



SEP Assessment report

Research Institute for Medical
Innovation (RIMI)

Part A:

Institute evaluation

April 2026

Based on the Strategy Evaluation
Protocol 2021-2027

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1. Introduction

The Radboud University Executive Board has asked an international evaluation committee of external peers to perform a two-level evaluation of its Research Institute for Medical Innovation (RIMI) both at the institute level (Part A) and at the research program level (Part B). This two-level evaluation was carried out as part of the six-yearly evaluation of the RIMI institute. This assessment report covers the evaluation of the RIMI institute (Part A). The assessment of the 48 research programs (Part B) is set out in a separate assessment report.

1.1 Assessment criteria and scope

The institute and research program evaluations were carried out according to the Strategy Evaluation Protocol 2021-2027 (SEP), the protocol for research evaluations in the Netherlands. The main goal of the SEP is to maintain and improve the quality and societal relevance of research as well as to facilitate continuous dialogue about research quality, societal relevance and viability in the context of research quality assurance. This goal is accomplished by assessing a research unit (in this case a research institute) in light of its own aims and strategy.

Mandatory assessment criteria

The evaluation committee was requested to carry out the institute evaluation according to a list of questions derived from the main assessment criteria of SEP (see appendix 1). The assessment was to include a backward-looking and a forward-looking component. The committee was asked to judge the performance of the RIMI institute based on the list of SEP questions 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 the RIMI institute organizes and actually performs its research, its composition in terms of leadership and personnel, and how the institute is run on a daily basis. These aspects are:

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

Additional assessment criteria and questions

In addition to the criteria specified in the SEP, the Radboud University Executive Board asked the evaluation committee to pay special attention to three recent key changes in RIMI's organizational structure that form the basis for the research organization of the coming years. These three changes are:

- The merger of three institutes (the Radboud Institute for Health Sciences (RIHS), the Donders Center for Medical Neuroscience (DCMN), and the Radboud Institute for Molecular Life Sciences (RIMLS), into the RIMI in 2023.
- The replacement of the Principal Investigator system (PI system) by the Scientific Career Path (SCP).
- The change from Research Themes to Research Programs.

Furthermore, the committee was requested:

- To propose, based on particularly good research quality, societal relevance and viability, up to seven research programs as so-called top programs. These top programs will receive special attention and support over the next six years and will be used to (co-) profile research at Radboudumc. The criteria for the selection of top research programs are listed in Appendix V.
- To assess the added value of the scientific integration of research of RIMLS FNWI with RIMI, and to propose, based on this added value, measures how the impact of integration can be further improved.

Appendix IV lists the indicators for both the evaluation of the institute (part A) and the research programs (part B) and the link between these indicators and the different evaluation criteria and aspects.

1.2 Members of the evaluation committee

The entire evaluation committee consisted of 21 members (19 senior and mid-career researchers, one PhD candidate and one patient representative). 11 members participated only in the assessment of the research programs. 10 members participated in the assessment of both the research programs and the entire RIMI Institute.

The section of the committee members that evaluated the RIMI institute (Part A) consisted of the following members:

- Prof. Dr Frits R. Rosendaal, Leiden University Medical Center, Chair.
- Prof. Dr Jildau Bouwman, TNO.
- Prof. Dr Matthijs Brouwer, Amsterdam University Medical Center.
- Dr Bert Bunnik, University Medical Center Utrecht.
- Dr Irene Hernandez Giron, University College Dublin.
- Hannah Kunstek MSc, Princess Máxima Center, Utrecht.
- Prof. Dr Gabriele Pradel, RWTH Aachen University.
- Prof. Dr Susann Schweiger, Johannes Gutenberg Universität Mainz.
- Prof. Dr Maurits van Tulder, VU University Amsterdam.
- Prof. Dr Gareth Veal, Newcastle University.

1.3 Independence

Before the start of the evaluation all members of the committee signed a Statement of Impartiality, by means of which they declared that their assessment would be free of bias and without regard to personal interest, and that they had no personal, professional or managerial involvement with the RIMI institute or its research programs. It was concluded that the committee had no conflicts of interest.

1.4 Data provided to the committee

The committee was provided with the following documents :

- Self-evaluation reports of the RIMI institute (Part A) and of 48 research programs, including the research of RIMLS FNWI, which in this report will be assessed in line with the research programs (Part B), including appendices;
- Strategy Evaluation Protocol 2021-2027 (VSNU, KNAW, NWO).
- Additional information provided by RIMI at the request of the evaluation committee, such as an organizational chart of RIMI (relevant to Part A and B), recorded pitches about research programs (relevant to Part B), SWOT analyses of each research program (relevant to Part B) and the presentations, followed by questions and answers, given during the site visit (relevant to Part A and Part B).

- Terms of Reference.

1.5 Procedure followed by the committee

The committee proceeded according to the Strategy Evaluation Protocol 2021-2027 (VSNU (now UNL), KNAW, NWO). The secretary instructed the committee chair on his role in the evaluation. In its first meeting on 18 June 2025 the entire evaluation committee was briefed by the secretary on research evaluations according to the SEP 2021-2027, and by the RIMI Research Director on the Dutch research landscape and position of the RIMI institute therein.

Prior to the site visit, committee members wrote preliminary assessment reports of both the research programs and the RIMI institute based on the written information and video recordings that were provided before the site visit. During various preparatory meetings of the ten committee members who evaluate the RIMI institute, the members discussed the preliminary assessments of the RIMI institute and identified questions to be raised during the site visit. They also agreed upon procedural matters and aspects of the evaluation.

The site visit took place from 10 November to 14 November 2025 (see the schedule in Appendix 2). The first three days of the site visit focused mainly on the 48 research programs including the research of RIMLS FNWI (Part B). The last two days of the site visit were devoted to the institute evaluation (Part A). After the interviews were conducted, the committee discussed its preliminary findings. This was done to allow the chair to present the preliminary findings and to provide a solid base with argumentation to draft a first version of this assessment report with the help of the secretaries. The final evaluation is based on both the documentation provided by RIMI and the information gathered during the interviews with representatives of the institute during the site visit.

The draft report by the committee was presented to RIMI for factual corrections and comments. In close consultation with the chair and other committee members, these comments were reviewed to draft the final report. The final report was sent to Radboudumc on April 1st 2026.

2. Research Institute for Medical Innovation (RIMI)

2.1 About Radboud University, Radboudumc and RIMI

Radboud University is a comprehensive university located in Nijmegen, the Netherlands. It has around 25,000 students, including 3,100 international students. Radboud University has a university medical center (Radboudumc) and seven faculties. The Faculty of Medical Sciences is integrated into Radboudumc. The organogram below depicts how Radboud University and Radboudumc are organized.

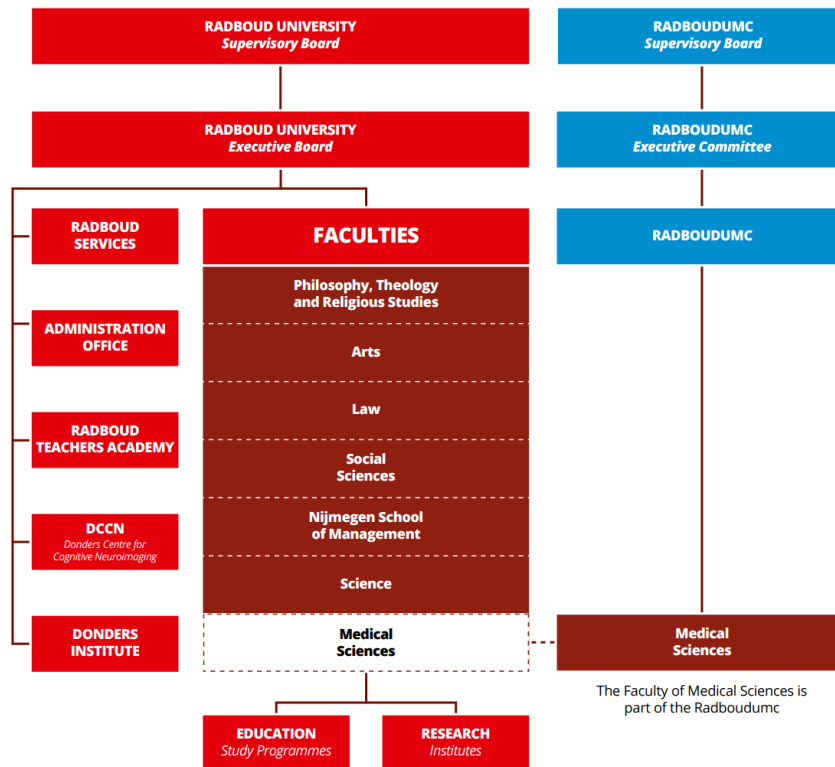


Figure 1: Organogram of Radboud University and Radboudumc

Radboudumc is one of the seven academic medical centers in the Netherlands, with approximately 12,700 employees and 3,300 students. Like the other Dutch university medical centers, it includes the medical faculty as well as the academic hospital and has three core tasks: (1) academic healthcare, (2) research and (3) education & training.

Radboudumc’s research is since 2023 consolidated under the umbrella of the Radboudumc Research Institute for Medical Innovation (RIMI).

Collaboration is central to Radboudumc’s approach. On campus, Radboudumc collaborates closely with the campuswide Donders Institute for Brain Cognition and Behavior and the Radboud Institute for Molecular Life Sciences (RIMLS) of the Faculty of Science. Furthermore, Radboudumc has an Academic Alliance with Maastricht UMC+ to advance joint research, education and care innovations. Its partnership HealthTechNexus with the University of Twente focuses on medical technology and Artificial Intelligence (AI). In addition, Radboudumc works closely together with regional hospitals and is co-founder and partner of OnePlanet, an innovation center focused on nano- and digital technologies. Internationally, Radboudumc is well embedded in European Reference Networks (ERNs) for rare diseases and is a member of several other international networks and (institute) partnerships that facilitate collaboration with global partners.

