see also 3.4 Societal Relevance) in recent years. The committee considers this a logical development that matches Nivel's identity and aims. It appreciates the flexibility that Nivel research was able to demonstrate here. Clearly, the unique research and data infrastructure proved valuable, indicating that Nivel was ahead of its time in creating and maintaining long-running monitors and surveys. The committee is impressed with the research output and quality Nivel managed to achieve. It finds that Nivel clearly achieved its goal of being an active and respected partner in the academic community. In this context, it recommends Nivel to further strengthen its connections to universities by collaborating with those where it does not have direct ties through an endowed professor.

One of Nivel's strategic aims was to innovate its methods. The committee highly appreciates the innovative approaches used and explored in Nivel research. These include patient involvement in formulating research questions, new methodologies and (AI driven) technologies such as automatic speech recognition, the use of machine learning techniques on large datasets, or web scraping technologies. Nivel also developed the citizen platform, a qualitative, policy-oriented method for exploring the opinions of citizens on difficult or abstract topics in healthcare. The method is based upon the 'Citizens' council'-approach of The National Institute for Health and Care Excellence (NICE). One of the first examples concerned citizens' views on the Health Inspectorate (2017); since 2017, Nivel has used this method for many topics in healthcare. The committee praises Nivel for these efforts. The committee recommends giving this methodological innovation a more solid and less project-based place within the organisation, especially in light of the current developments in e-health. Nivel should formulate a plan on how to further develop and future-proof its strong methodology and underlying research infrastructure. Such a plan should involve stakeholders with knowledge of and experience in methodological innovations, and it should address Nivel's approach to investing in digital solutions.

Open science

Nivel is a frontrunner when it comes to stakeholder involvement as part of practicing open science. It collaborates with a great number of stakeholders in the fields of healthcare and HSR, from patient and practitioner organisations to hospitals and GPs. A prime example of Nivel's pioneering role has been the active involvement and participation of citizens in research, for instance through the citizen platform described above and when studying improving the care relationships from the client's perspective.

Nivel attaches great value to its policies and practices concerning open science and research integrity. Nivel researchers operate as transparently as possible due to a self-imposed obligation to publish all results. All publications can be found on the website, and Nivel researchers publish increasingly in open access journals (75% of publications in 2021). Nivel shares its data with other parties, taking into account the requirements of privacy and good governance. It receives frequent requests for sharing data and does so generously. Nivel adheres to the Netherlands Code of Conduct for Research Integrity and is affiliated with the National Board

for Research Integrity (LOWI). It also participates in COREON (Committee on Regulation of Health Research) and is therefore bound by the Code of Conduct for Health Research. New employees are informed of these standards. Nivel also has a committee on scientific integrity.

Nivel deals with large data sets and infrastructure. The committee met with dedicated staff dealing with data storage, sharing, and logistics and concludes that all relevant policies in terms of research integrity are in place. Here, Nivel's long-standing experience with unique data sets, surveys, monitors and panels pays off. The data management staff are currently preparing to further implement the FAIR principles, which poses a challenge to the organisation. According to the committee, the data management team can be considered a core strength of Nivel: it is of sufficient size to meet the needs of the organisation and makes the institute attractive for (junior) researchers who are relieved of the work and responsibility this whole aspect of research carries with it. The committee advises management and dedicated staff members to involve other stakeholders in formulating strategies on questions of data accessibility, so that these policies and strategies are created in dialogue and co-production.

Academic culture

One of Nivel's strategic aims to achieve research quality has been to invest in the competences of its employees and in academic culture. The committee was positively impressed with the strong academic culture of Nivel. As mentioned before, Nivel is characterised by its robust scientific research, which translates into a well-developed system of quality assurance and quality mechanisms. One such example of Nivel's quality culture is the current SEP evaluation, which Nivel undergoes voluntarily. Another is the yearly ISO 9001 audit. Nivel has a three-year cycle of quality control that is shared with its staff in a quality assurance handbook. Furthermore, the open science policy described above contributes to a positive academic culture, since it invites sharing research and results and discussing them internally and externally.

