### HR Excellence in Research

# GAP Analysis (Charter and Code Checklist)

## **GAP Analysis (Charter and Code Checklist)**

Case number

2024HR200300

Name Organisation under review

University of Zagreb, School of Medicine

Organisation's contact details

Šalata 3, Zagreb, Croatia, 10000, Croatia

Date endorsement charter and code

06/03/2024

**GAP Analysis overview** 

The Charter and Code provides the basis for the Gap analysis. In order to aid cohesion, the GAP Analysis principles have been renumbered under the following headings. Please provide the outcome of your organisation's GAP analysis below. If your organisation currently does not fully meet the criteria, please list whether national or organisational legislation may be limiting the Charter's implementation, initiatives that have already been taken to improve the situation or new proposals that could remedy the current situation. In order to help the organisation's recruitment strategy, a specific self-assessment checklist is provided for Open, Transparent and Merit-Based Recruitment.

### European Charter for Researchers and Code of Conduct for the Recruitment of Researchers : GAP analysis overview

- Status: to what extent does this organisation meet the following principles?
- Implementation (++ , +/- , -/+, --) :
  - ++ fully implemented
  - +/- almost but not fully implemented
  - -/+ partially implemented
  - - insufficiently implemented
- GAP : In case of --, -/+, or +/-, please indicate the actual "gap" between the principle and the current practice in your organisation.
- **Implementation impediments**: If relevant, please list any national/regional legislation or organisational regulation currently impeding implementation.
- Initiatives undertaken/new proposals: If relevant, please list any initiatives that have already been taken to improve the situation and/or new proposals that could remedy the current situation.

#### **Status**

### **Ethical and Professional Aspects**

### 1. Research freedom

mplementation	GAP / Implementation impediments	Initiatives undertaken/new proposals
+ fully implemented	The Republic of Croatia adopted in October 2022 a new Act on Higher Education and Scientific Activity. The Act emphasizes the protection and promotion of academic and research freedom, ensuring that scientific inquiry and higher education activities are conducted independently, free from external interference, while upholding ethical and professional standards. Additionally, The School of Medicine supports academic integrity and freedom in accordance with the Code of Ethics of the University of Zagreb, which defines the fundamental principles of morally justified and morally unacceptable behavior at the University and ethical rules in the educational and scientificartistic process.	
Ethical principles		
nplementation	GAP / Implementation impediments	Initiatives undertaken/new proposals
+ fully implemented	The Act on Higher Education and Scientific Activity underscores the importance of ethical principles in higher education and scientific research, mandating adherence to integrity, transparency, accountability, and respect for academic and scientific standards, while fostering socially responsible and sustainable practices. To empower and promote ethical principles, academic integrity, and practices of responsible conduct in science, the School established an Ethics Committee (modelled after the Institutional Review Board of most American and European	

Academic Integrity Committee, and the Working Group for Biomedical Research. The activities of the Ethics Committee are defined by the Regulations on the Ethical Committee and Policy on Academic Integrity.

### 3. Professional responsibility

Implementation	GAP / Implementation impediments	Initiatives undertaken/new proposals
+/- almost but not fully i	Based on the Statute of the School of Medicine, the General Rules of Conducting Scientific, Professional, and Teaching Work were adopted, which stipulate, among other things, that the School expects all its members to conduct their scientific and teaching activities following the highest standards of ethics, truthfulness, and accuracy, and also outline the basic principles of conflict of duty and conflict of interest. The Rules of Procedure in Cases of Allegation of Scientific Misconduct and Fraud in Science have been adopted that provide a detailed description of the procedure in case of suspicion and reporting of scientific misconduct. If necessary, the Academic Integrity Committee conducts an official investigation upon the dean's request.	General rules are from 2007. and need to be revised.
. Professional attitude		
Implementation	GAP / Implementation impediments	Initiatives undertaken/new proposals
++ fully implemented	The Rules of Good Academic Practice in Scientific Work have been adopted, pointing out the principles and good academic practice with which the School strives to ensure the highest possible standards when conducting biomedical research. Considering the complexity and diversity of academic activities that prevent them from being fully regulated by rules, these rules of good academic practice provide researchers with a framework of action and general indicators of expected standards.	

#### 5. Contractual and legal obligations

### Initiatives undertaken/new **Implementation GAP / Implementation impediments** proposals All researchers at the School sign agreements that clearly define their tasks, rights, and obligations, including aspects related to intellectual property, obligations towards sponsors and financiers, and other relevant provisions. The agreements also include conditions related to achieving the required results, such as scientific publications, patent applications, product development, or other deliverables, in accordance with the agreed-upon rules. The School provides continuous technical and professional support to researchers through its specialized services, such as the Department for Science, Knowledge Transfer, and Innovation, the Office for International Cooperation, the Office for Publishing Activities, and the Department for Legal, Personnel, and General Affairs. These services offer ++ fully implemented advice on funding rules, intellectual property, and compliance with contractual conditions, ensuring adherence to regulations and minimizing the risk of non-compliance. The School provides researchers with easy access to national and sectoral regulations, as well as internal institutional documents that govern research activities, through its official website. These documents include: Intellectual Property Management Regulations Project Application Form General Rules of Conducting Scientific, Professional, and Teaching Work Rules of Good Academic Practice in Scientific Work Rules of Good Academic Practice in Writing, Reviewing, and Publishing Scientific and Professional **Publications**

#### 6. Accountability

#### Implementation

#### **GAP / Implementation impediments**

Initiatives undertaken/new proposals

++ fully implemented

The General Rules of Conducting Scientific, Professional, and Teaching Work outlines key accountability principles for researchers, emphasizing transparency, ethical conduct, and responsible financial management. It mandates that all research-related documentation, especially for publicly funded projects, be preserved for at least three years after the final financial report submission, ensuring financial accountability and traceability. Additionally, it requires that research funds be allocated based on peer-reviewed excellence, explicitly prohibiting lobbying or undue influence in funding decisions. To promote transparency, the document forbids classified or confidential research that would restrict public access to findings and mandates that all research data—regardless of funding source—be properly stored and made available to authorized personnel upon request. Furthermore, researchers are required to cooperate fully with academic misconduct investigations, including providing necessary documentation when requested. The document also enforces strict internal review processes, requiring that research proposals undergo institutional approval before submission to funding bodies. This ensures compliance with ethical guidelines, institutional policies, and national regulations. Overall, the guidelines establish a framework for responsible research practices, reinforcing integrity, openness, and financial diligence.