2.2 Mission, vision and strategy

At the core of RIMI lies Radboudumc's mission to have "a significant impact on Health and Healthcare." The vision that underlies this mission is to be among the most influential academic medical centers in Europe, where scientific innovation leads directly or ultimately to improvements in public health or healthcare. Radboudumc aims to address complex societal challenges through six strategic themes: (1) prevention, (2) sustainability, (3) meaningful care, (4) data-driven health care & Artificial Intelligence, (5) mechanisms of disease & new treatments and (6) training the professionals of tomorrow.

The vision of Radboudumc is supported by the six strategic themes, and can be outlined in the so-called quadruple aim for research which is compiled of four objectives: responding to societal needs, generating new, actionable insights, establishing a sustainable research organization and enhancing researcher well-being. By following these four objectives, RIMI strives to guarantee that its research remains effective and long-lasting, tackles key public health and modern healthcare issues, and supports a thriving academic environment.

Research programs

While Radboudumc's mission and the quadruple aim define the general direction of RIMI, the research programs guide RIMI's direction in terms of specific research goals and strategies. The organizational model consists of 48 research programs. The research of RIMLS FNWI is evaluated as a research program in this report, but it is a separate entity. Based on a centrally instigated bottom-up process, each program translates a common strategic goal into concrete actions along a defined impact pathway, ensuring that Radboudumc's overall research strategy is translated into specific, actionable research agendas.

The RIMI research programs are structured around three core principles, commonly referred to as the three Cs¹: Common goal, Collaboration over competition and Crossing borders. This structured yet flexible framework reflects RIMI's commitment to fostering collaborative innovation and underlines the importance of agility, inclusiveness, and cross-disciplinary exchange in addressing multifaceted research challenges.

¹ These three principles were suggested by Lynda Gratton in her book 'Hotspot'.

3. Evaluation of RIMI

3.1 Research quality

The quality of RIMI's research over the past six years (2018-2024) is evaluated within its international and national context. The assessment committee aligns its judgment with RIMI's stated aims and strategy. Central to this evaluation is the contribution the research makes to the body of scientific knowledge. The committee specifically assesses the quality and scientific relevance of the research output, alongside the RIMI's academic reputation and leadership in its field. The assessment of the criterion research quality is based on a narrative argument supported by evidence of the RIMI's scientific achievements within the relevant research field.

Research Output

RIMI demonstrates excellent and sustained research productivity, characterized by both high volume and high impact publications. Between 2018 and 2024, the institute produced an average of over 3,500 peer-reviewed publications per year, marking a significant increase from the previous evaluation period (3,179 per year). This growth reflects RIMI's capacity to consistently generate high-quality, relevant, and innovative scientific work across the 48 research programs (RPs).

The impact of the output is reflected in RIMI's Mean Normalized Citation Score (MNCS), which is steady at 1.8, matching the Dutch university medical center average and competitive with leading European institutions. Nearly one in five publications (19.4%) are among the top 10% most cited globally, and 3.1% are in the top 1%, underlining the institute's role as a source of globally influential research.

Collaboration with national and international partners at RIMI is strong. During the reporting period, one-third of publications involved national collaborations and nearly 60% included international co-authors, which indicates that the institute is a trusted, high-impact partner in team science. In addition, RIMI promotes the translation of scientific discoveries into applications through product innovation and technology transfer, facilitated by entrepreneurship, public-private collaboration, and strategic investment. This approach includes protecting intellectual property, licensing technologies, and developing spin-off companies. In this context, several important collaborations have been established between RIMI and industry, for example in the development of vaccines and medical devices, which have likewise contributed to the formation of additional spin-off enterprises. These collaborations show the institute's emphasis on interdisciplinary research that connects fundamental science, clinical application, and societal impact. Furthermore, researchers actively participate in Public-Private Partnerships (TKI-PPP) and Health Holland consortia, bridging research, policy, and industry. RIMI is involved in 18 of 35 national strategic consortia, coordinating five of them.

Research programs (RPs)

A total of 47 RPs (excluding the RIMLS as the link with the Faculty of Science) have emerged at RIMI following the recent restructuring. These programs were generated during team finding workshops to envision teams in terms of size, mission, and interdisciplinary interaction and to eventually generate hot spots of innovation. After this initial phase of RP establishment, RIMI may want to reflect on the success of the RPs, and determine which ones shall be continued and which not, to focus energy and time in order to strengthen the hot spot structure.

The RPs vary significantly in nature and scale: some have been collaborating for years and have steadily grown, while others are newly established and still in their formative phases. Some RPs are large, comprising over 15 or even 20 research group leaders (RGLs), whereas others are much smaller, involving just two RGLs and technical staff. The majority of RPs are performing strongly, whereas a few RPs are still in the early stages of their establishment, and their vision, mission, and objectives are

currently in the process of being defined. Many of the programs are oriented towards translational research, with select RPs offering exemplary pathways that span from molecular discovery, through preclinical investigation, to translational and clinical studies.

In several RPs, particularly those with long-standing collaboration, the interaction between RGLs and the various research areas is smooth, with complementary expertise and technology effectively integrated. Some of the recently established RPs require increased cohesion with effort needed to connect individual RPs within a broader context and secure financial means to follow mission and work plan. Noteworthy, the themes of some RPs are overlapping, and consolidating them should be considered to focus energy and foster innovation. Many RGLs are involved in multiple RPs, with some RGL participating in three to four of them. To sharpen the scientific focus and create innovation hotspots, it is desirable for RGL to concentrate on one or at most two RPs. This is particularly the case when involvement is limited as expressed in fulltime-equivalents (FTEs), which has the risk of suggesting marquee involvement. Additionally, the assignment of lead-RGLs per RP, enhanced interaction and information exchange between RPs, as well as with Domain Leaders, is recommended.

There are several systems enabling reciprocal flow of information between directors and RPs, *i.e.*, through the Research and Innovation Council and the Domain Leaders. Currently, the roles of these two systems are not clearly defined, which is needed if both remain. Specifically, the role and independence of the Domain Leaders was unclear to the committee. The committee noticed some Domain Leaders were also department heads and although combining functions in single persons may be advantageous for efficiency, it poses a risk of power concentration and conflicting interests. Even though the committee did not assess the hospital or educational leadership positions, clinical department heads often have a leading role there, too. Stacking of leadership roles should be assessed in a broader light, including health and education institutes.

Within RIMI, across the RPs, several research technology centers (RTCs) have been established. These RTCs deliver cutting-edge technologies to RGLs and departments, and several also stand out for their own research. Other centers, especially those shared among only a few RPs, sometimes struggle to stay abreast of state-of-the-art advances, and occasionally even duplicate technologies available elsewhere in RIMI.

Advancing Research Quality and Acquisition of New Talents

To further improve the quality and relevance of its research, RIMI has developed and implemented the Y-Based Framework, a model that guides the evaluation and adaptation of research quality. The framework enables comprehensive assessment across four dimensions: rigor, relevance, originality, and research culture. The Y-Based Framework is applied across the organization in the:

- selection and evaluation of research staff and leadership appointments,
- training and development of PhD candidates and early-career researchers, and
- promotion of a shared institutional understanding of excellence in research.

RIMI further aims to apply clear and transparent selection and evaluation criteria—anchored in six dimensions, including research quality—to provide a consistent basis for all career paths. Supported by centralized selection processes, these criteria strengthen institute-wide consistency in appointments and promotions. Complemented by mentoring and leadership training, the framework fosters the development of highly qualified researchers and Staff Scientists. Noteworthy, the stringent criteria may also introduce constraints in recruitment processes and reduce flexibility in responding to supply-and-demand dynamics or shifts in science policy, potentially hindering the career progression of promising new talent.

RIMI has implemented a Scientific Career Path (SCP) to secure high research quality that supports diverse academic trajectories and fosters long-term secure engagement. This system offers structured

progression from Talent Track (TT1–TT2) positions to RGL and Staff Scientist roles, with each stage evaluated against evidence-based criteria encompassing strategy, research quality, viability, impact, education, and leadership. The Talent Track system enables the development of early-career academics from postdoctoral researchers to assistant professors and ultimately to RGL over a period of maximally 10 years. The Talent Track positions are well recognized and supported by rigorous mentoring. This is an excellent structure for finding, promoting and retaining new talent at RIMI. Noteworthy, these positions are limited in number, posing a risk of losing promising talent. Moreover, due to their scarcity and restricted accessibility, these positions have so far been filled by relatively few international candidates, which may ultimately limit the full exploitation of talent and the acquisition of new knowledge and techniques.

Research Funding Acquisition and Research Awards

The external funding acquisition of RIMI is highly successful and reflects its research excellence. The institute receives approximately €110 million annually from the first (national) funding stream and an additional €125 million from external sources, including the Dutch Research Council (NWO/ZonMw), the EU, the NIH, major philanthropic organizations such as the Gates Foundation and Wellcome Trust, and health charities like the Dutch Cancer Society (KWF). While the number of early-career VENI grants decreased slightly (29 vs 39 in the previous period), RIMI achieved strong growth in senior-level awards—most notably in ERC Advanced Grants (8 vs 1)—and stable results in mid-career awards (VIDI: 19; VICI: 12). These figures highlight the institute’s growing capacity to attract and retain highly competitive, internationally recognized senior researchers.

Prestigious recognitions reflect the high quality of the research in RIMI and the impact it has on society. Awards such as the Stevin Prize, the Ammodo Science Award, the James McDonnell Scholar Award, and the recognition of the Diagnostic Image Analysis Group for its AI innovations exemplify RIMI’s broad societal and scientific impact. Memberships in leading academies (KNAW, KHMW, NAE, Academia Europaea) more than doubled between 2018 and 2024, confirming RIMI’s strong standing in biomedical and translational research.

A new financial model has been developed to ensure sustainable, transparent, and quality-focused funding allocation. This model balances base funding, performance-based matching, talent development, and strategic investments in infrastructure and technology, aligning financial incentives with long-term institutional goals rather than short-term quantitative output.