In order to promote internal academic quality, Nivel has training-on-the-job mechanisms in place that succeed in creating a solid academic culture. For instance, research projects are always conducted in teams in which young researchers are supervised by more experienced colleagues. This ensures their introduction to academic values and methodological rigour. Another positive initiative is the 'systematic assurance of statistical analyses', in which a random sample of publications is re-analysed.

Another training-on-the-job mechanism is the internal peer review meeting, which takes place twice a week. In such meetings, every academic document prepared for publication is discussed in groups that change annually and that consist of researchers from various research groups, departments, and experience. The sessions are led by a senior researcher. Each publication or research proposal is allotted two reviewers who provide feedback, after which the other group members add their input. This working method guarantees that publications from Nivel employees are scientifically sound. It also ensures that Nivel researchers learn what their colleagues are working on, enhancing collaboration and exchange between peers from different departments. The committee is pleased with this working method, although it recommends continuously monitoring that this process remains 'safe' enough for junior researchers who are reviewed by seniors, and that the added workload of acting as reviewer does not become overwhelming.

The committee applauds Nivel's efforts in creating and maintaining a solid academic culture. It found that Nivel researchers are proud of their workplace and feel supported. This is also visible in the employee surveys, which indicate a high satisfaction with Nivel as an employer and a working environment. Nivel paid extra attention to social support and interaction during the COVID-19 pandemic. It currently organises a hybrid monthly meeting where approximately one third of the organisation meet up and share knowledge, and where new employees present themselves. Recently, a science afternoon initiative was started, taking the shape of a scientific colloquium organised for and by Nivel researchers.

3.4 Societal Relevance

Between 2016 and 2021, societal relevance of Nivel research was evident. In line with its mission and aims, Nivel's research projects have direct relevance for policy and practice. Among the many examples the committee encountered were research on patient safety in Dutch hospitals and research on workforce participation of elderly patients with chronic diseases. Two thirds of the grants gained by Nivel concerned societal issues. They were obtained from relevant societal stakeholders, including the Ministry of Health, ZonMw, the National Health Care Institute (Zorginstituut Nederland), and other organisations, advisory bodies, and the European Commission. Nivel researchers are involved in around 60 committees and hold approximately 20 positions on boards. Nivel is also involved in a diverse set of healthcare partnerships, including the National Health Care Institute (Zorginstituut Nederland) and hospitals. The committee is convinced that Nivel achieves its aims concerning societal relevance: external stakeholders confirmed during the site visit that the impact of Nivel on health care policy and practice is considerable and one of Nivel's most visible and appreciated qualities.

The relevance of Nivel research for society came to the foreground in a different way during the outbreak of COVID-19. In line with its aim to respond to the issues that matter in healthcare, Nivel decided to prioritise responding to policy and societal needs surrounding the pandemic. Thanks to its extensive and well-consolidated research infrastructure, Nivel was able to provide policymakers and the Ministry of Health (MoH) with rapid and valuable answers to questions on the initial spread of infections, on how society reacted to the measures taken, and on how GPs coped with these challenges. The three Nivel departments collaborated in a joint effort. The committee applauds Nivel's flexibility during the pandemic and its essential contribution to policy and practice. The COVID-19 pandemic demonstrates Nivel's added value as an institute that can respond quickly and come up with robust data.

A suggestion for improvement is to become more proactive and take the lead in setting the (political) agenda. Stakeholders, management, employees and the supervisory board confirm that Nivel tends to limit itself to responding to questions from important stakeholders such as the MoH. Nivel is not always able to provide full answers to questions that lie further outside of its scientific scope. The committee urges Nivel to confidently take up a more proactive role, actively using its assets and expertise to contribute to better care. Developing a long-term vision can help in becoming more proactive.

Nivel is increasingly involved in European projects and consortia. While its data infrastructure is Dutch-oriented, the data and methodologies themselves are also valuable from a European perspective. Nivel currently leads the EU Health Support Consortium, which also comprises the RIVM, the Royal College of Surgeons in Ireland, and Infeurope, a Luxembourg provider of services on communications and multimedia. The projects here are financed through a non-competitive single-framework contract and have high policy impact, dealing with topics such as infectious disease surveillance and GDPR data privacy management. The committee appreciates that as a first-time candidate, Nivel and its partners won this contract over other, more consultancy-oriented contenders. This success suggests (international) stakeholders' appreciation of Nivel's sound scientific approach and academic values. The committee recommends evaluating the lessons to be taken from this success in order to continue in this direction.

