

GESCHÄFTSSTELLE

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Recommendations on the further development of the **German Centres for Health Research**

– Summary –

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Synopsis

In accordance with the health research framework program of the German Federal Government, six German Centres of Health Research (DZGs) were established between 2009 and 2012 that are designed to improve the prevention, diagnosis, therapy and treatment of specific endemic diseases: the German Centre for Diabetes Research (DZD), the German Centre for Neurodegenerative Diseases (DZNE), the German Centre for Cardiovascular Research (DZHK), the German Centre for Lung Research (DZL), the German Cancer Consortium (DKTK), and the German Centre for Infection Research (DZIF). The aim of the DZGs is to improve and accelerate the transfer of research results from the laboratory into wider medical care; this process is called translation. To achieve this aim, the most qualified partners in the translation process, ranging from basic research over disease-orientated and patient-orientated research all the way to health services research and public health from universities and non-university research institutions from all over Germany are brought together in a DZG. Institutions that are close to one another geographically join together to participate in a DZG as so-called partner sites, which in turn in their entirety form another DZG. The DZGs are funded 90 percent by subsidies from the Federal Government and 10 percent by subsidies from involved German states. A Helmholtz Centre (the initial grant recipient) is responsible for administering all subsidies of the DZGs. The individual DZGs are characterized by different governance and funding models:

- _ The “Association Model” is characterized by all involved scientific institutions being members of a registered association. In the association model, the Helmholtz Centre that receives the subsidies transfers the funds to the remaining members of the association for the purposes of project promotion. Funding thus takes place in the so-called “Transfer Model”. The association model was implemented for the DZD, the DZHK, the DZIF and the DZL.
- _ The “Branch Model” is characterized by a coordinating Helmholtz Centre establishing a branch at every partner site as a core Centre, which then cooperates with the local partners. This model was implemented by the DKTK and DZNE.
- _ The DZNE occupies a special position within the existing DZGs, since it was conceived as an independent research Centre of the Helmholtz Association.

6 _ A further exception is the DZD, which was initially organized under the association model. Several adjustments in the organizational structure were made in the meantime, so the structure has an intermediate form between the association and branch model.

The foundation phase of the DZG was consistently evaluated positively in individual assessments of the Centres by international experts between 2014 and 2016. Drawing on these individual associations, its own additional enquiries and discussions with various relevant stakeholders, the *Wissenschaftsrat* (German Council of Science and Humanities) attests that the DZGs have created important requirements for improved and accelerated translational research in Germany for specific endemic diseases of national interest: By bringing together qualified individuals and institutions from the non-university and university fields as well as by creating suitable, translation-orientated structures (above all, infrastructures, incentive structures, networking platforms, postings) based on long-term funding, the DZGs have deliberately and successfully pooled scientific expertise in specific fields of indication beyond institutional borders. This pooling and networking is crucial for optimizing and accelerating the translation process: Translation requires expertise from different fields – from basic research to health services research – and presents different challenges in each of its different phases regarding suitable infrastructural, financial and personnel framework conditions. These different challenges and the potential gaps in the translation process, also referred to as the “valley of death” or the “translational gap”, are meaningfully addressed in the interconnected and interconnecting structure of the DZGs. The WR therefore fundamentally regards the DZGs as a suitable model to promote translational research in specific pathologies, even if from the point of view of the WR, the DZGs are still to face the challenge of how they can further enhance their networking potential with regards to external partners, but also to infrastructures, and how the funding of the DZGs can be developed further.

For the further development of the DZGs, the WR formulates guidelines and recommendations which are based on the requirements and aim of the DZGs and the specific challenges faced by the DZGs:

Funding the DZG

An inherently institutional, permanent and reliable funding for the DZGs must be ensured. For this, the WR recommends **direct funding of the DZGs as eligible associations**. In this model, the association as a separate entity of the respective DZG forms its own administration, which distributes the funds both institutionally and project-based to the respective members using a DZG internal key. The significant advantages of directly funding a DZG are:

- _ a dynamic, evaluation-based further development through the admission and withdrawal of members from the association without committing to an “established” institute that transfers the funds;
- _ the possibility to transfer funds either institutionally or project-based;
- _ the symmetrical relationship between all members.

The WR recommends that awarding authorities establish possible new DZGs following this funding model. The WR also considers immediately adjusting the existing DZGs to this funding model in terms of simplifying the model as desirable, but not urgently necessary, provided the DZGs themselves do not see any respective need and can satisfy the expectations with their current model. The DZGs should, however, be able to make use of the funding model recommended here.

Further recommendations for the funding of the DZGs are:

- _ Project funds should contain an **overhead fixed rate of at least 22 percent**, guided by the fixed rate of the German Research Foundation (*Deutsche Forschungsgemeinschaft*, DFG) program stipulated in the Higher Education Pact.
- _ In the branch model, an **infrastructure fixed rate of up to 25 percent** of the personnel expenditures for the buildings and rooms in use should be paid to the partners.
- _ The proportion of **flexible funds** in the budget for personnel and equipment (i.e., without investment resources) should be at least 25 percent.
- _ The WR sees it as urgently necessary that the DZGs receive an increase in funds based on needs with a reliable planning perspective.

