

Changing structures of university medicine in Germany: new medical teaching and broader research scene

G. von Jagow *

Medical Faculty of the Johann Wolfgang Goethe Universität, Frankfurt am Main, Germany

Received: June 13, 2001; Accepted: June 18, 2001

- **The New University Law for the Core University**
- **Responsibilities of the President, the Chancellor, and the Presidency**
- **Responsibilities of the Extended Executive Committee and the University Council**
- **The New University Law - The Medical Faculty**
- **Responsibilities of the Dean's Office**
- **The New University Hospital Law**
- **Responsibilities of the University Hospital Board of Directors**
- **Responsibilities of the Supervisory Board of the University Hospital**
- **The need to implement a New Federal Law for University Regulations**
- **Proposed goals and instruments for the New Law for University Regulations**
- **Identification and solutions of problems**

Introduction

Generated by new university laws, the organizational, teaching and research structures of the German universities are currently subject to rapid changes. Society and politics expect that the universities not only to modernize their areas of teaching and research, but also to be able to independently solve their economic problems.

In this context, educational reforms are to be achieved, taking into consideration also a clear adaptation to the standards of the European Union.

In the future, an intensive international exchange of students and scientists is anticipated. In addition to its basic research, medical research will be expected to include extensive applied research. And furthermore, the universities are expected to cooperate more closely with the country's community of business and finance.

In this process German university medicine plays a major role. This may be generated by the fact that in the past university medicine has always had to face and deal with tough competition which ensued an ongoing process of evaluation and permanent bench-marking. The hospital sector was particularly affected here, constantly being confronted with economic issues and constraints, as well as public competition.

*Correspondence to: Prof. Dr. med. Gebhard von JAGOW
Medical Faculty of the Johann Wolfgang Goethe
Universität, Theodor-Stern-Kai 7,
D-60590 Frankfurt am Main, Germany.

Before we discuss further details, I would like to give some explanations on the specific conditions existing at German universities. They are primarily publicly funded institutions. The university system – being an integral part of a federal republic – is of course guided by federal principles. The federal government decides on the regulations which govern the university structure, and implements regulatory laws for the universities as well as a federal civil service pay act. In this process – again strictly adhering to federalism - each federal state has the liberty to draw up its own university laws – and naturally, these laws may considerably deviate from one another.

In an effort to comply with the existing legal situation, the given university laws usually contain certain paragraphs which only apply to medicine. Such clear definition is necessary, for in the medical realm the politics of science and the politics of health continuously interact and intertwine.

The final medical state examinations are nationwide uniform. And in the near future, the German university hospitals will be integrated into a new legal form, which shall give them greater independence and self-determination. So-called university hospital laws, which exist for each federal state separately, will direct and implement these legal changes.

The author of this paper has for a number of years held the position of Medical Director of the University Hospital Frankfurt am Main, as well as the position of Dean of the Medical Faculty of Johann Wolfgang Goethe-Universität. In compliance with legal changes, these two positions then had to be separated. Currently, the author is the Dean of the Medical Faculty, and based on his experience as well as on his past and present responsibilities, is highly familiar with all legal regulations and processes in the Federal State of Hesse.

Therefore, in this publication the specific conditions existing at the universities in the State of Hesse (in the cities of Frankfurt, Giessen, Marburg) will be described. This scenario may serve as an example nationwide, as the Hessian situation very well represents and reflects the general conditions existing in other states of the Federal Republic of Germany.

In section 1, the new university law, as it applies to the State of Hesse, is summarily explained. It concerns the entire Johann Wolfgang Goethe-Universität,

which will be referred to as core university. Those legal clauses which exclusively concern medicine, are explained to a great extent. The laws governing the university hospital (**UniKlinG**), are subsequently described in more detail.

The compilation of laws (*corpus juris*) constitute the basis for an efficient renewal of the organizational structure, the functions of the medical faculties as well as of the university hospitals.

Section 2 focuses on the problems which are generated by the process of an extensive and ever-increasing state of independence the university hospitals will find themselves to be in. One obvious pitfall is the quite visible danger that the medical faculties and the university hospitals will drift further apart.

Section 3 concentrates on the organizations which have the responsibility to promote research and teaching.

And finally, in section 4 the author takes a closer look at the future perspectives of the German universities – particularly, as these future potentials will become quite apparent to any close observer of the scene.

Section 1: The new university law for the State of Hesse – as it specifically pertains to medicine and the laws regulating the university hospitals. - Warrants of new university politics

The new Hessian university law took effect on July 5, 2000. It would be too far-reaching here, to give a detailed description of this law. Instead, the focus will be on the activities of the chair committee. The decision-making bodies will not be discussed, such as the senate and the medical faculty council. Rather, the paper aims at making clear that the new law intends to implement a more streamlined structure, a tighter organization and guidance of the core university as well as the university hospital.