### 7. Good practice in research

Implementation	GAP / Implementation impediments	Initiatives undertaken/new proposals
+/- almost but not fully i	The General Rules of Conducting Scientific, Professional, and Teaching Work aligns with this principle by emphasizing compliance with national legislation, institutional safety regulations, and ethical research practices. It highlights the importance of safe working conditions, adherence to data protection laws, and maintaining confidentiality in research. As well the Rules of Good Academic Practice in Scientific Work emphasizes the responsibility of research team leaders for workplace health and safety in laboratories. It provides guidelines on adhering to legal and institutional rules for research involving humans, animals, hazardous materials, and data management. Researchers are responsible for proper data collection, storage, and sharing, with clearly defined rules for long-term archiving of research results.	Initiatives that will be undertaken to ensure that all research data is securely stored on institutional servers complying with data protection regulations and long-term archiving policies. Researchers will be required to follow standardized procedures for data collection, storage, and sharing, ensuring accessibility while maintaining confidentiality. Additionally, training programs will be implemented to educate research teams on ethical data management, safety protocols, and compliance with institutional and legal guidelines.

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8. Dissemination, exploitation of results

#### **Implementation**

#### **GAP / Implementation impediments**

Initiatives undertaken/new proposals

+/- almost but not fully i...

The University of Zagreb School of Medicine consistently achieves excellent results in terms of publication in scientific journals. In the Scopus database, an average of around 1,200 papers authored by individuals affiliated with the School are indexed annually over the past 5 years. Among the 5,941 papers published from 2020 to 2024, more than 70% are original research papers, with two-thirds of them published in open access. Almost half of the papers are the result of international collaboration with over 150 countries. The total corpus of all papers from the establishment of the School of Medicine in the Scopus database (approximately 22,750) has gathered nearly 400,000 citations over the years. The scientific relevance and impact are also reflected in the more recent papers (2020-2024), which, by early 2025, have already accumulated more than 65,000 citations. The international impact of the School's scientific production is further evidenced by the fact that its members are regularly featured on the lists of the world's top 2% most influential scientists (the so-called Stanford list), both in the annual calculation (20 members in 2023) and in their lifetime career (15 members in the same year). Equally successful results are recorded in the exclusive databases WoS Science Citation Index Expanded (SCI-EXPANDED) and Social Sciences Citation Index (SSCI). Over the past 5 years, an average of around 750 papers authored by individuals affiliated with the School of Medicine have been indexed annually. About two-thirds of these papers are published in journals ranked in the first and second quartiles (JCR Q1 and Q2) of the relevant subject area, two-thirds are in open access, and approximately half are the result of international collaboration. The School has institutional repository (https://repozitorij.mef.unizg.hr/) with nearly 9,000 publicly available publications (including master's and doctoral theses). The repository has won an award for promoting open access. It is interoperable, complies with international standards, and can be searched even through independent search engines (e.g., Google). The School has developed an efficient system to support research and the transfer of knowledge and technology but it is evident that this area of activity has significant potential for improvement, especially with the establishment of an efficient Office for Technology Transfer. This will be based on the results and deliverables of the Horizon 2020 project Alliance4Life ACTIONS: https://alliance4life.com/media/3803644/d42 guidelines-to-address-technology-transferissues 964997.pdf. Therefore, it is listed as one of the priority goals in our Strategy for the Development of Science, Research, and Information Infrastructure, Technology Transfer Activities, and International Scientific Cooperation for the period 2023 -2028. The School already has a dedicated Department of Science, Knowledge Transfer and Innovation as well as Regulations for Intellectual Property Management. Additionally, the School collaborates closely with the Centre for Research, Development and Technology Transfer (CIRTT) at the University of Zagreb. School of Medicine publishes "Croatian Medical Journal" (CMJ), an international peer-reviewed Diamond Open Access journal published six times per year. Also, School publishes student scientific peer-reviewed journal "Gyrus" twice per year. In addition, School publishes two journals, mef.hr and "Medicinar", each twice per year in which newest activities in all areas are promoted. UZSM was also active within the Allianc4Life project relevant activities:

Initiative will be undertaken in order to strengthen activities within the TTO.

#### Status

Implementation	GAP / Implementation impediments	Initiatives undertaken/new proposals
	https://alliance4life.com/about-us/declaration https://alliance4life.com/media/3803074/d21_excellence-map-in-cee_public_964997_v2-1.pdf	

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9. Public engagement

Initiatives undertaken/new proposals

#### **Implementation**

#### **GAP / Implementation impediments**

++ fully implemented

The School strongly advocates and encourages collaboration with civil society organisations to ensure a holistic approach to community health challenges. In The Development Strategy of the Zagreb School of Medicine part 4.3.2. is dedicated to the Contribution to the Local and International Community and defines series of goals and activities to enhance this important subject. Partnerships with the NGO sector provide a better understanding and address the real needs of citizens, strengthening capacities for preventive and interventional actions. Through joint initiatives and projects, the School and civil society organisations contribute to the creation of health policies based on evidence and the real experiences of citizens. The School's Central Medical Library actively participates in the event Book Night with tailored thematic programmes, aiming to popularise reading and the written word to general population. School's activities are regularly published on the official website and social media channels. The website is available in Croatian (https://mef.unizg.hr/) and English (https://mef.unizg.hr/en/), and official communication is also conducted via the website of the Medical Studies in English program – MSE (https://mse.mef.unizg.hr/), the Central Medical Library (https://smk.mef.unizg.hr/), and the Andrija Štampar School of Public Health (https://www.snz.unizg.hr/). Certain postgraduate programs also have their own websites, such as Management in Health Services - LMHS (https://lmhs.snz.hr/) Communication via social media includes the following platforms: Facebook - available in Croatian and English (https://www.facebook.com/MedicinskifakultetZagreb,