The committee is convinced of Nivel's high societal relevance. However, it feels that more could be done to communicate the added value of Nivel externally. Clear improvements have been made here after the previous evaluation as part of the strategic aims: a communication strategy has been drafted and implemented, the website has been renewed, public appearances of researchers have been linked better to Nivel, presence in the media has been increased and interactive live workshops (the Nivel Connects Sessions) have been introduced where policy makers, healthcare professionals, and patients meet up with researchers. Still, the committee finds that while Nivel is a household name for its external stakeholders at RIVM, ZonMw, MoH, and others, more could be done to increase visibility with a general audience. Nivel

could pay more attention to letting people in the field know what Nivel does, nationally and internationally, and improving the visibility of its unique infrastructure.

3.5 Viability

Financial viability

Nivel is chiefly funded by the Ministry of Health: 45% of its funding is covered by this institutional subsidy for the funding of large research infrastructure. The other 55% of Nivel's funding is based on project grants from various stakeholders and funding bodies. The committee is confident that the MoH funding will be extended based on Nivel's performance over the past period and its clear added value as a science for policy institute, for instance during the COVID-19 pandemic. It is pleased with Nivel's success in obtaining scientific and societally oriented grants. It considers the increasing funding from international projects (currently around 10% of total funding) to be a good development with potential for growth.

In response to a negative financial result in 2015, Nivel increased its overhead tariff and the cost-awareness of staff. These measures were successful, but created pressure on staff members. Therefore, flywheel money was introduced at the level of the three departments. With this money, staff could call in extra help to write grant proposals or to fill in projects that were understaffed. Nivel also introduced internal calls for innovative projects. Workload was also relieved by granting staff members four 'free hours' per week to dedicate to own projects and proposals. The committee learnt that these measures were highly appreciated by staff and that they had the desired effect. Currently, Nivel shows stable financial results.

The committee is positive about these developments and the financial solidity that has been achieved. However, it also identifies some threats to Nivel's viability. One of these is Nivel's dependency on the MoH. Another threat is increased competition in the field of HSR from consultancy firms on the one hand, and research universities and universities of applied science on the other. In particular, Nivel should be aware that current policy changes related to research funding in the Netherlands may lead to permanent extra funding and thus additional resources on the side of the universities and universities of applied sciences. This will lead to increasing competition on the job market. Also, universities are increasingly geared towards societal impact and may start competing more with Nivel's societal orientation. The committee recommends a detailed and renewed assessment of Nivel's position in this increasingly competitive and changing field.

HR policy

Nivel's management structure is such that the director enables the leaders of the 13 research programmes to determine their own agendas, while adhering to the three perspectives (of patients, professionals and the system of healthcare) and relating their research to the four societal challenges Nivel identifies. The research programmes are of sufficient size and body and generally made up of at least two senior researchers. The committee concludes that this setup works well in practice: it leads to sufficient academic freedom and a to a solid team science practice, and it results in high research quality and societally relevant output. A disadvantage is that such collective leadership can get in the way of real forward-looking leadership that takes the long-term development of Nivel into account. The committee points out that this becomes an urgent concern in view of the changing healthcare landscape and the increased competition in the field (see above).

Another possible disadvantage of this setup for Nivel's future viability is that working in demarcated teams could limit collaboration and exchange. Nivel is aware of this and is currently promoting cross-fertilisation between groups and departments through regular meet-ups and seminars, through the introduction of the four societal challenges, and through the peer review sessions where researchers meet those from other programmes. Also, the joint COVID-19 effort created more internal connections and collaborations.

The committee is positive on the HR policies and practices in place. Nivel has an extensive training programme for its scientific employees, running from leadership and personal development to methodological trainings. For post-doc researchers, a tailored post-training programme has been developed, with courses including networking, proposal writing, leadership, and time management. Trainings for senior employees are currently being introduced. The non-scientific personnel receive a schooling budget for personal development. Travel grants have been made available to support staff visiting other research groups abroad. Nivel also enables all researchers to visit international conferences so they can share their research results with others. Employees can also sign up for trainings outside Nivel. Employees are highly satisfied with Nivel, as surveys demonstrate, and testify to being proud of working at Nivel. Another positive is the fact that the gender balance in the higher organisational levels is relatively balanced compared to that of other parties in the field.

