

## Medical University of Białystok

### Assessment report in the first competition under the “Excellence Initiative – Research University” programme

#### 1<sup>st</sup> criterion - substantive quality of an application:

- a) the quality of a SWOT analysis with respect to the objectives referred to in paragraph 4 of Communication from the Minister of Science and Higher Education of 26 March 2019 on the first competition under the “Excellence Initiative – Research University” programme, including the quality of the analysis used to identify priority research areas;
- b) conciseness and concreteness of the SWOT analysis and the plan;
- c) relevance of the identification of the specific objectives referred to in paragraph 6(2)(a) and paragraph 8 of Communication from the Minister of Science and Higher Education of 26 March 2019 on the first competition under the “Excellence Initiative – Research University” programme in relation to the SWOT analysis results;
- d) appropriateness of the indicators chosen to describe the university’s potential and to measure the extent of the objectives’ attainment;

#### Substantiation

The process to organize the SWOT analysis was very well done, starting from a bibliometric analysis to articulate the strengths of the university, then consulting the university leaders in the respective fields of strengths to map the SWOT, as experienced on the ground, followed by external expert consultancy. The proposal is based entirely on the development of “High-Definition Medicine”. This concentrated focus makes sense for a relatively small institution, but is demanding in terms of instrumentation and expertise, the latter drawn in part from disciplines beyond Medicine. The emphasis is on the depth and breadth of data in the database to be established/extended, rather than on the number of individuals covered (where competitiveness with other countries would be difficult to achieve). The plan developed is very specific/concrete and focused, starting from a significant strength of MUB - the already existing high quality database, containing detailed data on thousands of patients. A commitment to international collaboration in teaching is evident from a current course in Biostatistics with a Belgian university (Hasselt), and by participation in an EU-funded “International Interdisciplinary PhD studies....” programme. A small number of researchers are clearly leaders in their fields – indicated by publications in journals such as JAMA, Nature journals. The list of most significant research grants in the period 2014-18 seems modest. The information presented for leading researchers later in the application seems to substantiate this. The SWOT analysis cites a variety of evidence for current international involvement (e.g. list of

foreign universities with whom Białystok have collaborations, proportion (22%) of publications with international co-authors, etc.).

**2<sup>nd</sup> criterion - relevance of assumed objectives to enhancing the international significance of the university's activity:**

- a) the extent to which specific objectives contribute to attaining the objectives referred to in paragraph 4 of Communication from the Minister of Science and Higher Education of 26 March 2019 on the first competition under the “Excellence Initiative – Research University” programme;**
- b) sustainability of specific objectives after the plan implementation period, taking into account, in particular, actions to be carried out in 2026.**

Substantiation

The objectives to expand the PL database of HD Medicine with 3000 characterized patient samples in the next 5 years is a relevant and timely objective. The objective to extract function information from the database (to develop biomarkers, therapeutic targets, etc.), is similarly relevant. With regard to educational activities, there is a well-considered plan of summer/winter schools for advanced training in research techniques; these are described as “international” but it is not made clear whether international faculty will be involved. The plan to use this opportunity to establish a degree course in medical bioinformatics is a smart move, increasing the sustainability of the project after 2026. The plan starts from a clear and valid mission: to introduce High Definition (i.e. precision) medicine in Poland. MUB can quite possibly play an important role in HD medicine, partly based on a clear quality focus as well as the interest from international collaborators and industry. The real value of the plan will come from the results of the research planned to identify new biomarkers, therapeutic targets, precision medicine algorithms and medical imaging methods. During the interview, some evidence was provided that MUB researchers already use the database to produce relevant high-quality research results. Plans to promote internationalisation include hosting an international conference, improving the website, a programme of international visitors, overseas trips for students and staff, etc. Specific targets/milestones are indicated for each initiative. The other (50 or so) objectives are less relevant, with the exception of the ambition to set up a reference center (eventually a company) for whole genome sequencing. The leadership was very positive to further interaction with broader based regional, national and international universities, which can provide access to a broad disciplinary range.

**3<sup>rd</sup> criterion - adequacy of described actions to the assumed objectives:**

- a) appropriateness of the actions selected, including actions of ground-breaking and innovative nature, in the context of the specific objectives' implementation;**
- b) feasibility of the activities given the university's potential and budget;**

## Substantiation

A broad range of activities is planned for support of those engaged in research. A proactive human resource policy within the framework of legal requirements is to be established, and could lead to further differentiation of academic staff roles. Staff would be assigned to the different streams “depending on the predispositions and decisions of employees”. At interview it was clarified that decisions will be based on performance. The section on “methodology of monitoring progress” of programmes is somewhat formulaic, without clear indications of actions to be taken if progress is deemed insufficient. An incentive system with increased research funding and personal remuneration has been introduced to reward staff successful in obtaining international research support. The proposal to appoint as visiting professors international experts in relevant fields is sensible. Based on the interview it became obvious that there is a strong focus and commitment to nurture young talented scientists by providing responsibilities and funding leading to fast-track to habilitation. In spite of this, there is no projected change over the planning period in the number of research teams to be led by young individuals, somewhat inconsistent with the substantial number (60) of START grants proposed for young researchers. A very positive element of the action plan is its focus: 80% of the grant will be invested in the 2 most appropriate actions: o Expanding the database o Researching the database. A concern is that some of the studies will be underpowered: the numbers of patients might be too low to come to significant conclusion (at least in some disease areas). The ‘employment’ of visiting professors is a smart move to quickly tap into expertise to analyze the data and eventually produce interesting (publishable, patentable) results. However, unless long-term resources can be secured, this approach does not allow to build a sustainable critical mass of experts at home.

### **4<sup>th</sup> criterion - potential of the university in terms of:**

- a) the impact of the university’s research activity on the development of world science, especially in priority research areas;**
- b) research collaboration with research institutions of high international reputation, especially in priority research areas;**
- c) the quality of education provision for students and doctoral training, especially in fields of study and disciplines of science related to priority research areas;**
- d) the solutions deployed for the professional development of the university’s staff, especially young scientists;**
- e) the quality of university governance and management;**
- f) other specific objectives to raise the international significance of the university’s activities if these objectives have been determined in the plan.**

## Substantiation

At interview, the university leadership showed strong strategic vision with an exclusive focus on high-quality science. They have already made huge strides in changing the mind-set in this direction. There is tangible evidence that the university can attract top mid-career scientists from abroad e.g. Spain. This is a great achievement showing the potential of this university and will likely play a role to enhance future recruitments. The existing HD-Med database and Bialystok Plus Study provide a very strong potential for realizing the overall plan. About half of the university's leading scientists, listed in the applications, are indeed prominent; some of them have major impact in the field.

## Summary of assessment

The Medical University of Bialystok has presented an ambitious proposal. The university is not only the smallest of the four medical universities taking part in this competition, but it is also highly specialised and therefore hard to compare to other excellent universities which have wider academic scope. The focus on personalised medicine is well argued and clearly designed to be a distinguishing feature. Most pieces are in place to enable the achievement of the ambition to make a major contribution to the field of high-definition medicine. The leadership projects a real sense of strategic vision and infectious enthusiasm, encouraging optimism that major progress will be made towards achieving international research university status. The international panel's general opinion is that the university merits special support, but falls short in this competition for general support under Poland's excellence program. The university would gain from strategic alliance with for example a multidisciplinary university, but the panel is aware of the geographical challenge. Therefore, the panel recommends that the government seeks other means to support this effort.

## Total score

30.5 / 40

## Recommendation

Negative