



ERA-HDHL

Call for Transnational Research Proposals:
“Nutrition & the Epigenome”

Updated version: 22 February 2018

Submission deadline Proposal:
12 April 2018 at 16:00 CEST

Link to: [Electronic Submission System](#)

For further information, please visit us on the website:
<http://www.healthydietforhealthylife.eu/>

Or contact:

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Table of Content

1.	Introduction.....	2
2.	Aim of the Call	2
3.	Participating countries and respective funding organisations.....	4
4.	Management of the call	4
5.	Application.....	5
6.	Evaluation	6
7.	Pilot study FAIR Data	8
8.	Funding Procedure	8
9.	Responsibilities and reporting requirements	9
10.	Ethical issues	10
11.	Confidentiality	10
12.	Time schedule	10

1. Introduction

The Joint Programming Initiative *A Healthy Diet for a Healthy Life* (JPI HDHL) has been established to coordinate research in the areas of food, diet, physical activity and health, in order to achieve tangible societal and health impacts and to strengthen European leadership and competitiveness in this field. The JPI HDHL entails a voluntary partnership between Member States and Associated Countries to Horizon 2020 Framework Programme of the European Union, and provides a framework for coordinated and structured research activities, with defined priorities, to achieve these goals. The partnership is open to any third country.

The JPI HDHL vision is that, by 2030, all citizens will have the knowledge, motivation, opportunity and accessibility to choose and sustain a healthy diet from a variety of foods, and enjoy healthy levels of physical activity. The vision also expects the incidence of lifestyle-related diseases to have decreased significantly.

In this context, the JPI HDHL adopted a Strategic Research Agenda (SRA) in 2012. The SRA was subsequently updated and published as a second edition in June 2015. Further research, essential for preventing diet-related chronic diseases and increasing quality of life, is categorised in the SRA under pillar 3: Diet-related chronic diseases.

This call, the second non-cofunded action under ERA-HDHL¹, intends to fund dedicated, top-class transnational research consortia in the emerging field of nutrition and epigenetics. Research in this area is expected to provide insights that allow the development and scientific substantiation of intervention strategies for sustaining good health through all life stages and treating nutrition-related diseases. The call will support the establishment of a critical mass of expertise necessary in this research area, facilitate excellent science, and support the sharing of standards and innovative methods and research.

2. Aim of the Call

A more complete understanding of the relationships between nutrition and health is central to deliver the vision of the JPI HDHL. However, even with modern genomics research and current dietary assessment methods, it is challenging to identify the key mechanisms by which diet influences health, and to establish causal relationships and predict outcomes. Investigating the fine regulation of genes, epigenetics, could provide the missing link.

The up or down regulation of genes due to environmental influences may be responsible for differences between individuals that manifest later in life, or even in subsequent generations. Research has shown, for example, that malnutrition of the mother during pregnancy has lasting negative consequences for the health of her child, increasing the risk of cardiovascular diseases, diabetes, breast cancer and depression.

Previous research has studied epigenetic changes in early life. However, the effects of diet on epigenetic regulation, gene expression in different tissues, and subsequent metabolic health and disease are still unclear. Experts need to better understand the mechanistic pathways that link dietary interventions to those epigenetic changes that have functional/physiological consequences to the tissue and ultimately the organism.

Epigenetics is highly tissue and cell specific, and it is likely that different tissue types may respond differently to diet and dietary components. Until now, most studies have focused on clinically accessible tissues such as blood. In this call, the JPI HDHL encourages research looking at epigenetic changes in other tissues, for example, the gut and the brain, which could deliver valuable new insights.

Improved understanding of the impact of epigenetic changes across the different life stages is also required. The early life and *in utero* periods represent key critical windows for the influence of nutrition

¹ ERA-HDHL is an instrument under Horizon2020 designed to support public-public partnerships in their preparation and establishment of networking structures, design, implementation and coordination of joint activities as well as topping up of single joint calls and of actions of a transnational nature.

in determining epigenetic marks and health trajectories. However, it is also important to elucidate whether epigenetic profiles determined in early life can be reversed or modified by environmental factors (including nutrition) in later life. Furthermore, there may be epigenetic changes later in life, or in critical periods later in life, where diet plays a key role

The aim of this call is to **support transnational, collaborative research projects that gain a better understanding of the diet-epigenome relationships and their effect on human health**. This will allow the development and substantiation of intervention strategies for treating nutrition-related diseases and sustaining good health throughout the life course.