https://www.facebook.com/MedicineSchoolZagreb/) Instagram - available in Croatian and English (https://www.instagram.com/mef\_zagreb/, https://www.instagram.com/mse\_zagreb/) LinkedIn - available in Croatian and English (https://www.linkedin.com/company/mef, https://www.linkedin.com/school/school-of-medicine-universityof-zagreb) The School of Medicine has its own YouTube channel used to share recordings of events, announcements, advertisements, and general content. It is also used for online streaming of conferences and other events: https://www.youtube.com/@mefzq1959. Internal communication is enhanced through the Intranet and a monthly enewsletter, which highlights the achievements of our scientists and researchers, informs employees about upcoming activities, and provides retrospectives on significant events. Research presentations and the dissemination of results are conducted through School events in the form of public lectures, conferences, memorials (e.g., Perović-Krmpotić Memorial, Fran Bubanović Day, etc.), as well as various initiatives and anniversaries (e.g., Red Dress Day, Movember, etc.) and other manifestation engaging general public like Brain Awareness Week and Science festival where numerous lectures and workshops are held. The School's Medbuster project addressing controversial health myths and misconceptions providing clear, scientifically-backed explanations through public lectures, interviews, and presentations, without engaging in polemics. The School actively supports the efforts of 37 student associations and sections of the University of Zagreb School of Medicine, which organize more than 400 events each year. These include workshops, lectures, humanitarian initiatives, and public health campaigns that engage the wider community. Notable examples include "Hospital for Teddy Bears", "162 Steps", "Christmas for 5" and many more. Through the

Implementation	GAP / Implementation impediments	Initiatives undertaken/new proposals
	School's website, social media channels, and Intranet, more than 500 current (in-time) topics related to the School's activities—its employees (researchers, scientists, educators, administrative staff), students, and collaborators—are communicated annually on average. Each post garners approximately 5,000 views. The visibility of these posts is further enhanced by high-quality collaboration with the University of Zagreb, which frequently shares them through its own communication channels: https://www.unizg.hr/, Akademski.hr, Akademski list, Universitas portal, as well as public online media and portals.	

#### 10. Non discrimination

#### Implementation

### **GAP / Implementation impediments**

Initiatives undertaken/new proposals

++ fully implemented

Work Regulations of the School of Medicine prohibit all forms of discrimination based on personal characteristics such as race or ethnic origin, skin colour, gender, language, religion, political or other beliefs, national or social origin, property status, trade union membership, social position, marital or family status, age, health condition, disability, genetic heritage, gender identity, expression, or sexual orientation. Discrimination is not allowed in any aspect of employment, including hiring, promotions, or education, and any discriminatory behaviour may lead to dismissal. Complaints can be filed with the Dean, labour inspectorate, ombudsman, or court. Personal data is collected only when necessary for work and processed with employee consent or as required by law, with detailed rules set out in a separate regulation. To preserve an environment that ensures any irregularities will be reported appropriately, while maintaining the whistleblower's anonymity towards the perpetrator, in accordance with the Act on the Protection of Persons Reporting Irregularities, the Regulations on the Procedure for Internal Reporting of Irregularities and the Appointment of a Confidential Person have been adopted. Consequently, a confidential person (Decision on the Appointment of a Confidential Person for Internal Reporting of Irregularities) and their deputy (Decision on the Appointment of a Deputy Confidential Person for Internal Reporting of Irregularities) have been appointed. Subsequent to the aforementioned documents, the Disciplinary Measures Policy of School Associates and Students was also adopted, which defines breaches of work and other duties, gross violation of the School's reputation committed by teachers and associates as well as students of the School, the penalties to be imposed, and the procedure and competencies of the Disciplinary Committee for conducting the disciplinary proceedings and imposing sanctions.

### 11. Evaluation/ appraisal systems

Implementation	GAP / Implementation impediments	Initiatives undertaken/new proposals
+/- almost but not fully i	Teacher recruitment and evaluation procedures arise from the development goals of the higher education institution and they are aligned with the legislation and internal regulations in effect. In selecting, appointing and evaluating teachers, School of Medicine takes into account their previous activities (teaching activity, research activity, feedback from students, etc). Promotion of teachers into higher grades is based on the evaluation and rewarding of excellence and the School of Medicine takes into account important achievements (such as international contribution to the scientific discipline, high-impact publications, significant scientific discoveries, successful projects, success in securing additional funds, supervision of final and graduation theses, authorship of textbooks / study materials, popular lectures, etc.). Indicators of excellence include scientific/artistic, teaching and professional work and contribution to the development of the higher education institution. Additional evaluation criteria for the promotion of teachers into higher grades reflect the strategic goals of the School of Medicine.	Newly initiated CDO will provide the activities for better evaluation within individual career developments.

Recruitment and Selection - please be aware that the items listed here correspond with the Charter and Code. In addition, your organisation also needs to complete the checklist on Open, Transparent and Merit-based Recruitment included in a separate section, which focuses on the operationalization of these principles.

#### 12. Recruitment

### **Initiatives** undertaken/new **Implementation GAP / Implementation impediments** proposals School of Medicine has adequate methods for the selection of the best candidates for each position and, in addition to the prescribed national minimum conditions for each position, it has prescribed competitive criteria ensuring the selection of excellent candidates. These conditions include significantly higher quantitative criteria for the number of publications required for promotion to higher positions, which are nearly three times higher than the minimum requirements. An additional mandatory condition for selection to the position of full professor with tenure is mentoring in the preparation of two dissertations or project leadership. Participation, especially as the leader of national and international scientific projects, involvement in international collaborative studies, publication in leading journals and Initiative through +/- almost but not fully i... establishing CDO. organization of international conferences are also valued. In terms of teaching, the writing and editing of textbooks, the introduction of new teaching methods and content, the activity of applicant in the establishing and organization (through personal engagement) of new training centers and classrooms for practical classes, the establishment and operationalization of new study program, departments, centers or schools are encouraged. Recent HR survey of the HR Career and development task within the Alliance 4Life project shows dissatisfaction of UZSM employees with recruitment processes https://mef.unizg.hr/alliance4life bridge-upitnik-o-upravljanju-ljudskim-resursima/ https://mef.unizg.hr/objavljeno-je-izvjesce-o-samo-procjeni-institucija-ukljucenih-u-alliance4life-projekt/