The WR recommends that the Federal Government and States increase the grants for the DZGs correspondingly.

Evaluation regime

For the further development of the DZGs, a transparent, consistent and comparable evaluation regime tailored to the DZG funding model is necessary. The WR recommends three different evaluations, each with a different focus:

- _ an **internal strategic assessment** of the development potential and dynamic of the individual DZGs,
- _ an **external scientific assessment** of the accomplishments of the individual DZGs,
- _ an **external superior assessment** of the DZG funding model.

Key requirement to any assessment of the DZGs are suitable criteria tailored to the aims of the funding model (optimizing and accelerating translation). The

8 translation concept as a whole – the originality, structure, instruments, implementation and products – must be assessed. Focusing on the translation results alone (output-orientated, summative evaluation) is not sufficient and would not do justice to the funding model. Accordingly, the translation process (formative evaluation) must also be recorded and evaluated. With this in mind, a commission spanning the DZGs appointed by the Federal Ministry of Education and Research (*Bundesministerium für Bildung und Forschung*, BMBF) should develop **suitable translation criteria** which can and should be utilized for the evaluation.

The external evaluation of the individual DZGs can justify the **withdrawal of a partner site** from a DZG. Conversely, new partner sites should also be able to be admitted, namely through a corresponding retendering and by using an external evaluation procedure.

Large research initiatives

The DZGs should use their combined force and the advantage obtained from the institutional funding of long-term perspectives to deal with overarching, “major” questions, and initiate **sophisticated, broad translation-orientated research projects** (so-called “flagship projects”) on the basis of a correspondingly ambitious research strategy.

The WR emphasizes that the DZGs use their **unique potential and unique characteristics** of a broadly interconnected and long-term structure for such large-scale projects and not conduct many small-scale projects which would also be possible in other funding contexts (no “more of the same”).

Networking

In view of the further development of the DZGs, **strategies spanning the DZGs** should be developed to create crossovers, to systematically take into account boundaries and to promote translational interdisciplinary projects. On the basis of such research across Centres, treatment concepts should also be developed and their implementation should be scientifically supported. Suitable examples for such overarching strategies are the topics prevention and digitalization.

In order to better exhaust the networking potential, the WR recommends that the **DZGs implement a “structural and strategy fund”**. The resources for this fund should in part come from contributions from the Centres themselves, and in part be supplemented by additional subsidies.

Promotion of young researchers and career paths

Involving researching and clinical physicians in the DZGs is complicated by different framework conditions, which is problematic considering its importance for successful translation. In order to promote translation-orientated and competent young researchers for the system as a whole and to create attractive

career paths and target positions, the DZGs together with the university medical Centres should offer specific translation-orientated **young researcher programs** and an **attractive career path**, together with **target positions with attractive framework conditions** for scientific and clinical young researchers (clinician scientists and medical scientists). The DZGs should be enabled to offer W3 professorships which are not only compensated appropriately with regard to international and national competition, but are also appropriately equipped – also and especially compared to clinical professorships.

Infrastructures

The WR assigns a particular responsibility for the **comprehensive standardization of processes and data formats** of the information technology infrastructure to the DZGs based on their network. These are especially important for the increasingly relevant data-based medicine. The DZGs should use the momentum and take an active role in the currently ongoing deliberations, initiatives and strategies regarding this infrastructure, especially in the BMBF's Medicine Informatics initiative.

If for no other reason than for fulfilling the above-mentioned tasks, the **access and usage regulations** for DZG infrastructures should be transparent, harmonized and aligned, and the infrastructures of the DZGs should also be open to external users.

The WR recommends that the DZGs create a **concept spanning the DZGs** which addresses the tasks described and states whether and, if so, which infrastructures can be coordinated or established and operated jointly by the DZGs or nationally or even internationally.

Capacities

The **capacities of the DZGs** should be strengthened and the DZGs should be explicitly aligned as an attractive partner for the health industry. In particular, **cooperation with the industry** – pharmaceutical industry, medical engineering industry and software industry – should be intensified and simplified with consistent framework conditions and framework agreements, contact points, etc.

New formations

If the awarding authorities aspire to **form a new DZG**, this should only occur in a defined procedure and on the basis of specific criteria: New subject areas should reflect a need in the society as a whole, the underlying disease areas must be relevant; but in particular the development status, the “scientific readiness”, of a research project must be just as pronounced.

The WR emphasizes, however, that before forming a new DZG, the existing DZGs must first be further developed as recommended by the WR.

In conclusion, the WR points out that the future success of the DZGs is essentially tied to the strength of the scientific system to be connected with its university and non-university institutions. Therefore, the success of the DZGs depends not only on promoting the DZGs themselves, but also on also promoting and strengthening the **national scientific environment** as a whole. Continuing successfully established funding programs of the German Federal Government and States, implementing structural and funding measures recommended by the WR (e.g., funding of “profile sectors”) in university and non-university research institutions, and the continuous further development of a diverse funding instrument are necessary supplements for the long-term success of the DZGs and health research as a whole.