Regarding internationalisation, Nivel cannot be considered diverse. This is partly explained by the importance of Dutch language proficiency for acquisition, use and interpretation of research data, which makes the influx of international scholars less obvious. The committee sees room for improvement here and suggests formulating a policy on attracting international personnel. Similarly, it urges Nivel to increase ethnic diversity to attract Dutch-speaking employees with a minority ethnic and/or migrant background. Such groups are represented in the healthcare data Nivel gathers and should therefore also be present among Nivel staff. The committee recommends including a question on the experience regarding inclusiveness and/or diversity in the employee survey to monitor this aspect.

Nivel employees demonstrate a good spread in age and educational background, although an increase in diversity and staff working part-time as healthcare practitioners would be beneficial to research quality and societal relevance.

Workload among staff members is high, in spite of concrete measures such as the four free hours and flywheel funding. Part of this pressure is related to high job insecurity for those on temporary contracts. Nivel has a limited number of research programmes, and senior positions tend to have a low turnover. As an independent foundation, Nivel is more limited than universities when it comes to offering permanent or PhD-type contracts to staff members. In order to provide its researchers with more stability, Nivel has recently adapted its policies and offers permanent contracts sooner. The committee considers this a wise and necessary move, but still urges Nivel to consider ways to retain young staff members in an increasingly competitive labour market. It should look into the reasons why young employees leave and what career path they follow. The committee also recommends keeping job insecurity, high workload and wellbeing on the agenda and to regularly discuss them with Nivel employees.

PhD policy and training

Nivel PhD students often start as regular employees at Nivel who are then invited to do a PhD, although recently, a number of dedicated PhDs were hired directly. Since Nivel is an independent foundation, its PhD students have to be registered at a university in order to be allowed to gain their doctorate. In practice, this means that they have one of Nivel's 13 endowed chairs as one of their supervisors and enrol at their university. In spite of this link with a university, the committee noticed that PhD students consider themselves to be primarily members of the Nivel community.

Nivel offers a training programme for junior researchers (Talent development programme – TOP). This includes courses in basic skills for researchers (qualitative and quantitative research, data management, etc.) and personal development. Some of the courses are offered by Nivel itself, others are offered through the contacts with the various universities or designed by other parties. In addition to the TOP, PhD students can make use of the training opportunities of the graduate school or faculty where they are registered as PhD students.

As part of TOP, Nivel has a Training and Supervision Plan for juniors and PhD students in place. This plan provides the researchers and their supervisors with clarity about the agreements and what can be expected of everyone in the PhD project. In it, researchers and PhD students systematically keep track of the courses followed and the corresponding number of European credits. Some universities set a number of credits as a condition for the doctorate and Nivel takes care to comply with such external demands. PhD students are also matched with a personal mentor and a buddy within Nivel, so that they can consult with staff members other than their supervisor and with peers about difficulties they run into.

The committee agrees with the measures and provisions in place for PhD students, which it considers well-designed. In spite of these, PhD students experience high workload. Unlike university PhD students, they have no teaching duties, but as Nivel employees they work on various projects. Only a part of these projects are relevant for their PhD research. This, in combination with uncertainty surrounding their contracts and future, can create stress for PhD students. The fact that Nivel is not a university can pose challenges when it comes to contract renewal, especially for PhD students on brief temporary contracts. Giving PhD students more clarity on their flexible contracts would reduce work pressure.

The committee finds that in the current situation, PhD students are in a vulnerable position in relation to the university where they defend their thesis. The committee learnt during the site visit that the transition from 'regular' Nivel employee to PhD student, and the consequent enrolment of the PhD student in the university and its graduate school, are often left until later in the PhD trajectory. As a result, PhD students run the risk of not being connected to the university and of discussions about the composition of the supervisory team. In all of these matters, the PhD student depends on the influence and efforts of the endowed professor. In addition, the committee finds that experiencing the university environment could be inspiring or instructive for these young researchers and could not only be beneficial for their research projects, but also for their academic career development in general. The committee therefore recommends strengthening the connection with the university that the PhD student belongs to, and enrolling PhD students there as soon as it becomes clear they will embark on a PhD trajectory.

