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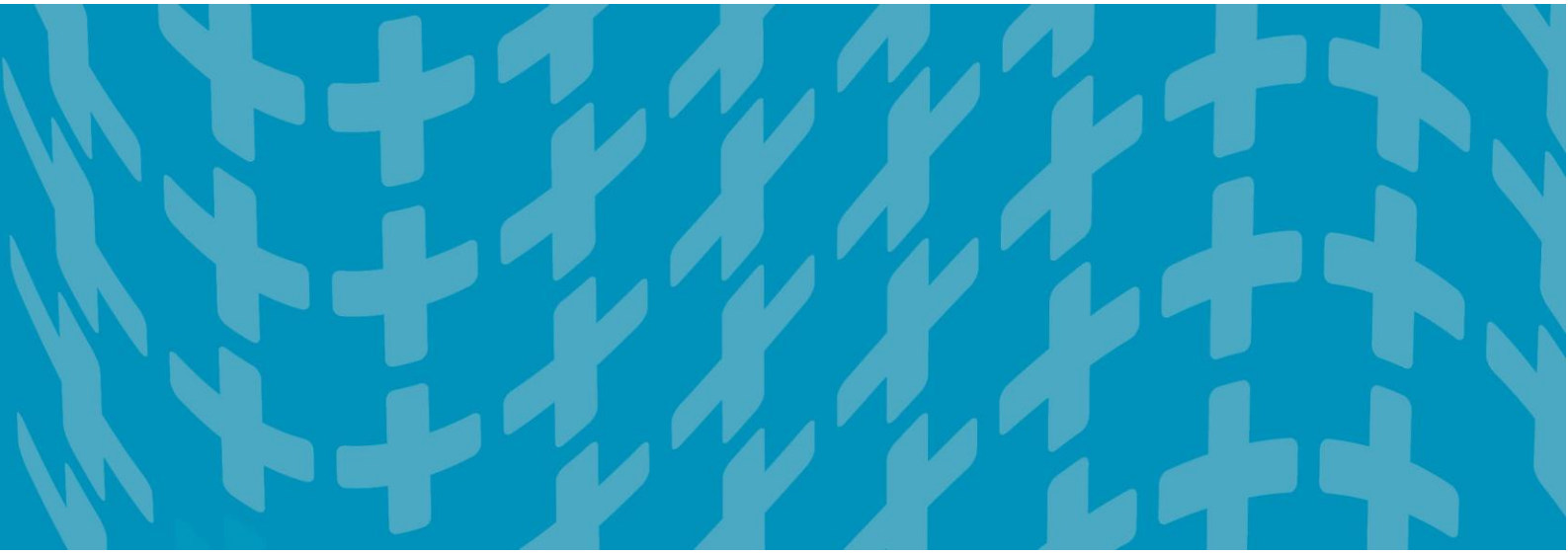
Interim evaluation of the Federal Government's Health Research Framework Program

(2019 to 2022)

5-page short version



1 INTERIM EVALUATION OF THE FEDERAL GOVERNMENT'S HEALTH RESEARCH FRAMEWORK PROGRAM

1.1 The Health Research Framework Program

The Federal Government's Health Research Framework Program aims to promote high-quality health research in Germany. As a joint program of the Federal Ministry of Health (BMG) and the Federal Ministry of Education and Research (BMBF), it coordinates important funding activities and pursues joint priorities. As the ministry responsible for operations, the BMBF finances the framework program and implements the funding activities. The framework program is updated and programmatically realigned every eight years. It may as well be adjusted as needed, as for example in the case of the Covid-19 pandemic, through a Covid addendum. In the current framework program, which has been in existence since 2019, the following fields of action have been identified and thematic priorities determined:

- Field of action 1 "Preventing and curing diseases"
- Field of action 2 "Advancing medical progress"
- Field of action 3 "Structural support - strengthening the research location

Two cross-program guidelines also extend across all three fields of action: 1. the focus on people and 2. personalization and digitalization.