Scheme 1 shows that the core university is guided by an executive committee, which consists of the president, the two vice presidents, and the chancellor. President and chancellor hold their positions on a full-time basis, the vice presidents

Scheme 1

University Hospital / Medical Faculty of the
Johann Wolfgang Goethe-Universität
Frankfurt am Main

**The New University Law
for the Core University**

The Presidency (Executive Committee of the University)

President, vice president, chancellor

Extended Executive Committee

Presidency, all deans

Representatives for women's issues, shop council chair, chair of student representation

University Council

4 representatives from the business community

3 representatives from the science community

Scheme 2

University Hospital / Medical Faculty of the
Johann Wolfgang Goethe-Universität
Frankfurt am Main

**Responsibilities of the President, the Chancellor,
and the Presidency**

President Chair with authority to issue directives,
Leader of the entire university personnel

Chancellor in charge of the budget, responsible for budgetary-, personnel- and legal matters

Presidency Budget plan
Agreement on future objectives and goals with the State
Structure of the faculties
Foundation and termination of scientific institutions
Integration of the university council
Professional procedures and statutes

carry out their functions in addition to their regular posts as professors.

The president and the deans of the faculties make up the extended executive committee. Also, the representative for women's issues, the shop council chair, as well as the chair of the student representation, are all part of this extended board.

The specific constellation and the assignments of both committees are a novelty.

The implementation of a university council constitutes a major move towards reform. This council consists of four leading representatives from the business sector, as well as three leading figures from the scientific community outside university.

Scheme 2 describes the most important tasks which are carried out by the president, the chancellor, and the executive committee.

A strong president – in his capacity of being the leader of the entire university personnel – is instrumental in significantly influencing and controlling the direction, and with it, the destiny of the university. He has to make sure that the current reorganization activities will be successful. For such endeavours it is also essential to develop a good feeling for the required time frame needed. Also, the intrinsic dynamics of such processes need to be recognized and accepted – which may not always be an easy matter.

A close co-operation between president and chancellor is elementary. The chancellor is the important personality, who stands for what is economically feasible. A parallel constellation is existing at the medical faculty:

Just as a medical director and a dean cannot afford to underestimate how important a constructive co-operation with the managing director is, this also applies to the collaboration between the duo consisting of president and chancellor. These leaders have to constantly put a lot of effort into arriving at mutual agreements on subject matters – which certainly is not always an easy task.

Now to the presidency, which consists of four people and which has a high-level decision-making power. It designs the budget plan, discusses and agrees on goals and objectives with the respective state – usually with the ministry of science and research. Further, it designs and develops the subtle and sensitive faculty culture existing at the

universities. Currently, there are 16 faculties at the Goethe-Universität needing such attention. The presidency also decides which institutes should be newly established, and which ones ought to be closed down. It integrates the university council into its area of responsibility, and draws up the business rules as well as the bylaws.

Scheme 3: The extended executive committee faces a very difficult task. This committee has to develop the competency to be able to give expert advice on the budget plan and the allocation of individual budgets. The new organizational processes have to be learnt, a task which also applies to the other federal states. The dean and the other three members have to become competent to make expert decisions on economic issues.

The University Council of the Goethe-Universität consists of high-ranking professionals. Their input will greatly contribute to the direction the university will be taking in the future, even though they lack the power of passing resolutions. The university council consists of:

- **Dr. Rolf E. Breuer**
(Spokesman and Chief Executive Officer of the Board of Directors of the Deutsche Bank)
- **Dr. Hagen Hultsch**
(Member of the Board of Directors of Telekom)
- **Prof. Jutta Limbach**
(President of the Federal Constitutional Court)
- **Dr. Günther Nonnenmacher**
(Co-Editor of the Frankfurter Allgemeine Zeitung)
- **Prof. Heribert Offermanns**
(former Member of the Board of Directors of the Degussa-Hüls Company)
- **Prof. Wolf Singer**
(Director of the Max-Planck-Institute for Brain Research)
- **Ernst Weltecke**
(President of the German Federal Bank)

By making their recommendations, and even more so, by stating their opinions on subject matters, the university council significantly influences the cultural level and the quality standard of the Goethe-Universität. The realization of these goals will take several years. Yet, the anticipated and very necessary interaction of the university with the world of business and finance as well as with representative scientific institutions in the Federal Republic can still be accelerated. And one should be aware that currently there are