Proposals should focus on diet and epigenome, and cover one of the following areas:

- Establishing cause-and-effect relationships between diet and epigenome and metabolic health including molecular and cellular mechanisms, the reversibility of epigenetic changes and their long-term effects where feasible;
- Identifying risk factors and early stage epigenetic changes involved in the development of metabolic diseases;
- Epigenetic effects across the lifespan and inter (and potentially trans) generational epigenetic effects;
- Investigation of modifiable factors (diet, the combined effect of diet and physical activity, microbiota, etc.) that could be involved in epigenetic regulation at critical stages of life;
- The effect of diet and nutritional status on the intra-uterine environment and its subsequent effect on the fetal epigenome and later health of the child.

In addition, the follow conditions apply:

- Research consortia must be multidisciplinary, uniting epigenetic researchers, nutrition scientists and scientists from other relevant disciplines.
- Proposals should cover multiple approaches, such as:
 - Mechanistic / experimental research, focusing on the interplay between dietary factors and epigenetic changes and their functional / physiological consequences and influence on health outcomes;
 - Translational research to establish causalities and proof of concept, in order to support the development of effective health-improvement strategies.
- Proposals should **focus on human studies**; however, animal and in vitro studies can be incorporated upon justification in case of assessments that cannot be performed in humans.
- Each research consortium should involve different disciplines to achieve ambitious and innovative scientific goals. Proposals should clearly demonstrate added value from working together and unique contributions of each partner.
- Research consortia are encouraged to collaborate with the private sector, including industrial partners/collaborators, where suitable.
- Participation of early career scientist is encouraged.
- Proposals must take into account the possible impact of age, sex and gender and ethnic differences, where appropriate.
- Proposals must include a data management strategy (see chapter 7).

3. Participating countries and respective funding organisations

The following participating funding organisations have agreed to fund this call for transnational research projects:

Country	Funding Organisation	Short name	Earmarked Budget
Canada	Canadian Institutes of Health Research	CIHR	\$900,000 CAD
Czech Republic	Ministry of Education, Youth and Sports	MEYS	€ 500.000
France	French National Research Agency	ANR	€ 1.500.000
Germany	Federal Ministry of Education and Research, represented by the Project Management Agency in the German Aerospace Center	BMBF Represented by DLR	€ 2.000.000
Ireland	Health Research Board	HRB	€ 370.000
Israel	Ministry of Science, Technology and Space	MoST	€ 400.000
Latvia	Ministry of Education and Science	IZM	€300.000
The Netherlands	The Netherlands Organisation for Health Research and Development	ZonMw	€ 900.000
Poland	The National Centre for Research and Development	NCBR	€400.000
Spain	National Institute of Health Carlos III	ISCIII	€ 250.000
Spain	Research State Agency (Ministry of Economy, Industry and Competitiveness)	AEI (MINECO)	€ 400.000
UK	Medical Research Council Biotechnology and Biological Sciences Research Council	MRC BBSRC	€ 500.000 €500.000

4. Management of the call

The call will be coordinated by the **Joint Call Secretariat** (JCS); set up at the Netherlands Organisation for Health Research & Development (ZonMw). The JCS will act as the primary contact point for interested researchers and research groups for information on general issues of the Joint Action and its technical aspects. For question regarding the national regulations, please contact the national contact person (Annex 1 of the Guidelines for Applicants).

Two boards, the **Call Steering Committee** (CSC) and the **Scientific Evaluation Committee** (SEC), will manage the evaluation process of the call with the support of the JCS. SEC and CSC members will not submit or participate in proposals to this call. The process includes the evaluation of the proposals, the final selection and award of research projects.

The CSC is composed of one single representative from each national/regional funding organisation participating in this call. The CSC will supervise the progress of the call and the evaluation of proposals. The CSC will make the final funding recommendation to the national/regional funding organisations based on the final ranking list provided by the SEC. The CSC will take all decisions concerning the call procedures.

The SEC will consist of a panel of internationally recognised scientific experts responsible for the evaluation of submitted proposals. SEC members must sign a confidentiality form and a statement to confirm that they do not have any conflicts of interest. In addition to the SEC members, other additional

experts (without conflict of interest and chosen for their knowledge in specific fields covered by the proposals) might contribute to the evaluation of the proposals.

5. Application

5.1 Eligibility

In general, joint research proposals may be submitted by applicants working in universities (or other higher education institutions), non-university public research institutes, hospitals and other health care settings. Participation of private parties is encouraged as well as commercial companies, in particular small and medium-size enterprises. However, the eligibility of these organisations and institutions are subject to the national/regional regulations of the individual funding organisations and may therefore vary. Details of the national/regional eligibility criteria from individual funding organisations are provided in Annex 1 of the Guidelines for Applicants.