### 13. Recruitment (Code)

Implementation	GAP / Implementation impediments	Initiatives undertaken/new proposals
++ fully implemented	The procedure for hiring and promoting teachers at the School is carried out in accordance with the Labour Act (Official Gazette 93/14, 127/17, 98/19, 151/22, 64/23), the Basic Collective Agreement for Civil Servants and Employees in Public Services (Official Gazette 128/17, 56/2022), the Act on Scientific Activity and Higher Education (Official Gazette 123/03, 198/03, 105/04, 174/04, 2/07, 46/07, 45/09, 63/11, 94/13, 139/13, 101/14, 60/15, 131/17), the Act on Higher Education and Scientific Activity (Official Gazette 119/22), the Collective Agreement for Science and Higher Education (NN 9/2019, 122/2019, 52/2020), the Statute of the University of Zagreb, the Statute of the University of Zagreb School of Medicine, the Ordinance on the Conditions for Appointment to Scientific Titles (Official Gazette 28/17, 72/2019, 21/2021, 111/2022, 119/2022), the Decision on the Necessary Evaluation Criteria of Teaching and Scientific-Professional Activities in the Procedure for Appointment to Scientific-Teaching Titles (Official Gazette 122/17, 120/21, 119/2022)	

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14. Selection (Code)

Implementation	GAP / Implementation impediments	Initiatives undertaken/new proposals
+/- almost but not fully i	The requirements for the selection committee will be formulated defining the composition of the committee, which should include members with relevant experience in assessment of the candidates. It is planed that members of selection committees will be adequately trained. Various selection practices will be introduced with	Improvements will be made based on our work in the Alliance4Life-Sciences_ACTIONS H2020 project, a bottom-up initiative of twelve leading life science institutions from eleven EU countries, where UZSM is a partner institution. In the selection process we will follow the best practices presented in the HR area: "Recruitment: increase in both quantity and quality of applicants" organized within the A4L Focus group "Human Resources & mobility", https://alliance4life.com/media/3802438/d31_best_practices_in_career_systems_in_life_science_research_964997.pdf https://alliance4life.com/media/3803129/a4Lactions_d33_advances_in_career_system_upgrades_964997.pdf
	an emphasis on face-to-face interviews. Structured	
	instructions for interviews will be created. All	

the necessary

### Status

Implementation	GAP / Implementation impediments	Initiatives undertaken/new proposals	
	information will		
	be provided to		
	assure that all		
	employees will		
	be informed		
	about the		
	selection process,		
	relevant		
	institutional and		
	national acts.		
5. Transparency (Code)			
			Initiatives undertaken/new
Implementation	GAP / Implementa	ation impediments	proposals
	·	elines that mandate the clear communication of selection criteria and decisions at all	
++ fully implemented		, and monitored adherence to these guidelines across all departments (Statute of the	
	University of Zagre	b, the Statute of the University of Zagreb School of Medicine).	

### Status

### 16. Judging merit (Code)

Implementation	GAP / Implementation impediments	Initiatives undertaken/new proposals
+/- almost but not fully i	The evaluation process primarily relies on bibliometric indicators, while qualitative aspects such as mentoring, teaching, and industry collaboration are considered but not formally weighted in career progression. The current evaluation system emphasizes bibliometric measures, and qualitative contributions such as teaching excellence, mentorship, and interdisciplinary research are not systematically considered.	A revised evaluation framework will be introduced, incorporating structured criteria for mentoring, teaching excellence, and research collaboration, ensuring alignment with best European practices.

### 17. Variations in the chronological order of CVs (Code)

Implementation	GAP / Implementation impediments	Initiatives undertaken/new proposals
+/- almost but not fully i	Career breaks are recognized, and researchers can take study leaves or unpaid leave for professional development. The institution supports mobility, and members of School of Medicine are encouraged to participate in training abroad with financial assistance No formal institutional guidelines guarantee that career breaks will not negatively impact recruitment or promotions. Some candidates perceive career interruptions as disadvantages.	The institution will establish explicit policies ensuring career breaks are acknowledged as part of a researcher's professional journey, promoting a fair assessment of candidates with non-linear career paths.

### 18. Recognition of mobility experience (Code)

Implementation	GAP / Implementation impediments	Initiatives undertaken/new proposals
-/+ partially implemented	The institution supports researcher mobility through paid and unpaid study leave for professional development. members of School of Medicine participating in international training receive salary support, and part of their travel expenses are covered. The School also encourages engagement in Erasmus+ projects and international research collaboration. Mobility is encouraged and financially supported but is not systematically documented or explicitly factored into career progression criteria.	A structured mechanism will be developed to formally track and recognize mobility experience in hiring and promotion decisions. International research stays will be integrated as a key component in career evaluations.

### 19. Recognition of qualifications (Code)

Implementation	GAP / Implementation impediments	Initiatives undertaken/new proposals
+/- almost but not fully i	Foreign qualifications are recognized in compliance with national legislation, with the University of Zagreb responsible for the evaluation process. There are no restrictions in recognizing international degrees, and foreign researchers can apply for positions, provided they meet language requirements. Occasional delays in processing international qualification recognition due to administrative procedures.	No immediate actions required. The institution will continue to streamline administrative processes and improve efficiency in recognizing international diplomas.

### 20. Seniority (Code)

Implementation	GAP / Implementation impediments	Initiatives undertaken/new proposals
+/- almost but not fully i	The selection and promotion of researchers follow predefined, above mentioned, national and university regulations. Seniority is a factor but is not the sole criterion for career progression. Evaluations include teaching performance, student feedback, and mentorship activities. Seniority-based promotion remains influential in some areas, potentially limiting opportunities for younger researchers with strong competencies. Seniority-based promotion remains influential in some areas, potentially limiting opportunities for younger researchers with strong competencies.	The institution is reviewing its policies to emphasize merit-based evaluation over tenure, ensuring that younger researchers with strong credentials have equal opportunities for advancement.

### 21. Postdoctoral appointments (Code)

Implementation	GAP / Implementation impediments	Initiatives undertaken/new proposals
+/- almost but not fully i	Postdoctoral researchers (Senior Assistants) are appointed for four-year terms. After this period, subject to university and ministerial approval, they may apply for Assistant Professor positions. No legal barriers exist, but structured career transition support is lacking. There is no structured institutional support or career development program for postdoctoral researchers transitioning to permanent positions. There is no structured institutional support or career development program for postdoctoral researchers transitioning to permanent positions.	A formal career development framework will be introduced, including mentorship programs, structured transition pathways, and tailored professional development plans for postdocs.