Scheme 3

University Hospital / Medical Faculty of the
Johann Wolfgang Goethe-Universität
Frankfurt am Main

**Responsibilities of the Extended Executive Committee
and the University Council**

Extended executive committee

Provides statements on budget plan
Sets fundamental guidelines in terms of goals and budgets

University council

<i>Makes recommendations to:</i>	<i>Comments on:</i>
<ul style="list-style-type: none">• The development of program for universities, Structuring curricula, Sets main focal points for research & teaching	<ul style="list-style-type: none">• Report of accounts by the executive committee (presidency)
<ul style="list-style-type: none">• Evaluation procedures	<ul style="list-style-type: none">• Budget plan
<ul style="list-style-type: none">• Agreements on goals	<ul style="list-style-type: none">• Implementation and termination of courses of studies
<ul style="list-style-type: none">• Administration and distribution of funds	<ul style="list-style-type: none">• Structuring the university into different Faculties

Scheme 4

University Hospital / Medical Faculty of the
Johann Wolfgang Goethe-Universität
Frankfurt am Main

**The New University Law
The Medical Faculty**
(Essential Passages in the Hessian University Law)

Office of the Dean (chair of the faculty council)

Dean, vice-dean, dean of studies, medical director (last person has an advisory function)

Faculty Council

Dean, vice-dean, dean of studies, medical director (all in advisory functions),
7 professors, 2 students, 2 scientific associates, 1 administrative-technical employee (with the right to vote)

Faculty Council Commission

Committee on education
Dean of studies, 3 professors, 3 students, 1 scientific associate

intensive activities going on which have already yielded considerable results.

There is also a close co-operation with other scientific institutions, e.g. with the respective local Max-Planck-Institutes, or with foundations, such as for instance, the Georg Speyer Research Institute. Such very much alive co-operations are active in the medical faculty in an exemplary fashion.

Summary: The new university law of the State of Hesse offers an opportunity to implement a more efficient and streamlined organization of the university. The university council's foremost mission is to achieve a closer dialogue between university and society. In this process, the council will also recommend management profiles.

Scheme 4 describes essential parts of the laws concerning medicine. The "HHG" – the Hessian University Law – has duly taken into consideration the special position of medicine, by having devoted one entire section (the §§ 57-62) to this field.

The implementation of a new supervisory committee within the faculty council - the faculty council board - constitutes a significant step towards reform. The supervisory committee is composed of the dean, the vice-dean, the dean of studies, and the medical director. The first three members have a right to vote, the medical director acts in an advisory capacity.

Due to the new law, the medical faculty council has become smaller. It now is made up by the members of the office of the dean who do not have any right to vote, seven professors (versus formerly 12), three students, two scientific associates, and one employee of administrative-technical rank.

The dean in his role as chair of the committee, will have a difficult time to obtain the consent for resolutions which contain a certain amount of hardness and rigorousness. Here, actually, the diplomatic art of committee work begins.

Committees may be formed. The committee on education is a legally mandatory group. Furthermore, it is also highly advisable to form a research committee, which in the past has always made valuable contributions.

Scheme 5: Within the given structural plan, the office of the dean decides on how the financial funds for the personnel and the appropriated funds for material and equipment are to be distributed. And the following solely applies to medicine: the faculty council needs to give its prior consent

before a decision on how these funds are to be allocated can be made.

In his assessments, the dean can move within a certain margin when deciding where the limits between principle and individual case-based decisions should be set. And also, it is the dean's duty to prepare the resolutions of the faculty council and subsequently, supervise their implementation.

These tasks, which also require a prior consent by the core university, will play an important role in the future.

The distribution of the limited funds available is increasingly based on performance, and – of course - subject to political considerations. The intensive evaluation processes, which constantly have to be conducted in research & teaching, have to be understood in this light as well.

The introduction of new study and examination regulations in the support of the modernization of medical education constitutes a further step. These efforts aim to significantly lower the average graduation age of young doctors; respectively, the age when they have completed their residency training, respectively, the age when they have reached the stage of an independent scientist and researcher. Already taking effect in this legislative period, the Federal Government intends to pass a new medical education act – the so-called "Ärztliche Approbationsordnung (ÄAppO)".

Scheme 6 introduces the new university hospital law.

With the new university hospital law (**UniKlinG**) the composition of the board has considerably changed. The previous law provided the positions of two vice-deans, who were members of the board of directors. At the medical faculties the dean often is a theoretician, while the vice-deans are usually clinicians. The abolishment of their functions in the board of directors causes a decrease in this committee's medical expertise. In Frankfurt, by statutory regulations, this deficit was compensated by appointing a deputy medical director to the board - even though such post is not actually legally stipulated.