Potential risks and weaknesses:

- The Y-Based Framework, along with its associated systems—including the SCP, Talent Track system, Graduate School alignment, and integrity programs—is a comprehensive and promising tool for guiding research quality and career development. However, its complexity presents several challenges. Successful implementation relies on consistent and well-informed application procedures across all departments and RPs. The multiple layers of assessment, reporting, and feedback mechanisms can also contribute to “evaluation fatigue” among researchers. Moreover, the framework does not constitute a concrete strategy and is therefore limited in its usefulness for guiding strategic decisions, providing transparency in scientific staff selection, or establishing a shared definition of excellence.
- Overlapping themes across multiple RPs can dilute focus and innovation. Many RGLs are involved in multiple RPs, potentially limiting their ability to concentrate efforts and generate scientific hotspots. Several RGLs are listed among many RPs, obviously for a (very) limited proportion of their working time. Furthermore, not only are some RGLs present in too many RPs for, logically, a small percentage of their time, but the role of an RGL is not fully specified from an administrative governance point of view.
- The restricted number of Talent Track positions, combined with limited international recruitment, may result in the loss of promising talent and underutilization of global expertise.

High performance pressure and the responsibility for securing individual funding can further hinder flexibility, career development, and adaptive restructuring within the programs.

- The success of RIMIs Learning Zone culture and quality framework relies on the commitment and modeling behavior of leaders. Turnover or uneven leadership engagement could weaken the culture of social safety and open dialogue.

3.2 Societal relevance

The assessment of RIMI's societal relevance covers its impact, public engagement, and the uptake of its research. This is evaluated across economic, social, cultural, educational, or other relevant terms. It is important to recognize that societal impact often takes time to become visible. Therefore, impacts evident within the past six years may be the result of research conducted much earlier. The assessment committee judges the societal relevance by looking at the RIMI's accomplishments relative to its stated goals and strategy. Where appropriate, we also consider the connection between teaching and research (teaching-research nexus).

Staff and professional networks

RIMI strives to impact society by continuous development of human capital. This is primarily achieved through doctoral and postdoctoral education and training programs that attract large number of early career researchers. These individuals benefit from early career orientation events and career advisory services before completing their education. In addition, many established researchers and clinicians contribute in disseminating scientific and clinical knowledge at the national and international level. In addition, 22 professorships on special appointment embed external organizations—such as hospitals, associations, and municipal health services—within the academic environment, promoting co-creation and reciprocal learning. Further, with over 676 ancillary activities reported by 153 faculty members, RIMI's academic community plays a visible role in policy advice, innovation ecosystems, and healthcare transformation. Several well-established research programs demonstrate strong scientific outreach, and actively participate in the development of internationally recognized practices and guidelines. These research programs frequently organize or participate in national and international training initiatives for researchers, clinicians and other healthcare professionals. Besides, researchers working on large societal projects may seek assistance from the Communication department, which can provide targeted support for outreach activities.

Overall, the committee acknowledges the challenges of capturing and monitoring societal relevance and impact in real time. While RIMI has established a good foundation, additional efforts are needed to remain aligned with its main societal mission. As recognized by 2022-2024 alumni statistics, there is a need for non-academic career development. To address this, RIMI may consider creating translational and joint positions that prepare young scientists for diverse career paths. Integration with RIMLS-FNWI and Donders Institute presents an opportunity to strengthen industrial and entrepreneurial collaborations and advance the current educational framework. Furthermore, the Communication department could offer educational workshops on lay communication and public outreach to bridge the gap between the science and society, and reinforce RIMI's reputation. These initiatives could also play an important role in attracting international talent, that is currently very limited, but is essential for innovation within the institute.

Patient Involvement in Research

Since the previous evaluation, RIMI has worked towards further patient participation. This includes the formal establishment of a Societal advisory council with patient representatives together with stakeholders from healthcare, public health, policy, and industry. The Societal advisory council will be installed in 2026 and aims to ensure that research priorities and evaluations remain aligned with societal and patient needs. Combined with the Scientific Advisory Council of national and international academic experts these councils form external advisory bodies to the RIMI research board.

Patient participation has already played an important role in shaping the Y-Based Framework, a multidimensional tool used to assess research quality at RIMI. Patient input, gathered through focus groups, interviews, critical co-reading sessions and iterative feedback, contributes to defining relevance, needs and a new research culture from the patient perspective. By incorporating these insights into the selection and evaluation of research staff as well as the training of young researchers, patient representatives help to promote a shared understanding of high-quality research that reflects both scientific excellence and societal values as well as direct responsiveness to patient needs and priorities.

In general, nearly all RGLs report the involvement and participation of patients in their studies. However, the degree of involvement varies substantially between groups. Prime examples of patient participation in the design and execution of research, and feedback and evaluation afterwards were presented. In various programs participation was limited, *e.g.*, patient representatives only reading a research protocol with little opportunity to become involved. There was substantial variety in how patient representatives were recruited, *e.g.*, from specific national patient groups or associations, or through families of affected individuals.

In essence, patient participation implies that researchers ask themselves fundamental questions: what is the targeted benefit for the patient? How do we involve patients in the design, preparation and procedures, and execution of the study (both qualitatively and quantitatively)? And at the end: how did the patient experience the study, the participation and the procedures, and did we give feedback on the results to them specifically? Ideally, patient representatives are involved in all the steps of scientific research. The development of impact pathways in the RPs which explicitly include participation of patients and other societal stakeholders has been a major step forward in anchoring patient involvement.

Patient participation is different in laboratory versus clinical and interventional studies. When patient representation is sought, it is recommended to acquire input from patients with diverse backgrounds to reflect societal diversity and thereby help ensure that research is not only scientifically rigorous but also directly responsive to patient needs and priorities.

Clinical Trials, Guidelines, and Health Policy

RIMI has a measurable impact on clinical practice and public health through its contributions to clinical guidelines, health policy, and clinical trials. Between 2018 and 2024, Radboudumc-affiliated researchers co-authored 124 internationally published clinical guidelines and also chaired guideline committees, spanning domains such as cardiology, oncology, neurology, and geriatrics.

RIMI researchers also serve in advisory roles to national and global health authorities — including the World Health Organization (WHO), European Medicines Agency (EMA), and the Health Council of the Netherlands (Gezondheidsraad, GR), influencing evidence-based policymaking. These engagements ensure that scientific discoveries translate directly into better clinical and societal outcomes.

Clinical research activity at Radboudumc is extensive and diverse. Between 2018 and 2024, over 1,300 new WMO-approved ('Wet Medisch Wetenschappelijk Onderzoek met mensen') clinical trials were initiated, including 546 Radboudumc-sponsored studies and 760 collaborations with external partners, about half involving medicinal products. Phase distribution indicates strong engagement in all development stages: 46% Phase III and 20% Phase II.

Technology Transfer and Innovation

RIMI's commitment to translating research into tangible solutions is realized through an active program of technology transfer, entrepreneurship, and innovation support. Between 2018 and 2024, 32 new licensed products were launched, bringing the total to 65 products derived from Radboudumc-linked research, including MedTech devices, diagnostic tools, AI software, and training simulators.

From these innovations, license income totalled €4.2 million, with key products such as the ETHIZIA Hemostatic Sealing Patch, AI lung imaging software (Thirona), and monoclonal antibodies for diagnostic kits achieving significant market uptake. The institution files roughly eight patent applications annually, reflecting its innovation pipeline.

Spin-off creation remains a cornerstone of RIMI's innovation strategy. Since 2018, 15 new spin-offs have been incorporated, expanding the total portfolio to 23 companies that have collectively raised over €160 million and employ more than 200 FTE. The Radboudumc Holding B.V. now also serves as an active investor, bridging the gap between lab and market. A milestone achievement was the 2023 partial exit of Thirona, generating €10 million for all stakeholders and marking the Holding's first successful financial return. Events such as Radboudumc Investment Day further stimulate the regional innovation ecosystem, connecting researchers, investors, and entrepreneurs.

Public Outreach and Engagement

RIMI views public engagement as integral part of societal impact and scientific accountability. The institute communicates research findings through multiple channels — press releases, expert commentary, and social media — reaching nearly 150,000 followers across platforms. Researchers appear regularly on national media such as NOS Journaal, RTL Nieuws, and EenVandaag, and contribute to accessible formats like the “Five Questions About” series, which attracts tens of thousands of readers and strengthens health literacy.

RIMI also maintains a physical presence in public science events. These include Expeditie NEXT, the Vierdaagsefeesten Kids Lab, Lowlands Science, and the InScience Film Festival, alongside its own Weekend of Science Open Day, which attracts over 3,000 visitors biennially. These activities not only promote trust and transparency in science but also stimulate enthusiasm for health research among younger generations and the broader public.

Potential risks and weaknesses in maintaining societal relevance:

- Many impact-related contributions (e.g., guideline authorship, advisory roles) are not systematically captured, reducing visibility and strategic management.
- Opportunities for societal engagement may be missed due to lack of a uniform approach in patient representation and lack of support for lay communication.

3.3 Viability

This assessment also reviews the scientific and societal relevance of the RIMI's upcoming six-year goals. The assessment committee evaluates the strategy, leadership, and management to ensure these are optimal for goal attainment. The committee also assesses the adequacy of plans and resources for implementation. Finally, the committee offers reflections on the RIMI's viability in light of broader developments and its institutional context.

Human Resources

RIMI has established a transparent and predictable scientific career policy in the SCP, with its Training Track, ensuring fair advancement from PhD candidate to RGL while fostering personal leadership and career sustainability. This structure supports both academic researchers and essential research support staff — such as technicians, data managers, and Staff Scientists — recognizing their crucial contributions to scientific output and research quality.

RIMI actively monitors and promotes well-being through institutional surveys and targeted programs that assess enthusiasm, inclusion, and team collaboration. Results show a generally high level of satisfaction and engagement, though some challenges remain in responsiveness among junior staff and those in part-time research roles. These findings inform ongoing well-being and inclusivity initiatives.