4. Executive summary

Conclusion

Nivel's goals are scientifically robust and address major questions that are pertinent to patients, healthcare professionals and health systems. Nivel distinguishes itself through this combination of scientific robustness and the flexibility to address societally relevant questions and demands from policy and practice. Nivel is characterised by a well-functioning collective leadership and team science embedded in a strong academic culture. Its research is of high quality and clear societal relevance, and it has a strong network function through collaboration with national and international stakeholders. Nivel is also known for its strong data infrastructure (databases, registries, panels of healthcare users and providers).

In order to strengthen its identity, Nivel should ensure the four societal challenges it has identified are at the centre of the choices it makes going forward. Nivel could seize the opportunities to affect the policy agenda rather than following it. To keep the institute viable in a changeable future, Nivel needs forward-looking leadership that engages with the long-term challenges facing health care and makes concrete strategies and plans for the challenges that lie ahead.

Main Recommendations

1. Formulate a clear vision on future developments and a long-term strategy on dealing with them. Ensure that Nivel methodology and infrastructure are 'future-proof' and pay attention to the retention of Nivel staff members.

2. Use the four societal challenges that have been formulated as part of the 2022-2024 strategy to make clear choices on the research that is done and should be done within Nivel, and to promote cross-fertilisation between departments. The challenges should become part of Nivel's way of thinking and inspire all research decisions.
3. Improve external communication on Nivel's assets and quality, and take a more confident and proactive role in setting the policy agenda.
4. Balance workload of all employees and create clarity around contracts and career possibilities. Create clear conditions and milestones for all employees, especially research assistants and other younger staff. Review current workloads across projects and make sure PhD students are connected well to their universities from the start of their trajectory.
5. Maintain the strong academic culture, the impressive research output and the good relationship with key stakeholders such as the National Institute for Public Health and the Environment (RIVM), National Health Care Institute (Zorginstituut Nederland), Ministry of Health, Association of Medical Specialists, ZonMw, and Netherlands Patients Federation.

Appendix 1: The SEP 2021-2027 Criteria and Categories

The committee was requested to assess the quality of research conducted by the UHS as well as to offer recommendations in order to improve the quality of research and the strategy of the UHS. The committee was requested to carry out the assessment according to the guidelines specified in the Strategy Evaluation Protocol. The evaluation included a backward-looking and a forward-looking component. Specifically, the committee was asked to judge the performance of the unit on the main assessment criteria and offer its written conclusions as well as recommendations based on considerations and arguments. The main assessment criteria are:

- 1) **Research Quality:** the quality of the unit's research over the past six-year period is assessed in its international, national or – where appropriate – regional context. The assessment committee does so by assessing a research unit in light of its own aims and strategy. Central in this assessment are the contributions to the body of scientific knowledge. The assessment committee reflects on the quality and scientific relevance of the research. Moreover, the academic reputation and leadership within the field is assessed. The committee's assessment is grounded in a narrative argument and supported by evidence of the scientific achievements of the unit in the context of the national or international research field, as appropriate to the specific claims made in the narrative.
- 2) **Societal Relevance:** the societal relevance of the unit's research in terms of impact, public engagement and uptake of the unit's research is assessed in economic, social, cultural, educational or any other terms that may be relevant. Societal impact may often take longer to become apparent. Societal impact that became evident in the past six years may therefore well be due to research done by the unit long before. The assessment committee reflects on societal relevance by assessing a research unit's accomplishments in light of its own aims and strategy. The assessment committee also reflects, where applicable, on the teaching-research nexus. The assessment is grounded in a narrative argument that describes the key research findings and their implications, while it also includes evidence for the societal relevance in terms of impact and engagement of the research unit.
- 3) **Viability of the Unit:** the extent to which the research unit's goals for the coming six-year period remain scientifically and societally relevant is assessed. It is also assessed whether its aims and strategy as well as the foresight of its leadership and its overall management are optimal to attain these goals. Finally, it is assessed whether the plans and resources are adequate to implement this strategy. The assessment committee also reflects on the viability of the research unit in relation to the expected developments in the field and societal developments as well as on the wider institutional context of the research unit