Funding from the Health Research Framework Program includes project funding as well as institutional funding for non-university institutions and departmental research. As part of an interim evaluation, inav GmbH was commissioned to review the framework program. The aim of the evaluation is, on the one hand, to evaluate processes and, on the other, to conduct an early impact evaluation in order to identify potential for further development and recommendations for action for the remaining four years of the framework program. The research object of this evaluation is exclusively the project funding with a planned 2.9 billion € funding volume, which has been part of the funding guidelines since 2019 until the end of 2022. A total of 86 funding guidelines and 92 ongoing funding priorities were published as part of project funding and implemented operationally by various project management organizations (the German Aerospace Center (DLR-PT), Project Management Jülich and Project Management VDI/VDE Innovation +Technik).

1.2 Summary of Research Questions

The evaluation is based on eight central research questions, the answers to which are summarized below.

1. *Suitability of funding guidelines to achieve the program goals:* The funding guidelines are appropriately aligned with the goals of the framework program. The goals and priorities of the framework program are considered to varying degrees in the funding guidelines in terms of project numbers and funding volume. The spontaneously created Covid addendum characterizes the framework program as flexible and self-learning.
2. *Suitability of funding guidelines to reach the intended target groups and effects:* The funding measures reach the intended recipients at universities and non-university research institutions. Although the program concept was open to the participation of small and medium-sized enterprises (SMEs), in practice this was only implemented to 5 %. The targeted support for young researchers took place for 87 % of the recipients who received funding.
3. *Suitability of the selected instruments for reaching the target groups:* The websites of the BMBF respectively of the project management organization allow 36 % of the funded individuals to become aware of the framework program through them. Further 30 % came across the program via hints of fellow researchers. Media reports and federal funding advice seem to contribute less currently, with 2 % and 1 % respectively. Since

supporting SMEs is an explicit goal of the framework program, further measures should be taken in general to reach SMEs more effectively.

4. *Achieved (intended and unintended) effects*: The framework program successfully connects its researchers, creates new jobs, generates publications, some of which are made available as Open Data for free, and contributes to methodological advancements as well as spin-offs.
5. *Factors that promote or inhibit the effectiveness of the framework program:* The funded individuals are particularly satisfied with the funding in general, the funding amount, duration of funding, and administrative effort. There is still room for improvement regarding the duration between project submission and project start (details c.f. figure 1). 93 % of the respondents were satisfied or rather satisfied with the funding (1.727 out of 1.870 responses received). The amount of funding as well as the duration of the funding were rated as (rather) appropriate by more than two-thirds of the respondents. The average time between project submission and project start was about one year (12.7 months) across all respondents. 66 % of the respondents rated the average time between project submission and project start as (rather) appropriate (1.222 out of 1.849 responses received). However, almost a third (34 %) of the respondents rated the duration as (rather) inappropriate (627 out of 1.848 responses received). The administrative effort for the application and during the funding was rated as (rather) appropriate by the majority of those funded, with 71 % of the respondents (1.324 out of 1.858 responses received).
6. *Economic efficiency of the framework program's execution:* The administrative portion of the total funding volume is 4.3 %, which is appropriate and below the typically targeted 5 % in funding programs[1].
7. *Appropriate usage of funds in comparison to generated output and outcomes:* The framework program succeeds in primarily placing funding where projects would not have been realized or to a lesser extent (99 %, details c.f. figure 2). Overall, the costs incurred are in good proportion to the outputs on a scientific level (number of publications, patents, and innovations) as well as on an economic level (jobs created, number of spin-offs, and new collaborations).
8. *Successful implementation of the recommendations from the previous evaluation:* The framework program has successfully implemented the recommendations from the previous evaluation: digital technologies have been more integrated; mechanism-oriented research has been strengthened; patients, patient representatives, and other stakeholders have been more involved; the program is more aligned with the One Health approach; certain actor groups are more involved in study planning and implementation; measures for qualifying young researchers have been expanded. However, the involvement of experts in progress assessment and project support could still be improved. The transfer and translation of research results have not been significantly expanded but remain at a high level. Whether quality assurance and result orientation have been more focused on and whether the application and approval phase have been accelerated cannot be assessed due to methodology or lack of a comparison value.