5.2 Consortium size

Only transnational consortia will be funded. The following conditions apply to the composition of consortia:

- Minimum of 3 partners from 3 different participating countries. These 3 partners should be eligible for funding by one of the participating organisations listed in the table below.
- No more than 2 partners can originate from the same country.
- Maximum of 6 partners (including researchers that participate as collaborators; see below the condition for collaborators).

Researchers or international organisations can participate in projects as *collaborators* in this call. The following conditions apply to collaborators:

- Clear added value for the research project. This should be demonstrated in the application.
- Secure own funding for participation with clear evidence in the proposal that this is already in place.
- The majority of the consortia members should be eligible for funding by the participating funders.

Each consortium should have the critical mass of different scientific disciplines to achieve ambitious scientific goals and the proposals should clearly demonstrate added value from working together. Each consortium must nominate a coordinator (this cannot be a collaborator). The consortium coordinator will be responsible for the scientific management of the project and will act as the interface between the JCS and the consortium. In addition, the coordinator represents the consortium externally. Each project partner (i.e. participating research group) will be represented by a single principal investigator. Within the consortium, the principal investigator of each project partner will be the contact person for the relevant funding organisation.

Please note: Inclusion of a non-eligible partner (i.e., an applicant applying for funding, although this partner cannot be funded by the funding agency in its country for administrative reasons according to country specific regulations) in a proposal may result in the rejection of the entire proposal without further review. Applicants are therefore strongly advised to contact their national/regional funding organisation and confirm eligibility before participating in an application (see country specific information in Annex 1 of the Guidelines for Applicants).

5.3 Submission of the proposal

This call uses a single submission procedure (full proposals), including a rebuttal stage. Proposals must be written in English and must be submitted to the JCS by the coordinator through the JPI HDHL electronic submitting system exclusively. The project coordinator and all principle investigators in the consortium must be registered at the Meta Data Base of the JPI HDHL (www.healthydietforahealthylife.eu) before a proposal can be submitted. In addition, it is mandatory for all applicants to complete their profile information.

Proposals must be submitted by the project coordinator before **the 12 April 2018 at 16.00 CEST**.

5.4 Further information

The call will be coordinated centrally by the Joint Call Secretariat (JCS), ZonMw.

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Adherence to specific national/regional regulations is mandatory. For applicants from some countries/regions, it might be necessary to submit additional information before the submission deadline directly to the national/regional funding organisation. Therefore, applicants are strongly advised to contact their national/regional contact officer (see Annex 1 of the Guidelines for Applicants) for more details or any questions regarding these regulations. Proposals not meeting national/regional regulations, even for one single partner, might be rejected without further review. In case you need any additional information, please contact the JCS.

6. Evaluation

6.1 Formal & eligibility check

The JCS will check the proposals to ensure that they meet the call's formal conditions (date of submission; composition of the consortium, inclusion of all necessary information in English; adherence to the proposal template). In parallel, the JCS will forward the proposals to the national/regional funding organisations for checking the compliance with their respective regulations. Proposals not meeting the formal conditions will be rejected without further review. Eligible proposals will be forwarded to the peer review process.

6.2 Evaluation proposals

6.2.1 Written review reports, evaluation criteria & scoring system

Each proposal will be allocated to at least three independent experts for written review. These evaluations include comments and scoring of the proposals based on the following evaluation criteria:

1) Excellence

- a. Scientific quality of the proposal:
 - Clarity of objectives
 - Feasibility and appropriateness of the proposed approach and methodology
 - Expected progress beyond the state-of-the-art.
 - Competence and experience of participating research partners in the field(s) of the proposal
 - Suitability of the research environment(s) (e.g. institutional infrastructure) to i) support the work proposed; ii) provide appropriate opportunities for training and career development of personnel supported on the proposal
- b. Relevance of the project regarding the topic and objectives of the call.
- c. Novelty of proposed research.
- d. Ethical and governance considerations adequately identified and addressed

2) Impact

- a. Potential of the expected results for future public health, other socio economic health relevant applications.
- b. Added value of transnational collaboration on both scientific and transnational level: Sharing of resources (biological material, databases, etc.), harmonization of data, sharing of specific know-how and/or innovative technologies, etc.
- c. Effectiveness of the proposed measures to exploit and disseminate the project results (including management of IPR), to communicate the project, and to manage research data where relevant.