### **Working Conditions and Social Security**

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22. Recognition of the profession

#### Initiatives undertaken/new proposals

accreditation processes, increase administrative efficiency and align educational programs with

international standards.

UZSM plans to engage in better recognition of researchers as professionals on all levels of their careers. Particular attention will be paid to the recognition of researchers -clinicians in their position in the university hospitals and other affiliated health care institution. We plan to elaborate the recommendations on the relation of professional research and teaching positions in the academic health care environment formulated in the document "White paper on combining research, teaching and/or medical practice", a deliverable from the Alliance4Life\_ACTIONS H2020 project,

https://alliance4life.com/media/3803118/a4l\_actions\_d32\_white-paper-oncombining-research-teaching-and-or-medical-practice 29-05-1.pdf https://mef.unizg.hr/app/uploads/arhiva/Alliance4Life-White-Paper.pdf

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23. Research environment

#### **Implementation**

#### GAP / Implementation impediments

+/- almost but not fully i...

The University of Zagreb (UniZg) School of Medicine stands as a leading institution in Croatia's medical research landscape with strong collaboration networks. Research at the School of Medicine is diverse and influential, with key areas focusing on reproductive medicine, regenerative medicine, bone morphogenetic proteins, neuroscience, neuroanatomy, hematological malignancies, congenital metabolic diseases, clinical endocrinology and diabetes. Despite challenges, such as limited national funding and collaboration barriers with the economic sector School of Medicine has taken proactive steps to enhance the research environment by establishing two Scientific Centers of Excellence: Scientific Centre of Excellence for Reproductive and Regenerative Medicine (https://mef.unizg.hr ) which was established to provide necessary resources for conducting the state-of-the-art basic research in the field and to foster translation and development in diagnostic and therapeutic solutions to clinical practice. Second one is the Scientific Centre of Excellence for Basic, Clinical, and Translational Neuroscience (http://zci.hiim.hr/index.php/en-us ). The neuroscience has been designated as one of research priorities in Croatian national smart specialization strategy, as well as in research strategies of School of Medicine and University of Zagreb. Main goal is to bridge the gap between basic and clinical neuroscience by introducing new translational approaches, and thus directly contribute to health system improvements related to neurodevelopmental, neurological, cognitive and mental disorders. The status of the Scientific Centre of Excellence was awarded for five years (2018-2023) and Centers are currently undergoing the tendering process to secure continued funding. With a significant contribution to national scientific output, the School of Medicine UniZg consistently authors approximately 20% of all Croatian research publications and 40% of all Croatian

#### Initiatives undertaken/new proposals

At the beginning of the 2023, the development of the Biomedical Research Center Šalata – BIMIS was presented, as a platform for the implementation of proposals for new European initiatives in accordance with the results of the Alliance4Life ACTIONS project. Objectives of the event were presented by representatives of higher educational institutions, research institutions, relevant governmental institutions, and decision-makers. Construction is planned to be completed in the first half of 2026. BIMIS is designed to increase capacities and mutually integrate scientific and research activities whose services will be available to all interested scientists, which aim to improve the scientific activities of not only the School of medicine UniZq but also the entire Croatian scientific community. BIMIS is denoted as a joint project in which our young scientists will have modern working conditions in terms of space and technology, which will enable them to be up-to-date, in all aspects, of relevant and recent scientific achievements. The concept and management of the Alliance4Life project will contribute to the adoption of work methods and organizational reforms foreseen by the BIMIS project. (University of Zagreb School of Medicine hosted the Alliance4Life Trigger Event in Zagreb | Alliance4Life). The BIMIS (https://mef.unizg.hr/bimisbiomedicinsko-istrazivacko-srediste-salata-financirano-915-milijuna-kuna/: https://www.proarh.hr/en/projekti/bimis) is currently expecting call for the infrastructure project for the renovation/demolition of the building and its furnishing. All necessary building permits have been obtained, but start date of the infrastructure project is impossible to determine. Another initiative which is starting to develop is the Alliance4Life Virtual Research Center (VRC), meant as a collaborative platform for scientists and researchers from partner institutions to exchange knowledge, initiate joint projects, and develop new research directions. The VRC provides structured opportunities for cross-institutional collaboration, skill-building, and resource sharing within the life sciences community. VRC is structured into specialized Virtual Departments, serving as hubs for collaboration, organizing scientific activities, funding opportunities, and research initiatives. Current virtual departments are Neurobiology, Cardiovascular Disease, Metabolism and Endocrinology of Skeletal

### Status

Implementation	GAP / Implementation impediments	Initiatives undertaken/new proposals	
	medical research publications, according to the SCOPUS database. Additionally, in collaboration with the Rijeka and Split Schools of Medicine, co-owns the Croatian Medical Journal, an international peer-reviewed journal with an impact factor of 1.247. The network established through mentioned centers spans widely from basic research to University Hospitals, with the goal of achieving state-of-the-art research infrastructure, core facilities with collaborative efforts in domestic and international collaboration, career development and participation in international alliances envisioned to build a dynamic and collaborative research environment.	scientific infrastructure, these initiatives will serve to shape an innovative dynamic and sustainable research environment that drives scientific discovery and global impact, https://alliance4life.com/research-learning/virtual-research-center, https://mef.unizg.hr/okrugli-stol-	
24. Working conditions			
Implementation	GAP / Implementation impediments		Initiatives undertaken/new proposals
+/- almost but not fully i	members of School of Medicine are entitled to a sabbatical every (especially after the Zagreb earthquake in 2020) have enhanced elevators for researchers with disabilities. Due to the nature of options are limited. Combining family and work for members of challenging – fixed teaching hours and departmental and institution members with family obligations. The strong cultural expectation around caregiving can place additional burdens on female acar research and publishing. Remote work is not widely implement presence in labs. Accessibility improvements have been made. Efforts to improve work-life balance are ongoing but more componed and the new Accessibility improvements have been made, but further enhancements are ongoing but more comprehensive policies.	The institution will continue expanding flexible working arrangements where feasible and ensure ongoing improvements in accessibility. Additional support measures for researchers with disabilitie will be evaluated and implemented.	