1.3 Further Selected Results

In addition to summarizing the answers to the research questions, some specific results will be presented. Of particular interest is an online survey of the funded individuals.

The process quality of the application and funding was assessed based on several sub-questions (Figure 1). It is important to note that only successful applicants (grant recipients) were surveyed due to the data collection.

[1] Funding programs should generally aim for a 5 % ratio of administrative costs to the total funding sum (c.f. AG, P., Evaluation des Förderprogramms mFUND (Modernitätsfonds), 2021. Available at https://bmdv.bund.de/SharedDocs/DE/Anlage/DG/mFUND/wirkung-und-Evaluation-im-mfund-pdf.pdf?__blob=publicationFile (retrieved 30.02.2024)).

Figure 1 Satisfaction with the application process and elements of funding
(n=1.849-1.870 (number of responses))
Source: Online survey

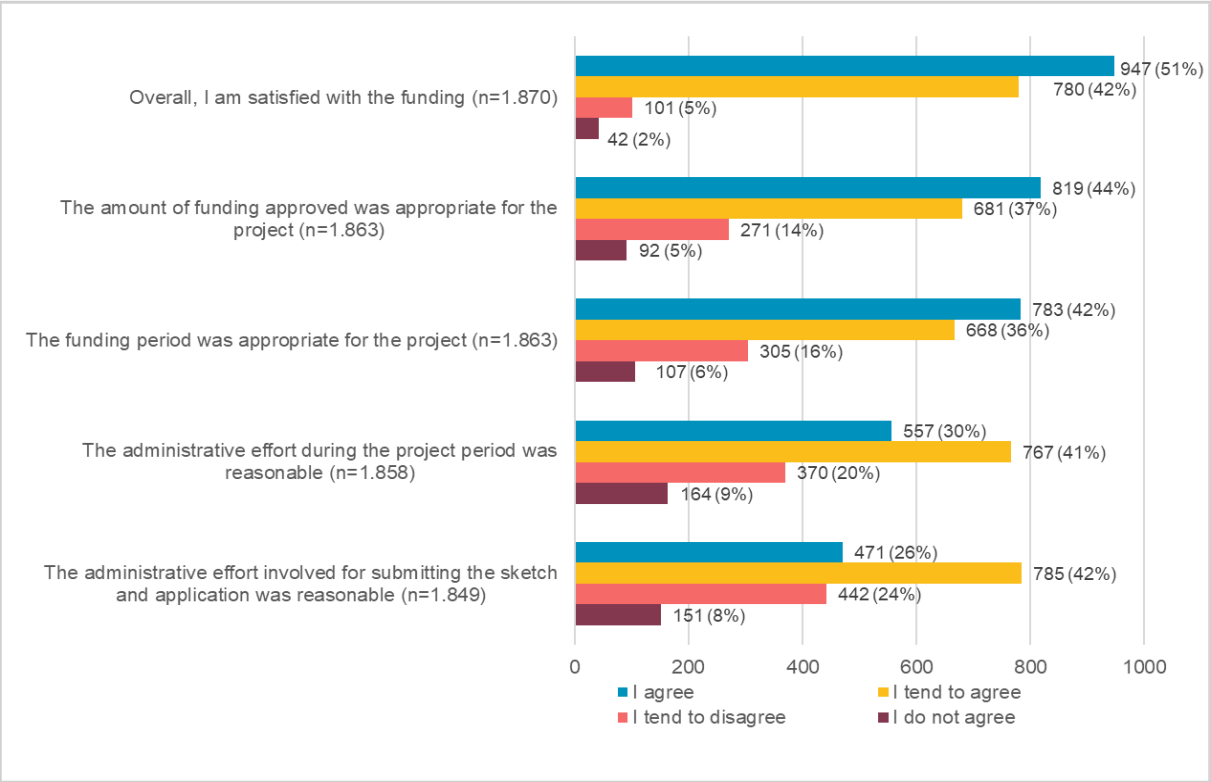
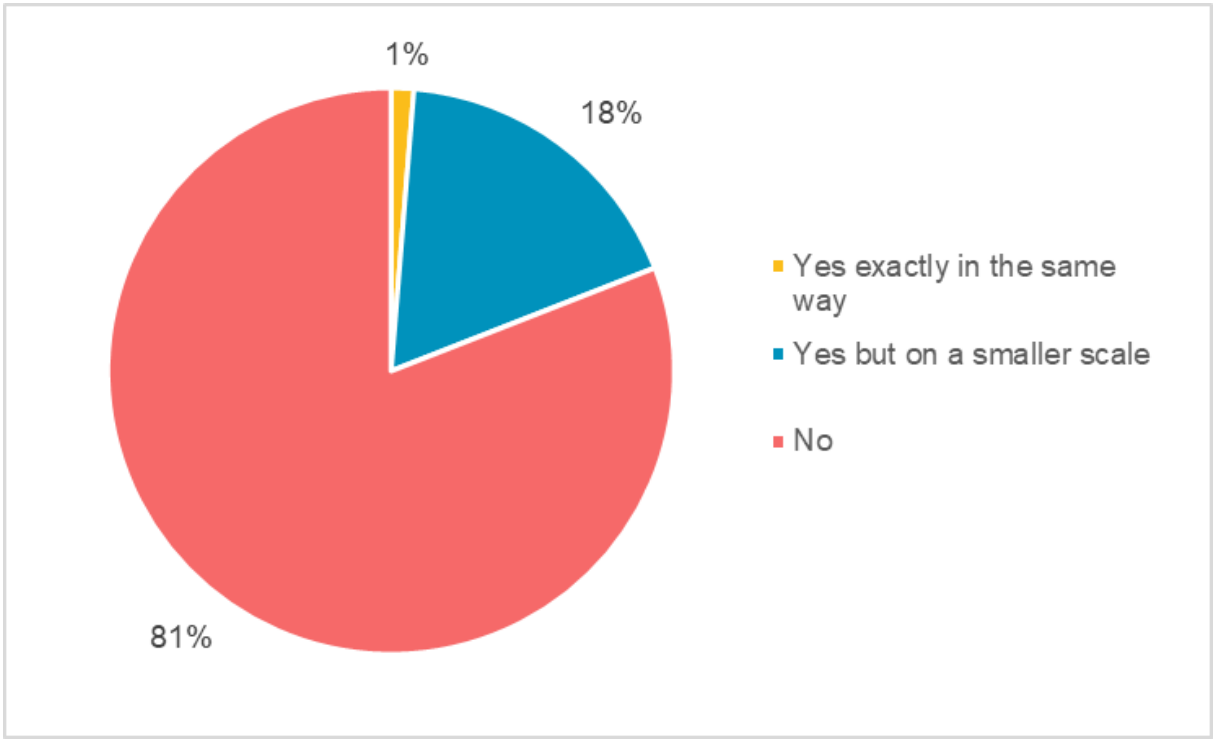


Figure 2. Project realisation without the funding
(n=1.936 (number of responses))
Source: Online survey



The online survey reveals that a large majority of the funded projects (81 %, 1.567 out of 1.936 responses received) would not have been carried out or the respondents would not have participated without the funding from the Health Research Framework Program (Figure 2). Another 18 % of the grant recipients (344 out of 1.936 responses received) stated that the project would have taken place to a lesser extent without the funding from the Health Research Framework Program.

In the field of action 1 "Preventing and curing diseases," a focus is placed on directing health research towards specific population groups. The online survey reveals that 13 % of the participants (266 out of 2.100 respondents) conduct research on special population groups. Projects focusing on the health of older adults, children, and adolescents were most commonly carried out.