3) Quality and efficiency of the implementation

- a. Coherence and effectiveness of the work plan (including appropriateness of the allocation of tasks, resources and time frame).
- b. Complementarity of the participants in the consortium.
- c. Appropriateness of the management structures and procedures, including risk and innovation management.
- d. Budget and cost-effectiveness of the project (appropriate distribution of resources in relation to project activities, partners' responsibilities and time frame).
- e. Feasibility of proposal, experience of applicants and likelihood of successful completion of proposed research.

Scoring system

5 = Excellent. The proposal successfully addresses all aspects of the criterion in question.

4 = Very good. The proposal addresses the criterion very well, but small improvements are possible.

3 = Good. The proposal addresses the criterion in question well but certain improvements are necessary

2 = Fair. The proposal generally addresses the criterion, but there are significant weaknesses that need corrections.

1 = Poor. The proposal shows serious weaknesses in relation to the criterion in question.

0 = Failure. The proposal fails to address the criterion in question, or cannot be judged because of missing or incomplete information.

Evaluation scores will be awarded for the three main criteria, and not singularly for the different aspects listed below the criteria. Each criterion will be scored out of five. The threshold for individual criteria will be three. The maximum score that can be reached from all three criteria together is 15 points.

6.2.2 Rebuttal stage

Prior to the assessment of the SEC, each project coordinator will have the opportunity to see and respond to the comments of the reviewers. Issues that are not related with reviewers' comments cannot be addressed and the work plan cannot be modified at this stage. (Please note that the reviewers will remain anonymous).

Reviewers' comments will be sent to applicants on 1st June and applicants will have up to 10 days for this **optional** response to the reviewers' comments, for which the submission deadline is the 11th June.

6.2.3 SEC meeting

The JCS will send the proposals, written reviews and rebuttals to the SEC members. The SEC will meet to discuss each proposal and, after consideration of the evaluation criteria, written reviews, rebuttals and their own discussions, the SEC will make a funding recommendation of the proposals and rank proposals recommended for funding. The final summary review report prepared by the SEC members will be sent to all applicants.

6.3 Decision

Based on the ranking list established by the SEC and on the available funding, the CSC will recommend to the national/regional funding organisations the projects to be funded. The final funding decision will be made by the national/regional funding organisations and will be subject to budgetary considerations with the goal of optimal usage of the available budget.

The JCS will communicate to all project coordinators the final decisions together with the review from the SEC.

7. Pilot study FAIR data (mandatory for applicants)

JPI HDHL adopted the FAIR data Principles and agreed that all new funded research by the JPI HDHL should apply these principles. To implement the FAIR data principles in the JPI HDHL projects, JPI HDHL will perform a pilot study in the Nutrition & the Epigenome call. The aim of this pilot study is to evaluate and improve the implementation of a data management strategy in projects. The pilot study is divided into two phases:

Application phase:

Researchers applying to the Nutrition & the Epigenome call must complete a **data management strategy** in their application (mandatory for all applicants).

A group of data management experts will evaluate this strategy. All project coordinators will receive feedback on their data management strategy. *The evaluation of the data management strategy is not part of the proposal evaluation.*

Monitoring phase

Funded research projects must update their data management strategy annually, and submit it to the JCS together with the progress report. Data management experts will evaluate the updated data management strategies. Project coordinators will receive feedback on their updated data management strategies.

Information on FAIR data and data management

JPI HDHL drafted a [FAIR Data Guideline](#) to support researchers. This guideline includes a Data Management Plan template, which can be used for drafting the data management strategy (it is not mandatory to use this guideline).

More information about FAIR data Principles:

- [EOSC declaration](#) (European Open Science Cloud declaration)
- [ELIXR Position paper FAIR data management](#)
- [FORCE11](#)
- [Fair data principles](#)

For more advices regarding FAIR data or the pilot study, please contact the call secretariat (ZonMw) or your national contact point (see Annex 1 of the Guidelines for Applicants).

8. Funding procedure

8.1 Financial modalities

Projects can be funded for a period of up to three years. Each country/region funding organisation funds only its national/regional component of the transnational research project. The eligibility of costs (e.g., personnel, material, consumables, equipment, and travel expenses) is subject to the national/regional regulations of the individual funding organisations and may therefore vary. Each partner is responsible for providing financial reports to its national funding organisation. Prior to submitting a proposal, applicants should verify their eligibility and financial support and are advised to contact their national/regional contact person (see Annex 1 of the Guidelines for Applicants) for national/regional contact details).