It is recommended, as it is for all university medical centers in the Netherlands, to work collectively with all UMCs (and universities) rather than to seek competition to rally at austerity measures affecting higher education and research.

Funding Stability

RIMI's financial foundation is diverse, with both direct and external funding contributing to steady growth over the past seven years. External income has exceeded direct funding since 2021, enabled by the expansion of the grant support team and increased success in national, European, and international programs. Around 85% of RIMI's external income is derived from collaborative projects, reflecting alignment with national and European research priorities, while personal grants (15%) continue to reflect and support individual excellence.

However, this positive trajectory is tempered by financial headwinds. Inflation and rising salary costs, combined with potential reductions in national higher education budgets, will lead to an estimated 8% cut in direct funding over the next five years. Additional reductions may occur, and future European and NWO (Dutch Research Council) budgets beyond 2027 remain uncertain. RIMI is responding through proactive lobbying via networks such as UMCNL (former NFU), UNL (former VSNU), and by expanding partnerships with industry to secure alternative funding sources.

Research Infrastructure and Technological Capacity

RIMI's infrastructure is underpinned by the Radboudumc Technology Centers (RTCs), which facilitate efficient use of innovative research technologies and expertise. Currently, 19 RTCs provide shared facilities across domains such as biobanking, electron microscopy, animal facilities, biostatistics, and clinical studies.

Regular surveys indicate strong performance, with 87% of users rating RTC expertise as good or very good, and notable improvements in user-friendliness. However, slight declines in the perceived "state-of-the-art" level and emerging needs in AI, e-health, and secure data infrastructures signal areas requiring investment. The RTC board actively monitors and responds to these developments, ensuring that RIMI remains technologically competitive and aligned with research trends.

Administrative and Operational Efficiency

Administrative modernization has been a priority through the IMPROVER program, launched in 2020 to simplify research workflows and reduce administrative burdens. With an initial €5M investment, IMPROVER integrates data management, workflow tracking, and financial modules into a unified system. The first rollout for non-clinical departments was completed in 2024, with full implementation planned by late 2025. The program enhances efficiency, compliance, and project oversight — key elements for institutional sustainability in an increasingly complex research environment.

The RIMI has implemented the SCP in order to support all programs and departments in a balanced way. However, individuals in several programs mentioned that the SCP might affect their viability. It is clear that the previous process in appointing principal investigators led to unrestrained and thereby unsustainable growth. The creation of the Staff Scientist position may reduce the limitations created by the RGL-position limited career tracks, but this has yet to be effectuated and subsequently evaluated.

Potential risks and weaknesses in maintaining viability:

- Budgetary constraints: projected cuts in direct funding reductions may constrain staffing, infrastructure renewal, and long-term strategic investments.
- RIMI is increasingly successful in obtaining European and national grants. Uncertainty surrounding the next EU Framework Programme (FP10) also poses a potential funding gap after 2027.

- Human resources: many research groups and programmes are based on the success of excellent individuals. Adequate succession is relevant to retention of success.
- Infrastructure modernization: growing demand for cutting-edge digital and AI infrastructure requires sustained investment. Financial pressures could delay necessary upgrades, risking reduced competitiveness in technology-driven fields.
- Administrative and regulatory burden: Despite improvements, increasingly complex compliance and data governance requirements could strain administrative systems and divert researcher time from core scientific activities. RIMI should aim to offer structured up-to-date support to reduce administrative pressure for researchers to alleviate this burden.
- The SCP has been developed in response to unsustainability of the previous PI-system. Some departments may consider themselves curbed in their opportunities to fully develop further. While the overall workforce is stable, competition for top-tier researchers, particularly in data science and specialized clinical fields, remains intense.

3.4 Open Science

The assessment committee has evaluated how RIMI's strategy and policy integrate openness, including RIMI's practical implementation of Open Science principles. This includes assessing the reuse of existing data, adherence to the FAIR principles (Findable, Accessible, Interoperable, and Reusable) in data storage, and RIMI's approach to making its research data, methods, and materials available. It also checks whether publications are made available through open access. Importantly, even if RIMI did not actively focus on open science during the past period, the committee will review the institute's current considerations and future plans concerning this area.

Open Science is a central pillar of RIMI's research strategy, underpinning its commitment to transparency, accountability, and the democratization of knowledge. The institute sees Open Science not merely as a compliance requirement but as a cultural transformation, one that ensures knowledge is produced and shared in an inclusive, equitable, and sustainable manner.

RIMI's Open Science policy focuses on four interrelated domains, with particular emphasis on Open Access publishing and Open Data management through FAIR (Findable, Accessible, Interoperable, Reusable) principles.

Open Access

RIMI and Radboudumc have made substantial progress in making research findings freely accessible to both the scientific community and the public, following the Plan S initiative. The share of Open Access publications has grown substantially from 50% in 2018 to about 84% in recent years. This success is supported by institutional agreements with scientific publishers that waive or reduce publication fees, free access through the Radboud Repository, and the Radboud University Press, which provides sustainable publishing options aligned with Open Science principles.

(Open) Data and FAIR Principles

In line with international standards, RIMI promotes open data practices guided by the FAIR principles. Researchers are required to make data and code (syntax) findable and accessible, while efforts are underway to consistently achieve interoperability and reusability across projects, when considered feasible and useful.

The Radboud Data Repository (RDR) serves as the preferred platform for storing and sharing research data - following the principle of making data 'as open as possible and as closed as necessary'. This allows for openness while respecting ethical, legal, and privacy constraints, particularly in clinical and patient-centred research. Most, but not all departments, have a designated data steward responsible for supporting good data management practices, complemented by the RTC Data Stewardship, which provides expert guidance and technical assistance on FAIR data implementation. Some departments

share their data stewards and some have more than one. Through these structures, RIMI ensures that data management is embedded in daily research workflows, encouraging responsible data sharing and long-term preservation of valuable scientific assets.

Computing and AI

The committee assessed several topics, including data stewardship, Artificial Intelligence (AI), High-performance computing (HPC), open source and federation & security of data. Support groups are able to support the researchers at RIMI in their research with state-of-the-art technologies and insights, however they also experience capacity challenges. As this support is crucial for the future, financial or support in staff from the programs is needed for the sustainability of this central crucial support. Whereas most departments have data stewards, not all had sufficient expertise within the group to fulfil the demands of the European Health Data Space (EHDS). RIMI (and Radboud University) has state-of-the-art knowledge on secure federated solutions for data reuse. Data security is a major issue for the department and requires a clear strategy, not only for data that are under RIMI's own control, but also for data that are controlled by others on behalf of RIMI. The committee noticed that the knowledge on the use of AI in health care is adequate in several places in RIMI (and Radboud University). However, many of the RPs lack a clear AI strategy even though there is obvious potential for its use. HPC clusters are used at several locations within RIMI. However, there is no clear strategy on the use of HPC solutions, which may be prohibitively expensive for AI intensive use. The use of open source vs consolidated (third party) software is important, from a perspective of cost as Open Science.

Potential risks and weaknesses:

- Incomplete implementation of FAIR Standards: while “Findable” and “Accessible” criteria are already policy requirements, the “Interoperable” and “Reusable” components are still aspirational. Without institutional mandates or dedicated funding, progress in these areas may remain uneven across departments.
- Resource and expertise demands: effective Open Data practices require sustained investments in data infrastructure, software tools, and skilled personnel. Budget constraints or staff shortages may limit the institute’s capacity for implementation.
- Data sensitivity and compliance complexity: clinical and biomedical research often involves sensitive personal or patient data. Striking the right balance between openness and data protection and security remains a technical and ethical challenge that could slow down data sharing initiatives.
- Cultural and disciplinary variation: differences in norms across research fields — for example, between basic science and clinical research — may lead to inconsistent adoption of Open Science practices, limiting overall impact and interoperability.

3.5 PhD policy and training

The assessment committee evaluated the supervision and instruction of PhD candidates, specifically considering their involvement in PhD education provided by relevant institutional and national graduate and research schools. This evaluation considered the aims, strategy, and policy guiding these programs. Furthermore, the committee scrutinized the quality assurance system to determine whether it is functioning correctly, always with reference to the goals RIMI has established for itself. Given the significant number of PhD candidates across the various research institutions, particular emphasis is placed on the PhD training, mentoring, and coaching they receive.

RIMI regards PhD training both as a form of human capital development, and as a significant societal contribution. Accordingly, RIMI promotes various structural and organizational frameworks designed to support both PhD candidates and their supervisors. RIMI considers itself particularly proactive in

safeguarding the well-being of its PhD candidates, and places strong emphasis on clarity, transparency, and uniformity, expecting all candidates and supervisors to work towards the timely completion of high-quality PhD theses. Following the last audit, RIMI implemented measures to improve clarity regarding expectations, enhance research quality, reduce the duration of the PhD trajectory, and monitor and promote the well-being of PhD candidates. The focus of this audit is on (1) supervision and instruction quality, (2) alignment with aims, strategy, and policy and (3) PhD training, mentoring, and coaching.

Supervision and instruction quality

The revised Radboudumc PhD thesis guidelines (2019) and Regulations for training and supervision of PhD candidates (2024) provide a clear framework. The Training and Supervision Plan (TSP) specifies the division of tasks among supervisors. In addition, the Graduate School provides a comprehensive starter-kit for candidates at the start of their PhD, and monitors the quality of PhD supervision through confidential surveys. To further provide structured tools and highlight best practices in supervision, the Graduate School implemented the learning program for PhD supervisors, which is currently integrated in the Talent Track training program, with plans to make participation mandatory for all RGLs.

The existing framework for PhD supervision and instruction is robust and satisfactory, as reflected in the 2023 survey where over 80% of PhD candidates reported satisfaction or high satisfaction with their supervision. Continued investment in supervisor training presents a valuable opportunity to further improve these outcomes. While early career supervisors generally adapt well to these training programs, there is less participation by more experienced supervisors.