The field of action 1 also includes the spontaneously created Covid addendum. The online survey shows that 9 % of the respondents (196 out of 2.100) conducted projects on SARS-CoV-2. Of the surveyed Covid researchers, 13 % (26 out of 196 responses received) stated that they were working on projects related to the diagnosis of Covid-19. 32 % of the surveyed Covid researchers (63 out of 196 responses received) were working on the therapy for SARS-CoV-2, and an additional 16 % (31 out of 196 responses received) were studying the spread behavior of SARS-CoV-2. 4 % (7 out of 196 responses received) were focused on understanding the structure of the virus. Another key focus of the research initiative against SARS-CoV-2 is to explore ethical, legal, and socio-economic aspects related to the pandemic (ELSA).

In the field of action 2 "Advancing medical progress," a key focus is on strengthening key technologies. Regarding the application of specific key technologies, insights from the online survey (responses to the specific question: n= 2.902) indicate that digital technologies, i.e., technologies based on software and networking, were integrated into projects by more than one-fourth of the respondents (28 %). High-throughput technologies such as genomics, transcriptomics, proteomics, and metabolomics were reported to be used by 19 % of the respondents. Biotechnology was employed in projects by 17 % of the respondents related to their project. Other key technologies applied according to the survey participants included Artificial Intelligence (14 %), communication technologies for transmitting information, data, and messages in healthcare (8 %), new physical-chemical analysis methods (4 %), and new materials for use in medicine (3 %). These results suggest the utilization of a variety of medical key technologies in health research.

In the field of action 3 "Structural support - strengthening the research location," one of the aspects addressed is the networking of those receiving funding. The majority of respondents in the online survey indicated that research funding enabled the formation of collaborations with new partners, enhanced networking, and increased scientific excellence. Regarding the increase in scientific excellence, 93 % of the respondents (1.763 out of 1.881 responses received) agreed (rather) that funding had led to an enhancement in excellence. For this indicator, a comparison with the pre-evaluation is possible: at that time, two-thirds of the surveyed companies stated that scientific excellence had been increased through funding. Furthermore, at that time, 90 % of institutions and approximately 80 % of surveyed companies expected that an increase in excellence would be possible in the future due to the funding.

2 RECOMMENDATIONS FOR ACTION

Recommendation 1: Definition of smart objectives for the Health Research Framework Program

As part of the evaluation of the framework program, the challenge arose of translating the objectives of the framework program into concrete objective assessment criteria. The vague formulation of objectives leaves room for interpretation, which must be interpreted in the evaluation. This interpretation is made on the basis of the descriptions of objectives and in

consideration of the discussions with the experts of the Health Research Framework Program. For the further scientific monitoring of the framework program, it is advisable to reduce the scope for interpretation. To this end, we suggest defining the orientation of the objectives along established, evaluative best practice.

Recommendation 2: Testing a more comprehensive evaluation survey strategy

A baseline survey can be expedient in order to assess the impact of the Health Research Framework Program more precisely. In addition to the requirements and needs of potential funding recipients, the status of research in the individual fields of action can also be recorded before funding begins. Reviews can be used to determine which research results can already be built upon and which issues are particularly suitable for further research. The baseline survey serves to describe the initial situation and thus establishes a benchmark for assessing the impact of the activities within the framework program over time.

Recommendation 3: Increase the accessibility of data and research results

The Health Research Framework Program provides important research impetus in many areas. In order to ensure even better translation of the research results made possible by the funding, access to data and research results is required. The achievement of these goals is already explicitly demanded by the Health Research Framework Program and partially implemented by the funding recipients: According to the online survey, 58 % (3.630 of 6.313 publications listed) of all publications were published as Open Access, and an Open Data policy was pursued by researchers in 47 % of the funded projects (868 out of 1.830 responses received). The Federal Ministry of Education and Research (BMBF) has already issued a guideline to increase the Open Access culture independently of the Health Research Framework Program[2]. The stronger integration of this guideline into the funding structures should be considered for further implementation of the funding.

[2] Guideline for the promotion of projects to establish a lived Open Access culture in German research and scientific practice (BAnz AT 07.12.2022).