#### 25. Stability and permanence of employment

#### Initiatives undertaken/new **Implementation GAP / Implementation impediments** proposals Stability and permanence of employment The stability and permanence of employment of members of School of Medicine is predefined by national regulations. Many members of School The institution will continually support of Medicine in early careers experience job insecurity due to temporary or fixed-term contracts (junior assistants and senior assistants). The lack of permanent employment can create members of School of Medicine during significant stress but the School of Medicine is giving efforts to smooth the path to permanent the process of promotion to higher positions. Although the path to tenure is often a lengthy process determined by national laws academic as a form of investment in and university regulations, which requires significant academic achievements. Once tenured, School growth which is imperative for members of School of Medicine enjoy greater job stability and certainty about the future. achieving excellence in education and +/- almost but not fully i... Promotion to higher academic ranks (assistant professor, associate professor, full professor) research. The institution will continue to require meeting specific criteria, including research output, teaching evaluations and other streamline mechanisms in place to professional achievements. Slow pace and limited available academic positions can cause acknowledge and reward members of delays and frustration among members of School of Medicine seeking career advancement. School of Medicine for their Promotion to higher academic ranks (assistant professor, associate professor, full professor) outstanding contributions to teaching, require meeting specific criteria, including research output, teaching evaluations and other research, and service. professional achievements. Slow pace and limited available academic positions can cause delays and frustration among members of School of Medicine seeking career advancement.

#### 26. Funding and salaries

#### Implementation

### **GAP / Implementation impediments**

Initiatives undertaken/new proposals

++ fully implemented

The School of Medicine is a scientific and educational public institution funded through the state budget, and it is financed by the Ministry of Science and Education and the University of Zagreb. The Department of Finance and Accounting ensures that the School regularly meets its obligations and takes all available measures for revenue collection. The Procurement Department conducts procurement of goods and services in accordance with current legislation and follows procurement procedures, including simple/low-value and public procurement. Public procurement procedures are published in the electronic public procurement classifieds and on the School's website, where selected bidders are also announced. The School ensures transparent and efficient management of financial resources through its regulations, decisions, and internal procedures, which are available on the School's website (Regulations on the Criteria and Methods of Using Own and Specific Revenues, Regulations on Treasury Operations, Procedure for Receiving and Registering Incoming Invoices, Procedure for Creating Contractual Obligations, Procedure for Receiving and Issuing Purchase Requests, Regulations on the Procedure for Simple Procurement, Procedure for Electronic Approval and Issuance of Travel Orders). The School also fulfils the obligations prescribed by the Fiscal Responsibility Act, addressing any identified deficiencies in its operations based on the Fiscal Responsibility Questionnaire. The School undergoes annual audits by the University and periodic audits by the Ministry. The School also conducts periodic audits at its own initiative, engaging independent external auditors, and addresses identified deficiencies based on their recommendations. The Internal Audit Office provided a unqualified opinion in its audit report in July 2022. As a national budget user, the School is required to prepare an annual revenue and expenditure plan for the next calendar year with projections for the following two years, following the guidelines of the Ministry of Science and Education and the Ministry of Finance. The plan is adopted by the School Council and published on the School's website, sent to the University, and relevant ministries. Any changes or deviations from the adopted plan require approval from the School Council, along with justification for the budget plan revision, which is then republished on the School's website. The final financial statements are also adopted by the School Council.

### 27. Gender balance

Implementation	GAP / Implementation impediments	Initiatives undertaken/new proposals
-/+ partially implemented	The School has adopted the Gender Equality Plan, with objectives of integrating the principles of equal opportunities in all areas of the School's operations, promoting a culture of gender equality among the School's staff and students, strengthening equal opportunities in access, training, and professional career development, raising awareness about gender topics such as gender bias and social constructions of gender roles and stereotypes, and combating discrimination, sexism, and sexual harassment in the workplace by raising awareness and providing support and advice to victims of sexual harassment. A Gender Equality Committee has been appointed to implement the Gender Equality Plan.	To improve gender balance, the School will implement initiatives aimed at promoting equal opportunities in recruitment, career advancement, and leadership positions. Training programs and workshops will be organized to raise awareness of gender bias, stereotypes, and discrimination, fostering a more inclusive academic and professional environment. Mentorship and support networks will be established to encourage the professional development of underrepresented genders. Additionally, policies and reporting mechanisms will be strengthened to prevent and address cases of sexism and sexual harassment, ensuring a safe and supportive workplace for all staff and students.

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28. Career development

GAP /	
nplementation npediments	Initiatives undertaken/new proposals
Vithin the urrent human esources nanagement, IZSM is vorking on the pecific Career evelopment trategy for esearchers. The strategy will e intended for II researchers trail stages of neir career roviding upport for ersonal and rofessional evelopment. ased on the experience and est practices dentified in the vork package Career in cience and eyond" lead by IZSM in the Illiance4Life roject, we will	Recently (April 25, 2023) at UZSM the Center for the Improvement of Teaching Competencies was established by a decision of School Council. The main activities of the Center are the improvement of teaching competencies and career development of teachers and associates, the organization and implementation of professional training, workshops, seminars and conferences, the provision of advisory services in the field of teaching methods and techniques, the promotion of innovations in teaching and the application of technologies in the educational process, cooperation with national and international institutions and organizations in the field of education, the development of mentoring program in cooperation with other universities, the encouragement of research activities and the publication of works in the field of educational sciences, the development of partnerships with health institutions, industry and the business sector for the purpose of conducting joint research and ensuring the development of teachers and associate of the School, and the organization of guest lectures and workshops with eminent experts from abroad, from other scientific and educational institutions. In line with the Career development strategy for researchers, the Center for the Improvement of Teaching Competencies will expand its activities to include teaching researchers. New activities will be based on the experience gained in collaboration with the partner institutions in the Allince4Life project: https://alliance4Life.com/media/3802438/d31_best_practices_in_career_systems_in_life_science_research_964997.phttps://alliance4Life.com/media/3803129/a4l_actions_d33_advances_in_career_system_upgrades_964997.pdf
The transfer of the second of	Vithin the current human assources anagement, ZSM is orking on the pecific Career evelopment rategy for assearchers. The strategy will be intended for all researchers all stages of their career roviding apport for the ersonal and the rofessional evelopment. The experience and the experience are th

follow the best

### Status

Implementation	GAP / Implementation impediments	Initiatives undertaken/new proposals
	practices	
	presented by	
	partner	
	institutions in	
	the area:	
	"Career	
	development	
	/system and	
	career track".	