Alignment with aims, strategy, and policy

Clarity and transparency of all aspects of the PhD program are effectuated through the revised PhD regulations. The TSP, evaluated by a dedicated committee, ensures realistic project design and clear role definitions. Uniformity is promoted through procedures such as the go/no-go evaluation and intensified supervision trajectory, which encourage timely completion of PhD theses. Support structures, including personal mentors, career advisors, and confidential contact persons, and supervisor training initiatives, reflect RIMI's proactive stance on safeguarding student well-being.

Overall, the framework is robust and aligned with institutional goals. However, the potential impact of time pressure—particularly within intensified supervision trajectories—on student well-being and thesis quality warrants ongoing attention.

PhD training, mentoring, and coaching

The Graduate School serves as the core unit supporting the overall PhD educational framework. The PhD curriculum consists of a small number of obligatory courses alongside a wide range of elective courses focused on developing transferable skills, promoting flexibility and autonomy. Candidates are supported by various kinds of mentors, for scientific reflection, post-graduation career opportunities, safeguarding their wellbeing. The committee observed a wide range in the number of PhD candidates per thesis supervisor, which may exceed the span of control of some supervisors.

Together, this framework forms a comprehensive and responsive support system that enriches the PhD experience. Although the system operates effectively overall, career advisory meetings are not always early in the PhD trajectory, which seems relevant to support timely preparation and skill development. Additionally, enhancing peer-to-peer interactions will help strengthen the current support framework for underrepresented PhD candidates. It is important that each PhD candidate is matched to a mentor early in the PhD program. Improvements will help reduce risks associated with the findability of confidential contact persons for PhD candidates and the potential impact of intensified supervision trajectories on student well-being.

Potential risks and weaknesses:

- The training programs for supervisors are not shared by all levels of the organization, leading to disparity between PhD candidates.
- Diminishment of courses for PhD candidates, particularly those preparing them for careers outside academia.
- Too many PhD candidates per (co)supervisor.

3.6 Academic culture

The assessment committee evaluates two crucial areas: (1) openness, (social) safety, and inclusivity, and (2) research integrity. Regarding openness, (social) safety, and inclusivity, the committee examines the research environment's culture. RIMI should address how it values and incorporates diverse perspectives and identities within the workplace. It must also detail the specific measures taken to guarantee openness, safety, and inclusivity, as well as outlining how leaders both of and within RIMI take responsibility for fostering this positive academic culture. For research integrity, the committee reviews RIMI's established policy on this matter. Furthermore, they assess RIMI's practical efforts in facilitating the actions and meeting the requirements set forth in the Netherlands Code of Conduct for Research Integrity.

Research Culture

RIMI has systematically embedded principles of team science, social safety, and research integrity into its operations. Using Amy Edmondson's "Learning Zone" model, RIMI cultivates an environment where researchers feel empowered to express uncertainty, share ideas, and learn from failure while maintaining high standards of accountability. A recent institute-wide survey showed that about two-thirds of staff perceive themselves as working within this Learning Zone, a strong baseline that continues to be actively strengthened through training and leadership development.

RIMI maintains a code of conduct guiding collaboration and "speak up" behaviour, a network of confidential advisors, and a central reporting system for undesirable conduct. Integrity education is compulsory for all newly appointed researchers: new staff receive onboarding on the Netherlands Code of Conduct for Research Integrity, PhD candidates complete a two-day integrity course, and supervisors receive specialized training on creating open, safe environments.

Three yearly Research Integrity Rounds foster intergenerational dialogue on topics like AI ethics, publication practices, and responsible research. Institutional monitoring of integrity cases and transparent resolution processes further demonstrate RIMI's maturity in governance and commitment to a culture of trust and accountability.

There is a single committee on Scientific Integrity for the Radboud University and the Radboudumc (CWI), and there are confidential advisors for research integrity. The CWI has all required expertise onboard, and functions well. The number of cases over the last few years is considerably lower than seen at other UMCs and universities, which may indicate (perceived) barriers in contacting the CWI, and shed doubt on the success of the open culture mentioned above. This may be because the CWI is perceived more as a university than a UMC body, because it is organised rather as a legal institute than intercollegial assessment, and due to lack of diversity in the CWI. The CWI does not interact much on the national level, *e.g.*, in the exchange of best practices.

Risks and weaknesses

- RIMI is in a state of transition, which may lead to some form of anxiety within the organisation. An open and safe work environment is a clear ambition that, however, requires constant maintenance and adaptation.

- Training on safe behaviour and research integrity is limited to newly appointed PhD candidates and staff, which may lead to lack of knowledge and training among senior staff.

3.7 Human resource policy

The assessment committee examines how RIMI addresses diversity, considering factors such as gender, age, ethnic and cultural background, and disciplinary representation. This includes reviewing RIMI's current actions and future plans for promoting diversity within its structure. For talent management, the committee evaluates RIMI's policies for selecting and developing talent to ensure these align with its overall goals and strategy. Specifically, this involves reviewing recruitment procedures, the availability of training and development opportunities, coaching and mentoring programs, and the career prospects offered to researchers and support staff at various stages of their professional life.

Diversity

RIMI mainly attracts scientists from their own pool in their SCP. This leads to a good representation of the ethnic and cultural background of the Nijmegen region but does not lead to influx of (inter-)national other staff. The institute places significant emphasis on diversity and inclusion, which strengthens the quality and creativity of its scientific teams. Approximately 30% of research staff have an international background, representing over 40 countries, while women now make up 32% of research group leaders and 74% of early-career talent-track researchers — clear signs of progress toward gender balance. However, only 32% of the current RGLs is female. The number of female department heads in 2024 was 42%, which shows the considerable progress towards gender equality.

Attraction of international talent is enabled through the Hypatia fellowships, which both provide substantial support for a talented researcher in Talent track 1 (Galilei) or 2 (Hypatia). Nevertheless, these programs are undersubscribed and the fellowships are used to bring back Radboud-trained researchers who have performed a post-doctoral fellowship abroad, instead of attracting outside talent. Identified obstacles for outside talented researchers interested in these fellowships are that the applications need to be supported by a head of department and there needs to be an open RGL position in the foreseeable future. Since the introduction of the SCP in 2021, 62 researchers have undergone SCP evaluation, with 68% approved and detailed feedback provided to all. The program demonstrates a strong commitment to inclusivity: 88% of TT1 and 69% of TT2 candidates are women, and 16% are international.

In addition, RIMI's Graduate Schools, the Radboudumc Graduate School (~80% of PhDs) and the interfaculty Donders Graduate School (~20%), provide aligned policies and comprehensive training programs for PhD candidates, and in the SCP, as outlined above.

Risks and weaknesses

- Although staff diversity is stated as a strategic objective, the proportion of international scientists at Radboud remains low at most levels. This may limit the future innovative potential in RIMI to be at the forefront of novel technology and methods due to the potential risk of focused too much inward.

3.8 Selection of top programs

The committee is tasked with nominating up to six research programs to be designated as "top programs". The nominations are based on exceptional performance across three key areas: research quality, social relevance, and viability. The selected top programs will be instrumental in (co-)profiling research at Radboudumc and will benefit from special attention and support over the next six years.

Scores on 3 criteria

The RPs were assessed at three criteria: research quality, societal relevance and viability. However, whereas some programs impressed the committee on one or two of these three aspects, they did not necessarily reach the optimal score on the other one or two. Moreover, viability was considered lower in some of the new emerging research programs than some of the other, well-established groups. This is not necessarily a negative judgement, but rather a recommendation to RIMI to support the further development of these groups, some of which the committee is convinced can be highly innovative and successful.

The top RPs are five that were evaluated as excellent on all three SEP-criteria (research quality, societal relevance, viability): Vector Borne diseases and zoonoses, Parkinson and other movement disorders, Hearing and vision for all, Atherosclerosis & Thrombosis, Gynecologic Oncology. Two other RPs hold major promise for the future: Orofacial Health, because of the integration of the former schools of Medicine and Dentistry and its combination of high-intensity teaching with state-of-the art research, and Sex and Gender-sensitive Health and Reproduction because this is a comprehensive translational emerging group that tackles major knowledge gaps, including inequalities.

3.9 Scientific integration of research of RIMLS FNWI with RIMI

The committee was also requested to evaluate the added value of the scientific integration between the research conducted by RIMLS FNWI and RIMI. Based on this assessment of added value we will propose concrete measures to further enhance the impact of this integration.

The Radboud Institute for Molecular Life Sciences (RIMLS) as part of the Faculty of Science, is an important partner of the Radboud Institute for Medical Innovation (RIMI) due to their shared mission of fostering collaboration and synergy in molecular life sciences. This affiliation enables RIMLS to leverage RIMI's resources, such as laboratory and media support, while also benefiting from a strong interfaculty collaboration that has been established since the founding of NCMLS in 1999. The close ties between RIMLS and RIMI facilitate high-quality scientific research that addresses medically relevant questions, ensuring that both institutes can maintain their distinct organizational identities while working together effectively. Furthermore, this partnership enhances career tracks and promotes social safety and scientific integrity across both institutions, ultimately contributing to the advancement of knowledge in the field. The committee views the collaboration as highly successful, and recommends to cherish further developments in this partnership.