8.2 Legal modalities

Consortium Agreement (CA) Successful consortia should start to negotiate a consortium agreement before the commencement of the project. The consortia agreement should be signed within the first 6 months of the project. It is recommended that the CA specifies at least the following issues: the governance structure, the decision making processes, the collective responsibilities and the

management arrangements including specific arrangements on intellectual property rights (IPR), scientific reporting and monitoring, open access and sharing data/knowledge and resources as well as actions to be taken in the event of unsatisfactory performance by one or more partners. Guidance and model consortium agreements can be found at the [European IPR Helpdesk](#) and [DESCA](#) websites which may support drafting the CA. However, please note that the respective documents were developed for activities funded by the European Commission which differ from funding measures within JPI HDHL. Within JPI HDHL national rules have to be taken into account. There is a shared responsibility between all network members for the progress of the project.

Upon request, the CA must be made available to the concerned funding organisations.

Intellectual property rights, open access and data/knowledge sharing. Ownership and transfer of newly developed intellectual property, as well as access to existing intellectual property are a core part of project success and contribution to society and therefore, should be properly managed from the beginning of the project. Any particular protection and exploitation strategy should be agreed upon before the research activities start, and arrangements need to comply with the relevant national and/or European legislation (please refer to Annex 1 of the Guidelines for Applicants for national requirements). More information can be found in the [Quick guide for dissemination](#) of the JPI research projects results.

9. Responsibilities and reporting requirements

9.1 Progress report

The project coordinator is required to submit an annual scientific progress report on behalf of the consortium to the JCS in November of each year, detailing how the project is progressing in relation to planned objectives. Furthermore, a final scientific report should be sent to the JCS within a period of three months after the project ends. National funding organisations may also request annual progress reports and a final report on the project from the different partners from their respective country.

In addition, the coordinators of each consortium may be asked to present two progress updates, one intermediate and one final status symposium. An appropriate travel budget should be included and justified in the financial plan for the proposal.

9.2 Communication

The project coordinator will represent the consortium externally and will be responsible for all communication with the JPI HDHL. For the effective contribution of the project to the objectives of the JPI HDHL, the project coordinator should be available to participate in meetings/workshops with the aim of:

- Exchanging project results.
- Developing a joint strategy to coordinate and facilitate integration of the planned activities of the JPI HDHL.
- Communicating results across the JPI HDHL.

Utilisation of knowledge

In order to enhance visibility of the JPI HDHL, the consortium should adhere to the following JPI HDHL dissemination guidelines:

- Appropriate measures should be taken to engage with the public and the media about the project.
- The JPI HDHL should be referred to appropriately in reports, articles or any other documents as part of the JPI HDHL supported project as well the respective national/regional funding partner organisations. When referencing the JPI HDHL for the first time, please use “European Joint Programming Initiative “A Healthy Diet for a Healthy Life” (JPI HDHL)” and not JPI HDHL only. Please also include a link to the JPI HDHL website: <http://www.healthydietforhealthylife.eu/>;
- The JPI HDHL should be acknowledged appropriately in reports, articles or any other documents as part of the JPI HDHL supported project. The acknowledgement should address the support provided to the project by JPI HDHL and the appropriate national funding organisations.

- The JPI HDHL should be referred to and acknowledged appropriately in any promotional material including event programmes, invitations, press releases, reports, presentations and external websites.
- Whenever possible and useful, the JPI HDHL logo should be used.

The JPI HDHL supports an open access policy. Therefore, funded researchers should consider open access publication of their results. Due consideration should be given to consistency with similar policies that are already in place at national level.

10. Ethical issues

Research supported by the JPI HDHL must respect fundamental ethical principles. Applicants must ensure that the proposed research respects all national rules and procedures for legal compliance. It is the responsibility of the applicant to identify if their proposed research requires ethical approval. Where ethical approval is required, applicants must inform their national funding organisation and applicants may be requested to provide further detail. Ethical approval must be obtained from the relevant national or local ethics committee prior to the start of the project.

11. Confidentiality

The JCS takes all reasonable steps to ensure that information provided in the application is treated as confidential.

12. Time schedule

When	What
6 February 2018	Publication of the call
12 April 2018	Submission deadline proposals
1 June 2018	Send reviewers comment to applicants
11 June 2018	Deadline submission rebuttal letter
2 -3 July 2018	SEC & CSC meeting to discuss proposals
20 September 2018	Final funding decision
October 2018- March 2019	Start projects