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29. Value of mobility

### Implementation

#### **GAP / Implementation impediments**

Initiatives undertaken/new proposals

+/- almost but not fully i...

63% of teachers and associates are employed through cumulative employment relationship at the School. This form of employment in two types of institutions (healthcare and academic) provides special opportunities and benefits for teachers' professional development. Employment at the School enables teachers to further expand, enrich, and enhance their professional development, which takes place in their parent healthcare institution, through the support and programmes provided by the School and the University. These include: technical and professional support of the School's administrative services for the preparation and implementation of all types of projects; programmes and professional support for the realization of international collaborations and academic mobility; cabinets and equipment that can be used for organizing (hosting) various types of education; financial university support for projects led by the School's teachers, opportunities provided by joint university services (e.g. Central Computing Centre, etc.). The School encourages the increase of employees' competencies for teaching and research activities through international collaboration and networking with leading world faculties, as well as through collaboration at the regional level. Professional and administrative-technical support to teachers is provided by the School's administrative services. The International Relations Office performs tasks related to international cooperation and organizes and provides support for incoming and outgoing mobility of teaching and non-teaching staff and students. The employees of the Department for Science, Knowledge Transfer, and Innovation provide support in all procedures related to applications for various international and national programmes, as well as in all other phases of projects. The Department regularly informs about workshops and info days organized by the Centre for Research, Development, and Technology Transfer of the University of Zagreb (https://cirtt.unizg.hr/) and the Agency for Mobility and EU Programmes (https://www.ampeu.hr/), which our teachers and employees of administrative services attend. To promote mobility among teachers and researchers, the School offers study visits. Teachers have the option to take a sabbatical year or a shorter period to focus intensively on professional development. This time is often used to collaborate with foreign scientific institutions or work on textbooks. They are also allowed to spend three months each year on scientific training abroad, primarily focusing on scientific aspects but also participating in Erasmus+ projects. This approach not only fosters professional and personal development but also facilitates the transfer of technology and knowledge. Despite the School's efforts to encourage mobility, the reaccreditation process conducted in December 2023 revealed that further geographical improvements are needed.

An Action Plan for the 2024–2029 period has been developed with series of initiatives designed to promote and enhance geographical mobility. Key activities include strengthening international scientific cooperation by increasing collaboration agreements with leading academic institutions, encouraging more postdoctoral researchers and scientists to train or work abroad, and promoting inbound mobility of researchers in strategic fields. Additionally, establishing strategic teaching partnerships will enable members of School of Medicine and staff exchanges, while supporting sabbatical leave will facilitate independent international collaborations.

### 30. Access to career advice

Implementation	GAP / Implementation impediments	Initiatives undertaken/new proposals
-/+ partially implemented	At UZSM we intend to improve current situation aiming that career advice are offered to researchers at various stages of their careers. We plan to establish the Office for Career Development which will create a positive and supportive environment for building research careers at different stages, introduce possibilities for further career advancement, career changes, and development. Also, we plan to define different types of career paths within the UZSM and outline the tasks and goals of the respective position.	In the establishment and development of the office, we will rely on the experiences of our partner institutions in the Alliance4Life_ACTIONS project. This especially applies on the document "A4L D3.1 Best practices in career systems i life science research" and the chapter in the document "Career development /system and career track".

#### 31. Intellectual Property Rights

### GAP / Implementation **Implementation** impediments Intellectual Property Rights The School of Medicine has adopted the Intellectual Property Management Regulations, which govern the mutual rights and obligations of the School and employees who create intellectual works as well as the procedures for protecting and commercially exploiting intellectual creations developed at the School. All researchers at the School sign -/+ partially implemented collaboration agreements that clearly define their tasks, rights, and obligations, including aspects related to intellectual property and copyright protection. The contractual provisions explicitly outline the ownership of research outcomes, including publications, patents, and the development of

new products, thereby ensuring

and the School's rights.

the protection of both researchers'

#### Initiatives undertaken/new proposals

Develop and implement a comprehensive intellectual property rights education program, including workshops and online resources, to enhance understanding and management of intellectual property among researchers. To establish a new Technology Transfer Office (TTO) at the School of Medicine, several key components are essential. First, the office's mission, structure, and policies must be defined in alignment with institutional and legal requirements, providing a solid legal and administrative framework. Adequate funding, office space, and staffing, including technology transfer specialists and legal advisors, must also be secured to ensure effective operations. Clear guidelines for managing intellectual property (IP), including patenting, licensing, and commercialization of research innovations, should be developed. Furthermore, building strong partnerships with biotech companies, pharmaceutical firms, and research institutions is crucial for fostering collaboration between academia and industry. Members of School of Medicine and researchers should be trained on IP protection, commercialization strategies, and entrepreneurship to ensure they are wellequipped to navigate the technology transfer process. Lastly, the office must ensure adherence to healthcare regulations, ethical standards, and institutional policies to remain compliant and maintain its credibility. These components will form the foundation for a successful Technology Transfer Office, driving innovation and fostering collaboration between academia and industry. The initiatives will include our collaborations and experiences within the Alliance4Life ACTIONS project https://mef.unizg.hr/odrzana-druga-rma-akademija-u-okviru-projekta-alliance4life actions/ https://alliance4life.com/media/3803139/a4l action d34-skills-academy-resourcedatabase 964997.pdf

### 32. Co-authorship

Implementation	GAP / Implementation impediments	Initiatives undertaken/new proposals
++ fully implemented	Co-authorship is appropriately valued. The rules for defending doctoral theses, promotions to academic ranks, and advancements do not limit the number of co-authors on a paper in any case (unlike in some other institutions and scientific fields).	

### 33. Teaching

Implementation	GAP / Implementation impediments	Initiatives undertaken/new proposals
+/- almost but not fully i	At the UZSM we intend to better arrange the teaching responsibilities in relation to research programmes. We also intend to increase teaching opportunities for young researchers aiming that teaching and research paths are combined, particularly in higher positions.	Within the Center for the Improvement of Teaching Competencies UZSM we are now concentrated on improvement of teaching competencies by organising mandatory workshops for all teachers and full teachers who are planned for election to the scientific-teaching title of assistant professor or who were elected to the same in the academic year. In the first two years workshop was successfully completed by 70 participants, who were issued certificates that will be an integral part of the documentation for promotion. It is planned to organize new workshops dedicated for training of researchers, as well as the organization of new educational content for researchers. Beside those courses, two additional types of education were organized, i.e. workshop for mentors and leadership courses.