4. Recommendations and final conclusion

Recommendations on research quality

1. The interaction between RPs and between the RPs and the Domain Leaders can be improved in a structured manner.
2. The co-existence of core- and variable RGLs is crucially important, since it ensures a healthy balance between stability and flexibility, and should be maintained
3. Some RPs are translational (including clinical and laboratory science), whereas some seem almost completely clinical or lab-oriented. In some instances, this may be the optimal constellation, but there are programs where translational activities could be broadened. Some indications are given to this effect in part B. In general the committee advises to strive for translational research programs, and reinforce the interaction between basic and patient-related research. With the SCP, a new system has been introduced, with, amongst others RGL, RP, Staff Scientist. It is advisable to keep on monitoring the effects of this on research quality and translational activities (and adjust if needed).
4. In view of the many differences between RPs, *e.g.*, in how long they exist, to what extent they bridge departments and themes, and in size, RIMI may want to develop a strategy on how RPs are envisioned in these. After the current initial phase RIMI should determine which RPs should be dissolved, merged, or supported further to maturity. It is advised to define the optimal number of RPs (a number like $n=30$ seems advisable) and merge the ones that are similar. This will also diminish the risk of silofication between RPs. Some RPs are new and budding, but do not yet have the width of experience and resources as larger established RPs have. It may be advisable to specifically assist promising young RPs towards full development.
5. It is advisable to appoint a lead-RGL per RP, and make this a rotating position. It is recommended that RGLs are present in only one or two RPs, for a large proportion of their time.
6. Some of the research occurs outside RPs. Although this is generally positive since it may lead to new RPs, this should not be more than a certain percentage of all research (*e.g.*, 5-10%), and should be constantly monitored for the possibility to bring it inside existing (or new) RPs.
7. Although RIMI explicitly emphasizes quality over quantity, bibliometric indicators (MNCS, citation impact, etc.) still feature prominently in performance monitoring. Although such metrics are not without merit, efforts should remain focused on also rewarding less tangible but essential contributions, such as mentoring, collaboration and open science.
8. National and European funding environments are competitive. Maintaining core infrastructure, talent development programs, and internal matching funds may become more difficult. This underlines the need for RIMI to clearly make strategic choices when necessary in which a focus on innovation and talent development should be a central theme.
9. It is recommended to minimize overlap between RTCs, and discontinue those that are not state-of-the-art, provided the technologic needs can be acquired elsewhere. The committee has been given a mandate to evaluate RIMI, and not the institutes for health care and education, but obviously these interact, as they should. The committee was pleased to see that clinician-researchers receive allocated research time, which fosters interaction with health care and research. The same could be done for educators. However, vigilance is required to avoid individuals having too many leading functions in several institutes

Recommendations on societal relevance

10. Patient representation is not approached in a uniform way and can be improved in several research programs, *e.g.*, by reformulating patient involvement in the RPs impact pathway analysis, to ensure it is recognized to be imported in all steps of scientific research (design, execution, evaluation).

11. The Communication department can play an active role in public outreach and education on lay communication. A directive from the communication department on which items qualify for public outreach (grants, start of new projects, impactful scientific discoveries) may help guide researchers.
12. Most new products launched at Radboudumc are research-related tools. It would be valuable to explore ways to support innovative developments in pharmaceuticals and therapy.

Recommendations on viability

13. The SCP can only be successful when carried by the full width of the organization. This requires continued communication, adaptation, and possibly additional resources for some budding or highly successful programs.
14. Across the board budget cuts may appear to be the easy and fair solution to budget constraints but reduce the potential for innovation and investment in talent. Therefore, strategic decisions on investments in upcoming technologies (*e.g.* AI), unique research assets within the institute and research technology centers are required to remain at the forefront of innovative scientific research.

Recommendations on open science

15. Data stewardship can be improved by a division of tasks between the central unit and the Research Programs: the former can focus on creating awareness, training and support for a few key projects to serve as examples; the latter takes responsibility for data stewardship.
16. RIMI can expand the use of federated secure data, and promote ways to increase central support and distal implementation.
17. AI strategies can be developed, preferably beginning with the data intensive programs and central support. The use of open source vs consolidated software requires attention.
18. Knowledge on the FAIR principles is available within Radboud and can be brought into practice more

Recommendations on PhD policy and training

19. PhD supervisory training should be mandatory for all PhD supervisors, however it could be adapted according to the supervisor's level of experience and responsibility. To further enhance the quality of PhD supervision, it would be advisable to have a discussion on the (maximum) number of PhD candidates per supervisor.
20. Career advisory meetings should be scheduled early in the PhD trajectory to support timely preparation and skill development. In addition, PhD candidates should be matched to individual mentors early in the PhD program.

Recommendations on academic culture

21. Extend education and training on appropriate behaviour and research integrity to all scientific staff.
22. Address barriers in accessibility of confidential advisors and the research integrity committee.

Recommendations on human resource policy

23. Continuous efforts are required to maintain and improve diversity on various aspects (gender, nationality, ethnic background), as well as inclusion.
24. Career development can be expanded even further to prepare researchers for employment outside academia, while at the same time encouraging high-potential researchers to develop themselves in academia.

25. Attraction of international talent could be further supported by an open call followed by a matching procedure with departments in which the research proposal could be performed with the top candidates. Furthermore, instead of filling the Hypatia fellowships with candidates for RGL positions that will open up in the future, the fellowships could be coupled to variable RGLs or Staff Scientist positions.

Conclusion

The committee for this audit of research at the Research Institute for Medical Innovation (RIMI) has been supplied with ample information, including the self-evaluation, both for the institute as a whole as for the 48 research programs including the research of RIMLS FNWI, a recorded pitch and SWOT-analyses for all research programs, and finally the presentations during the site visit combined with questions and answers. This has enabled the committee to make a thorough assessment, which is aimed at helping to improve the research activities at RIMI. The transition in the organization in the past years, which is almost completed, limited the assessment of the institute with regard to directly linking previous goals and achievements with future plans. The committee was enthusiastic about the formation of the new institute and the bottom-up approach in the development of the research programs, the Scientific Career Path, with the system of Research Group Leaders, and the two-tiered Talent Track program. As the Staff scientist positions had yet to be implemented, the impact of the changes in the blueprint of the organization could not be fully assessed. Nonetheless, the committee was impressed with the quality of research at RIMI, and the dedication to improve health and health care for patients, the genuine curiosity of many researchers, and the enthusiasm that was palpable in many of the conversations with the research group leaders and various other groups in RIMI. The transition to the new system will not be finished when all procedures are in place, but will require continuous monitoring over the coming years, and refinements when these are deemed necessary.

Several themes were encountered repeatedly in conversations with the research programs. These included concern for the recruitment or advancement of early or mid-career researchers within the Talent Track system. Another is the need for structural central funding or investments, and finally the limited time for research for clinicians. The committee has been careful to make recommendations on these aspects per program, since some of these concerns will apply to all programs and are inherent to an academic medical center with natural budget limitations, and where clinical care is a central task, and others require strategic choices by the institution. However, this does not mean these concerns are not real, and in some cases justified. The leadership of RIMI and the Radboudumc should therefore assess on a case by case basis for which programs or facilities structural financing or impulse investments are in order.

The bottom-up approach of the research program formation has given a boost to collaborations, some which already existed for a long time, and others that are recently formed. However, the longer-term viability of some research programs in terms of critical mass of researchers, funding and innovative science is not a given and periodic reassessment should be performed. Strategic choices by the RIMI and Radboudumc board may be needed in this to steer the direction of the institute. Financial tools such as seeding funds to enhance cooperation between research programs and kick-start new programs, or investment in new core facilities should be available to adjust the general direction towards RIMI's priorities.

This report includes many recommendations. Some for the institute as a whole, some for individual programs, although some of the latter may require involvement of the institute, too. Some of these recommendations will be easy to implement, whereas other ones may be costly in terms of time or financial investments. Recommendations that apply to all programs, although they may only have been explicitly listed for those where it was considered most urgent, are to (1) organize activities to enhance cohesion, (2) increase involvement of early and mid-career researchers in strategic planning,

(3) formalize patient or other stakeholder involvement in all stages of research project, (4) and actively work on training the next generation of research leaders and succession planning.

The committee has not ranked recommendations in terms of benefits versus these costs and urges both the RPs and the general leadership to explicitly do so, which may imply that not all recommendations can be followed, or not all at the same time. Furthermore, some of the programs reported activities, for instance to increase cohesion, or to jointly assess grant applications before submission, that may be useful to include for other programs, too. Hence, it may be worthwhile to collect information on such activities, and share best practices among the research programs.

The success of this evaluation was first and foremost the result of the openness of all individuals whom the committee spoke with, who were willing to share their successes but also their concerns, and eager to show their future plans. The committee is keenly aware of all the work many people have invested in preparing the self-evaluation, recordings and presentations. Finally, some individuals at RIMI made everything go smoothly and made the work as easy as possible for the committee, whom the committee wishes to thank personally, i.e., Guillen Fernandez, Clasien Oomen, Astrid van Beelen and Marieke de Visser. Thank you.

On behalf of the committee

Frits R. Rosendaal, chair

Appendix I. Site visit – program

Research Program evaluation			
Day 1: Monday 10 November 2025			
12:15	Arrival at Huize Heyendael		
12:30	Welcome lunch Welcome & introduction by dean Radboudumc		
13:30	Internal Committee meeting		
14:15	Generating insight with impact Introduction to research programs by scientific director RIMI		
14:30	Move to program evaluation session A		
Program evaluation parallel sessions A1, A2 and A3			
Subcom	Alpha 1	Alpha 2	Alpha 3
Subject	A1: Immunity	A2: Imaging Oncology¹	A3: Healthcare 1
Room	Start: Building L, route 960, room De Wilg (M367.00.090)	Start: Building D, -1, NM waiting area End: Building C, route 738, MiTeC	Huize Heyendael, Cals Room
14:40	Cellular adaptive immunity	Breast cancer	Contextual, personalized communication and care
15:30	Innate immunity in health and diseases	Thoracic oncology	Quality of life of vulnerable patients
16:20	Break	Move to next program	Break
16:40	Chronic inflammatory diseases (CID)	Non-/minimally invasive oncology	Sex -and gender-sensitive health and reproduction
17:30	Human challenge models	Advanced imaging	Value-based networked healthcare
18:20	Move to Huize Heyendael		
18:30	Internal Committee meeting		
19:00	Walking Dinner Welcome by Rector magnificus Radboud University		
20:30	End of dinner		
20:35	Taxi to hotel		