During the evaluation of these criteria, the assessment committee was asked to incorporate four specific aspects. These aspects were included, as they are becoming increasingly important in the current scientific context and help to shape the past as well as future quality of the research unit. These four aspects relate to how the unit organises and actually performs its research, how it is composed in terms of leadership and personnel, and how the unit is being run on a daily basis. These aspects are as follows:

- 4) **Open Science:** availability of research output, reuse of data, involvement of societal stakeholders;
- 5) **PhD Policy and Training:** supervision and instruction of PhD candidates;
- 6) **Academic Culture:** openness, (social) safety and inclusivity; and research integrity;
- 7) **Human Resources Policy:** diversity and talent management.

Appendix 2: Programme of the site visit

22 September (Location: Nivel or hotel and restaurant in Utrecht)

13.45 – 14.00 h.	Welcome and settling in
14.00 – 14.45 h.	Preparatory meeting of the assessment committee
14.45 – 15u30h.	Presentation of the self-evaluation by the director of Nivel
15.30 – 16.30 h.	Attendance at Nivel's peer review meeting, chaired by a member of the management team (online)
16.30 – 17.00 h.	pause
17.00 – 18.00 h.	short presentation of 4 research programs
18.00 – 19.30 h.	internal deliberation of the committee
19.30 – 20.00 h.	hotel check-in
20.00 – later	dinner of the committee, the director and heads of department of Nivel

23 September (Location: Nivel)

08.30 – 09.30 h.	short presentations of 4 larger projects of 4 post docs/seniors
09.30 – 10.30 h.	interview with the chairperson of the Supervisory Board, and member of the Supervisory Board
10.30 – 11.00 h.	extension time and break
11.00 – 12.00 h.	short presentations of 4 PhD trajectories/students
12.00 – 13.00 h.	internal deliberation of the committee
13.00 – 14.00 h.	lunch and consultation with Nivel director and co-director
14.00 – 15.30 h.	interview with external stakeholders
15.30 – 16.30 h.	internal deliberation of the committee
16.30 – 17.00 h.	discussion of preliminary results with director
17.00 – 17.30 h.	presentation of preliminary results of the site visit to Nivel chairperson of the Supervisory Board, director and staff

Appendix 3: Quantitative data

Quantitative data on the research unit's composition and funding, as described in SEP Appendix E, Tables E2 and E3 (E4 does not apply):

Nivel Funding

	2016	2017	2018	2019	2020	2021
	€	€	€	€	€	€
MoH subsidy	5.710.275	5.770.519	5.392.020	6.080.030	6.384.723	7.156.422
Scientific Research grants	2.170.795	2.780.415	2.219.107	1.693.234	1.498.791	1.608.179
Subsidies and contracts	4.029.246	3.147.349	3.902.596	3.892.498	4.276.837	5.275.756
International	1.201.600	602.451	614.450	778.725	1.458.509	1.548.169
<i>Correction transfers to third parties</i>	-855.739	-940.377				
Other income	855.739	952.664	726.483	262.594	152.842	204.305
Total funding	13.111.916	12.313.021	12.854.656	12.707.081	13.770.702	15.792.831

Nivel Staff

	2016	2017	2018	2019	2020	2021
Scientific management	4	4	4	4	4	4
Programme leaders	11	10	10	11	11	11
Senior researchers	24	25	26	25	26	28
Researchers > 6 years work experience	28	19	25	24	20	27
Researchers =< 6 years work experience	21	19	22	27	44	46
Total research staff	88	77	87	91	105	116
Research support staff	34	34	31	35	39	41
Knowledge centre	3	3	3	3	4	4
Total research support staff	37	37	34	38	43	45
Non-scientific management	1	0	1	1	1	1
Management support	2	2	2	2	3	4
Other support staff	15	15	16	16	17	19
Total staff	146	131	140	148	169	185
Share of scientific staff	62%	60%	64%	63%	64%	65%