#### 34. Complains/ appeals

### Initiatives undertaken/new Implementation **GAP / Implementation impediments** proposals The School, through its legal service, provides support in resolving complaints and conflicts, and offers advice and confidential assistance to all researchers facing problems in their professional environment. In the event of internal irregularities, researchers can approach the designated person for reporting misconduct confidentially. Furthermore, researchers may initiate procedures before the School's working bodies, such as the Ethics Committee and the Disciplinary Committee. The School adheres to the applicable regulations governing conflict resolution and the ++ fully implemented protection of employee rights. As part of its internal policies, the School implements guidelines that enable the resolution of disputes through both formal and informal channels, with an emphasis on impartiality and transparency. Rules of Procedure in Cases of Allegation of Scientific Misconduct and Fraud in Science, Disciplinary Measures Policy of School Associates and Students and Regulations on the Procedure for Internal Reporting of Irregularities ensure that each situation is considered fairly and that researchers are protected from any form of discrimination or unfair treatment.

### 35. Participation in decision-making bodies

Implementation	GAP / Implementation impediments	Initiatives undertaken/new proposals
++ fully implemented	Employees in scientific-teaching positions who actively participate in research projects are guaranteed the right to take part in the work of the School Council. This council includes three representatives from each category: full professors, associate professors, assistant professors, and associates, ensuring broad representation of all scientific ranks in the decision-making process. Additionally, researchers are enabled to actively contribute by participating in the work of the School's committees and boards, currently totaling 34. These bodies focus on advancing science, ensuring quality standards, improving ethical practices, and protecting the interests of all participants in research processes. Through participation in these bodies, researchers have the opportunity to directly contribute to the development of the institution, influence strategic decision-making, and advocate for their professional and collective interests. The School recognizes the importance of their representation in all relevant processes, thereby fostering a culture of collaboration and professional growth.	

### 36. Relation with supervisors

Implementation	GAP / Implementation impediments	Initiatives undertaken/new proposals
+/- almost but not fully i	The School of Medicine has established regulations for the evaluation of assistants and senior assistants, outlining assessment criteria to be fulfilled by both the assistant and their mentor. A final report on the fulfillment of teaching, research, and professional obligations is submitted and reviewed by the School Council. Each assistant is assigned a mentor to oversee their doctoral studies. However, the regulations do not specify the frequency or structure of mentor-mentee meetings. There is no formalized monitoring system for mentor-mentee meetings. The frequency and structure of interactions are not regulated. This may lead to inconsistencies in the quality of mentorship.	Introducing structured guidelines for mentor-mentee interactions, including mandatory periodic meetings and feedback mechanisms. Implementing a digital tracking system for mentorship progress.

### 37. Supervision and managerial duties

Implementation	GAP / Implementation impediments	Initiatives undertaken/new proposals
+/- almost but not fully i	Supervision responsibilities are embedded in employment contracts and form part of members of School of Medicine contractual obligations. A dedicated mentoring policy exists, but its implementation is affected by School workload constraints. Due to a shortage of academic staff, mentors are overburdened, particularly in clinical disciplines, where members of School of Medicine balance academic and clinical responsibilities. This limits their availability for mentorship.	Expanding School's capacity through additional hiring or redistribution of workloads. Strengthening institutional support for School engaged in mentoring. Offering incentives for mentoring activities.

### 38. Continuing Professional Development

Implementation	GAP / Implementation impediments	Initiatives undertaken/new proposals
+/- almost but not fully i	The School of Medicine mandates participation in professional development programs, including a mentor training course and a teaching competency certification program. Members of School of Medicine must complete these courses before promotion to higher academic positions. Although structured professional development programs exist, financial constraints limit accessibility. The Ministry of science, education and youth does not allocate additional funds for School's training (https://mzom.gov.hr/science/1546)	Securing additional funding through negotiation with the Ministry. Exploring alternative funding models, such as grants and partnerships. Expanding online and hybrid training modules to enhance accessibility.

### 39. Access to research training and continuous development

Implementation	GAP / Implementation impediments	Initiatives undertaken/new proposals
-/+ partially implemented	UZSM intends to enhance the possibilities and measures to ensure that all researchers have opportunity for professional development to increase their competencies. Recently two educational measures were introduced: workshop for mentors and workshop on leadership and team work.	Two documents are developed and are in this moment under discussion: 1. Bylaw for the continuous lifelong education 2. Bylaw for the doctoral studies Both documents are expected to improve the accessibility to professional development as well as assessing the accessibility. There is still need for continuous medical education to be advanced in continuous professional development. We are also interested in improving the positions of the clinical researchers who are in the same time obliged to fulfil the requirements of CPD in area of medical education.

### 40. Supervision

Implementation	GAP / Implementation impediments	Initiatives undertaken/new proposals
+/- almost but not fully i	The performance of mentors is assessed as part of School's recruitment and promotion processes. The evaluation framework considers mentorship effectiveness and professional contributions. Heavy workload, particularly in clinical fields, reduces the capacity of mentors to provide comprehensive supervision. There is a need for improved communication and coordination.	Our plan to enhance the quality of supervision of young researchers at UZSM will be based on best practices of our partners institutions in the Horizon 2020 Alliance4Life sciences ACTION . In this project UZSM participated in the Focus Group "Human Resources & Mobility" and was leader of the Work Package "Careers in life sciences and Beyond". The intention is to clearly define persons who have experience, knowledge, time and commitment to provide support and follow the young researcher's progress; also to identify individual supervisors to whom early-stage researchers can refer for their professional duties and seeking support. Special attention will be made to mentorship related to the UZSM leadership of the Work package "Mentorship model" in the frame of A4L_BRIDGE project: https://mef.unizg.hr/mentorstvo-izvan-granica-dr-filip-sedlic-o-jacanju-partnerstva-u-alliance4life/ https://alliance4life.com/our-projects/alliance4life_bridge/work-packages