Day 2: Tuesday 11 November 2025			
8:00	Taxi to Radboudumc		
8:30	Arrival at Experience Center, <i>Ground Floor Entrance</i> & move to program evaluation session B meeting point		
Program evaluation parallel sessions B1, B2 and B3			
<i>Subcom</i>	<i>Alpha 1</i>	<i>Alpha 2</i>	<i>Alpha 3</i>
<i>Subject</i>	B1: Infectious diseases	B2: Oncology	B3: Healthcare 2
<i>Room</i>	Start: CDL, Onderwijsruimte (r.231- M220.01.023) End: Building P, Route 983, Atlas room (M604.-1.100)	Experience Center, Route 5, De Oversteek (M260.- 1.216)	Experience Center, Route 5, Keizer Traianus (M260.- 1.128)
8:45	Vector-borne diseases and zoonoses	Prostate, bladder and kidney cancer	Sustainable health systems
9:35	Fungal disease	SANITY: Synergistic combinations of ablation and immunotherapy in cancer	Stimulating appropriate care and reducing low-value care
10:25	Break	Break	Break
10:55	Optimal infectious disease care and outbreak response	Cancer immunotherapy, a pan-cancer program (CI- app)	Psychology, behavior & health
11:45	Treatment optimization for mycobacterial diseases	Precision medicine in patients with solid cancer	Healthcare-related prevention
12:35	Move to Huize Heyendael		
12:50	Lunch in Huize Heyendael (committee only)		
13:45	Move to program evaluation session C		

Program evaluation parallel sessions C1, C2 and C3			
<i>Subcom</i>	<i>Beta 1</i>	<i>Beta 2</i>	<i>Beta 3</i>
<i>Subject</i>	C1: Rare and genetic diseases²	C2: Biomedical science	C3: Cardio-vascular diseases³
<i>Room</i>	Start: Building E, Route 828, Conference Room 2 (M320.03.042) End: Genome lab, route 898 -1	Research Tower, route 260, Zetta room (M850.00.046)	Start: Building A, route 644, De Waterhoen (M480.00.040) End: Building N, Route 968, Margarheta Vasalis (M368.01.122)

13:55	Parkinson & other movement disorders	Biomarkers for health(care)	The impacts of (pre)diabetes
14:45	Hereditary cancer	Kidney disorders	Atherosclerosis & Thrombosis
15:35	Break	Break	Break
15:55	Genomics for rare diseases	3D biology and disease mechanisms	Exercise=Medicine
16:45	Hearing & Vision for all	Molecular and cellular mechanisms of development and disease	Cerebrovascular disorders
17:35	Move to Experience center, <i>Ground Floor Entrance</i>		
17:50	Taxi to hotel		
18:45	Dinner (committee only)		

Day 3: Wednesday 12 November 2025

8:00	Taxi to Radboudumc		
8:30	Arrival at Experience center, <i>Ground Floor Entrance</i> & move to program evaluation session D		
Program evaluation parallel sessions D1, D2 and D3			
<i>Subcom</i>	<i>Beta 1</i>	<i>Beta 2</i>	<i>Beta 3</i>
<i>Subject</i>	D1: Neuroscience	D2: Drug development^A	D3: Clinical innovation
<i>Room</i>	Trigon, Kapittelweg 29, Oval Office Room (0.073)	Start: F Building (Amalia ziekenhuis) Route 819, pantry. End: F building, Route 835, De Wilde Kat (M325.04.104)	Dentistry building, Route 309, De Ardennen (M362.00.078A)
8:45	The brain across development in health and disease	Treatment improvement for severe hematological diseases	Gynecologic oncology
9:35	Dementia	Therapy development for rare disorders of the brain	Supportive cancer care
10:25	Break	Break	Break
10:55	Neuromuscular disorders	Academic drug therapy development	Orofacial health
11:45	Stress and mental health	Obstetric and pediatric clinical pharmacology	Surgical innovations

12:35	Move to lunch
12:50	Lunch at Huize Heyendael (committee only)
13:50	Internal Committee meeting
14:45	Q&A Session with RIMI Directors Opportunity for the committee to address remaining questions on the Research Programs
15:15	Work on program reports (committee only)
17:00	Taxi for committee members "program only"
17:00	Core committee: preparation for institute program; align focus and questions
18:00	Taxi to hotel for core committee
19:00	Dinner (committee only)

Day 4 – Thursday 13 November 2025	
8:00	Taxi to Radboudumc
8:30	Arrival at Huize Heyendael
8:30	Introduction by Dean Radboudumc
8:45	Research Institute for Medical Innovation (RIMI) Presentations on RIMI and committee interview
9:35	Short break
9:45	Continuation: committee interview RIMI
10:25	Internal Committee meeting
10:55	Introduction by Dean Faculty of Science (FNWI)
11:05	Radboud Institute for Molecular Life Sciences (RIMLS-FNWI) Presentation on RIMLS-FNWI and committee interview
11:45	Internal Committee meeting
12:30	Lunch with research support staff in 5 groups: Grant support, Clinical Research Support, Open Science, Data/IT/AI, Science communication
13:30	Scientific Career Path <ul style="list-style-type: none"> • Brief presentation on Scientific Career Path • Committee interview on Scientific Career Path • Interview with researchers in 3 groups: 2 postdocs, 2 researchers in TT1, 2 researchers in TT2, 2 research group leaders
14:30	Internal Committee meeting

14:45	Tour of Radboudumc Technology Centers Committee tour showcasing selected core facilities
15:45	Graduate School and PhD Training <ul style="list-style-type: none"> • Brief presentation by Graduate School management • Interview with PhD candidates in 3 groups • Internal committee meeting to formulate questions • Interview Graduate School management
17:00	Internal Committee meeting
18:00	Taxi to hotel
19:00	Dinner (committee only)

Day 5 – Friday 14 November 2025 – Institute evaluation	
8:00	Taxi to Radboudumc
8:30	Arrival at Huize Heyendaal
8:30	Research and Innovation Council Interactive discussions with R&I Council members at 5 tables
9:15	Patient representation in research Dialogue with patient representatives who contributed to research in 5 groups
9:45	Break
10:00	Research integrity Brief presentation on research integrity and committee interview
10:30	Q&A Session with RIBO Final opportunity for the committee to address remaining questions
11:00	Break
11:15	Internal Committee meeting
12:30	Lunch (committee only)
13:30	Internal Committee meeting
14:00	Move to Oranjezaal (route 607)
14:15	Concluding assembly A gathering of the research community, featuring a presentation of the committee's interim findings, followed by informal drinks.
15:00	End of program

15:05	Taxi to hotel/train station
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Appendix II. Additional data

The following data is extracted from the self-evaluation report Part A.

Enrolment					Cumulative success rates										Ongoing and discontinued PhD projects					
Start date cohort	Male	Female	Gender neutral	Total M+V+G	Thesis approved < 4 years		Thesis approved < 5 years		Thesis approved < 6 years		Thesis approved < 7 years		Thesis approved Before 1-1-2025		Thesis not yet approved		Discontinued		PhD continued elsewhere	
					#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
2016	89	160	0	249	41	16%	100	40%	162	65%	184	74%	206	83%	15	6%	28	11.2%	0	0.0%
2017	95	181	0	276	35	13%	104	38%	151	55%	186	67%	200	72%	47	17%	27	9.8%	2	0.7%
2018	117	187	0	304	35	12%	98	32%	167	55%	184*						24	7.9%	1	0.3%
2019	114	194	1	309	35	11%	114	37%	154*								28	9.1%	4	1.3%
2020	98	193	0	291	37	13%	80*										29	10.0%	2	0.7%
2021	98	173	0	271	24*												22	8.1%	1	0.4%
2022	76	156	1	233													20	8.6%	1	0.4%
2023	91	200	1	292													8	2.7%	0	0.0%
2024	81	150	0	231													3	1.3%	1	0.4%

Table 3. Enrolment numbers, time to manuscript approval, and discontinuation rates of PhD candidates from 2016-2024. An extended time frame was adopted to more effectively encompass the duration of the PhD trajectories.

* Incomplete data as it concerns only PhD candidates who got PhD thesis approval prior to 1-1-2025.

	2018		2019		2020		2021		2022		2023		2024	
	#	FTE	#	FTE	#	FTE	#	FTE	#	FTE	#	FTE	#	FTE
Professor	132	75	143	81	149	90	163	96	154	92	162	98	167	96
Associate Professor	105	69	100	66	97	61	85	52	70	40	80	43	83	47
Assistant Professor	69	39	74	46	66	41	69	41	74	47	77	47	67	41
Other Academic Medical Staff	230	119	233	116	220	112	193	98	165	65	176	74	163	61
Postdoc	170	118	194	138	209	152	221	158	219	153	218	150	239	161
Other staff with research task	343	216	331	204	303	197	354	222	398	249	388	243	445	276
PhD candidate	1054	640	1154	698	1213	775	1216	798	1211	795	1225	799	1153	775
Support staff	376	253	406	269	410	274	430	291	432	295	401	263	372	254
Total research staff	2479	1529	2626	1618	2667	1702	2731	1756	2723	1736	2727	1717	2689	1711

Table 5: Radboudumc number of research staff and nominal time spent on research (#0.1) in FTE as reported by departments. Note: The number of PhD excludes external and externally financed PhDs. Reasons for relatively low FTE values: part-time positions, other core tasks (healthcare or teaching), contract duration does not overlap with full year statistics, suboptimal data capture.

	Current Radboudumc	Professor	Associate professor	Assistant professor	Other Academic Medical Staff	Academic specialist	Post doc	Other staff with research task	PhD candidate	Support staff
Enthusiasm	7.3	8.2	7.4	6.6	7.3	7.2	7.3	7.5	7.2	7.5
Social safety	7.2	8.0	7.6	6.4	7.1	6.9	7.4	7.4	6.9	7.4
Inclusion	8.0	8.4	7.6	7.1	8.0	7.3	8.2	8.2	8.1	8.0
Team collaboration	7.1	7.4	7.6	7.0	6.9	6.4	7.4	6.8	6.9	7.1
Team leadership	7.1	7.0	7.0	6.7	7.2	5.8	7.3	6.7	7.4	6.9
Respondents	846	73	45	34	79	18	79	38	341	134

Table 6: Scores per theme in the overall group and per employee group.

Table 7 Funding source in FTE and percentages, and expenditures in millions and percentages Radboudumc 2018-2024							
	2018	2019	2020	2021	2022	2023	2024
Funding	FTE / %	FTE / %	FTE / %	FTE / %	FTE / %	FTE / %	FTE / %
Direct funding (1)	654/44	682/43	683/41	661/39	623/38	597/37	555/35
Research grants provided by Dutch governmental bodies (NWO/ZonMw) (2)	208/14	217/14	237/14	257/15	256/16	286/18	285/18
Grants of other funders, mainly EU (3)	488/33	494/31	567/34	601/35	592/36	571/36	621/39
Other; industry (4)	149/10	182/12	174/10	184/11	174/11	145/9	128/8
Total funding	1,499/100	1,576/100	1,661/100	1,704/100	1,646/100	1,599/100	1,589/100
Expenditure	€ / %	€ / %	€ / %	€ / %	€ / %	€ / %	€ / %
Personnel costs	€ 137 M/ 79	€ 145 M/ 81	€ 152 M/ 81	€ 159 M/ 79	€ 167 M/ 79	€ 178 M/ 80	€ 187 M/ 80
Material costs	€ 20 M/ 12	€ 18 M/ 10	€ 19 M/ 10	€ 25 M/ 12	€ 26 M/ 12	€ 25 M/ 11	€ 25 M/ 11
Other costs	€ 15 M/ 9	€ 16 M/ 9	€ 16 M/ 8	€ 17 M/ 8	€ 18 M/ 9	€ 20 M/ 9	€ 22 M/ 9
Total expenditure	€ 172 M/ 100	€ 179 M/ 100	€ 187 M/ 100	€ 201 M/ 100	€ 211 M/ 100	€ 224 M/ 100	€ 234 M/ 100

Table 7: Funding source in FTE and percentages, and expenditures in millions and percentages. Radboudumc 2018-2024.

Appendix III. Provisional indicators to assess and monitor the results of the RIMI Institute

This annex is taken from the ToR.

SEP utilizes indicators to gauge research performance, offering evidence-based evaluations of quality, relevance, and viability. These indicators enable continuous monitoring, support strategic planning, and enhance accountability. By providing objective measures, they help identify areas for improvement and ensure effective use of resources.

Table 1 provides an overview of the indicators the RIMI institute has identified to assess and monitor the results of the RIMI activities (Part A). The indicators for the research programs (part B) will be less elaborated, and will not be comprehensive and quantitative, but rather encompass relevant examples supporting the narrative of the research program. The indices in table 1 are listed in accordance with the categories of evidence suggested by the SEP:

- Research Quality: products (output, activities)
- Research Quality: use of products (outcome)
- Research Quality: marks of recognition ((short term) impact)
- Societal Relevance: products (output, activities)
- Societal Relevance: use of products (outcome)
- Societal Relevance: marks of recognition ((short term) impact)

Table 1: Examples of indicators for part A per assessment criterium.

	SEP criterium Research quality SEP aspect open	SEP criterium Relevance to Society	SEP criterium Viability	SEP aspect academic culture SEP aspect HR policies SEP aspect PhD policy and training
Research activities/ products: output	<ul style="list-style-type: none"> • Total number of <ol style="list-style-type: none"> (open access) journal articles Theses Duration of PhD projects 	<ul style="list-style-type: none"> • Investigator-initiated clinical trials • Publications reporting new evidence improving health and healthcare • Prototypes/patents of new products or services 	<ul style="list-style-type: none"> • Finances • Input of research staff (#/FTE) • Infrastructure and services • Risk management (ethical, security and regulatory compliance) • Environment (CO2, animals, waste) • Funding (FTE/%) 	<ul style="list-style-type: none"> • Narratives and case studies

<p>Use of products: outcomes of activities/ outputs</p>	<ul style="list-style-type: none"> • Research citations <ul style="list-style-type: none"> a. Category normalized citation impact b. Percentile indicators c. Proportion of papers that remain uncited within 2 years • Careers of PhD/postdocs 	<ul style="list-style-type: none"> • Health recommendations by public bodies • Formal clinical guidelines • Products and services on the market 		<ul style="list-style-type: none"> • Outcomes well-being survey • Enrolment and success rate of PhD candidates
<p>Marks of recognition: (short term)</p>	<ul style="list-style-type: none"> • Peer-reviewed grants • Honors and Awards • Role in scientific panels and review board 	<ul style="list-style-type: none"> • Societal awards and honors • Public expert role • Scaling up of health recommendations, clinical guidelines, products, and services • Exits of spin-off companies 		<ul style="list-style-type: none"> • Narratives and case studies

Appendix IV. Proposed selection criteria for top-programs

This annex is taken from the ToR.

To identify the top programs, the committee evaluates their quality based on the following criteria. Given that the programs have only just begun to operate, the committee is asked to focus on forwardlooking plans (strategy), but to consider also past performance as an important predictor of future success. Assessing grant proposals for a large-scale project may require a similar perspective and approach.

- 1. Research quality (33% weight):** The research quality of the program is assessed in its international and national context. The evaluation committee does this by assessing a research program in the light of its own goals and strategy. Contributions to the body of scientific knowledge are central to this evaluation. The evaluation committee considers the quality of the research and the academic reputation and leadership in the field. The committee's evaluation is based on a narrative argument and is supported by evidence of the program's scientific achievements in the context of the national or international research field. The protocol explicitly follows the guidelines of the San Francisco Declaration on Research Assessment (DORA).
 - The research program includes researchers with a strong international reputation. These influential and innovative researchers are capable of making very important and innovative contributions to the development of their discipline or disciplines.
 - The composition of the program at the group and individual level and the expertise present are well suited to carry out the proposed research program.
 - The program leaders (RGLs) have demonstrated their ability to lead and inspire teams and partnerships, and together form a well-balanced team.
 - The members of the program devote a great deal of attention to developing a new generation of research leaders who can keep excellent and innovative lines of research at the forefront.
 - The members of the program form an optimally composed consortium that is focused on the content and implementation of the proposed research strategy.
 - The research program is highly challenging and urgent and focuses on specific innovations and challenges in the scientific field concerned. It is excellent, well positioned internationally and clearly visible. It belongs to the world elite or has the clear potential to do so.
 - The research program is focused, has optimal scientific coherence, and integrates all perspectives relevant to the main research questions. The scientific potential of the entire program clearly exceeds the sum of its parts.
 - The program is outstanding in terms of theoretical and methodological soundness, planning, and execution. It will be assessed whether the scientific objectives of the program and the required size of the program are appropriate in relation to the intrinsic needs of these objectives.
- 2. Societal impact (33% weight):** The societal relevance of the program's research is assessed in terms of its impact on health and healthcare. This impact often takes time to become apparent. Thus, an impact that has become apparent in the last six years may well be due to research conducted by program members long before that time. The evaluation committee reflects on societal relevance by evaluating the achievements and plans (strategy, impact pathway) of a research program in the light of its own goals and strategy. The assessment is based on a narrative argument that describes the major research findings while also providing evidence of societal relevance in terms of impact on health and health care. Societal impact can be

broadly defined as any change on health and healthcare that is (partly) the result of the knowledge, products and skills generated by the proposed research program. Impact can be caused by innovative products or services, but it can also be instrumental (e.g. changes to guidelines, policies, behavior etc.), conceptual (changes to knowledge, awareness, attitude etc.), and capacity building (changes to skills and expertise).

- The research program includes researchers with a strong track record in knowledge transfer in health and healthcare. These influential and innovative researchers are capable of making a very important and innovative contribution to the development of public health, healthcare or both.
 - The composition of the program at the group and individual level and the expertise present are well suited to realize the impact pathway.
 - The program leaders have demonstrated their ability to lead and inspire teams and partnerships towards societal impact.
 - The members of the program devote a great deal of attention to developing a new generation of research leaders, academic clinicians or entrepreneurs who can keep excellent and innovative lines of knowledge transfer.
 - The research program is highly challenging and urgent and focuses on specific innovations and challenges in health and/or healthcare. It is excellent, well positioned internationally and clearly visible. It belongs to the world elite or has the clear potential to do so.
 - The research program is focused, has optimal scientific coherence, and integrates all perspectives relevant to the main impact targets. The potential of the entire program clearly exceeds the sum of its parts.
 - The program is outstanding in terms of knowledge transfer, planning, and execution. It will be assessed whether the impact pathways of the program and the required size of the program are appropriate in relation to the intrinsic needs of these objectives.
 - The program has the potential to result in a paradigm shift that has (or will likely have) consequences to health and healthcare.
 - The research program has an optimal involvement of (non-academic) stakeholders at various stages to reach optimal societal impact. These stakeholders likely include patients but may involve other stakeholder groups.
 - The research program has shown to be able to build public support for research and innovation or has a clear and feasible pathway how to address this as part of the impact pathway.
- 3. Viability (33% weight):** The extent to which the objectives of the research program remain scientifically and societally relevant for the coming six-year period will be assessed. It is also assessed whether the goals and strategy of the program, as well as the foresight of its members, are optimal for achieving these goals. Finally, it assesses whether the plans and resources are adequate to implement this strategy. The evaluation committee also considers the viability of the research program in relation to expected developments in the field and in society, as well as the broader institutional context.
- The research program has set ambitious and distinctive goals that appear feasible given the quality of researchers and infrastructure.
 - The strategy of the research program is clearly and logically structured and provides an excellent framework for achieving the described goal(s).
 - The impact pathway and the funding strategy have an optimal balance between ambition and feasibility, realistically reflecting the quality of researchers and research.
 - The research program provides indicators for adequate monitoring of progress and has clear ideas to adjust the program if necessary.

- The program has adequate scientific interaction that strengthens mutual collaboration within their program crossing borders within and beyond the Radboudumc and the academic environment in general.