The supervisory board consists of six members: three representing the state government, one the core university – in our case the president or the vice-president as his deputy -, two representatives from the business and science communities, and

Scheme 5

University Hospital / Medical Faculty of the
Johann Wolfgang Goethe-Universität
Frankfurt am Main

Responsibilities of the Dean's Office
as prescribed by the Hessian University Law (HHG)
(Board of Directors of the Medical Faculty Council)

- Prepares the resolutions for the faculty council; supervises their implementation
- Establishes goals with the presidency
- *Decides* within the given structural plan and the agreements made on the provisions for the specific areas. Determines the allocations of funds used for personnel, equipment, and instruments.
- Is in charge of the organization of studies and examinations
- Administratively supports the evaluation procedures

Scheme 6

University Hospital / Medical Faculty of the
Johann Wolfgang Goethe-Universität
Frankfurt am Main

The New University Hospital Law (UniKlinG)
(The Management Committees of the Hessian University Hospitals)

Hospital Board of Directors (Frankfurt)

Medical director (chair), deputy medical director, (deputy chair),
managing director, director of nursing services, dean

Supervisory Board

2 representatives from the ministry of science
1 representative from the ministry of finance
president of university
2 professionals from the business sector or the scientific community
Chair of the shop council

finally, the chair of the shop council. On purpose, the supervisory board has been kept very small.

The **UniklinG** gives the university hospital a new legal form – namely that of an “institution incorporated under public law“ (Anstalt des Öffentlichen Rechts). The newly established supervisory board will take on a leading position. The representatives of the individual state ministries will also play an important role within this group. It will be the university president’s duty to establish a functioning liaison between the university hospital and the core university. The connection to business and science will be made via two further representatives.

Scheme 7 explains the hospital board of director’s responsibilities. This organization has to handle all assignments which are typical for a board. Yet, the board has to watch out! A university hospital which provides maximal care has to be managed - but that is not all! The bottom line at the end of a fiscal year should at least show a balanced budget. In section 2 I will refer to § 15 of the hospital law.

Scheme 8 summarizes the essential responsibilities of the supervisory board.

Here, the hospital and the faculty expect that the representatives of the ministries in the supervisory board demonstrate their genuine interest in and their strong commitment to hospital matters. And it is further expected that they – in their functions as board members – will put aside any rigid bureaucratic viewpoints and interpretations.

The representatives from business and science are expected to initiate the development of management profiles.

The supervisory board will have to accept quite important duties such as to determine the remuneration of the directors of the clinical departments. The future contracts for clinical department heads will very much determine to what extent a university hospital can successfully cope with the tough competition existing between the university hospitals and the other large hospitals. The supervisory board will therefore have a lot to say in terms of how the university hospital’s decision-making bodies will have to be designed. This board will further check the budget plan as well as the annual balance, and also decide on how to spend annual profits.

Now a short summary: The independence and self-sufficiency of the university hospitals will lead to

a more efficient management of these institutions. The supervisory board will not only be in control of the hospital board of directors, but will also set valuable impulses for the creation of a new hospital profile and for the hospital’s move towards independence.

Section 2: The dangers of a drifting apart of Faculty and University Hospital

As already mentioned in *Scheme 7*, the previously existing combined budgeting of medical faculty and university hospitals will be discontinued. From now on, there will be two entities. And for each department and each institute two separate budgets have to be kept. Mutual balances of services have to be itemized.

The contractual partners are the hospital board of directors, the office of the dean, and the presidency. „In accordance with the contractual agreements made, the university and the university hospital reimburse one another the costs for the services rendered.“ One of the most important tasks will be to keep these contractual agreements as simple as possible.

The special attention of the hospital board of directors will, of course, primarily focus on an agreeable development of an independent hospital. Likewise, the faculty wants to become an agreeable body for teaching and research. However, the negotiations between the two partners involved may develop their own dynamics, for both sides are dependent from one another. The very unique characteristics of a university hospital are its areas of research and teaching. And this clearly distinguishes a university hospital from any other large hospital – even if the latter one also provides maximal care on a large scale. And last but not least, a medical faculty will not be able to conduct research and teaching without the existence and services of a hospital. This is why – in recognizing that one side lives from the other and vice versa - the contractual agreements have to be drawn up just and fair.

It will be the dean’s responsibility to get this message across to the faculty members; while the medical director has to raise an awareness on how vitally important and needed the institution of a faculty is.

Scheme 7

University Hospital / Medical Faculty of the
Johann Wolfgang Goethe-Universität
Frankfurt am Main

Responsibilities of the University Hospital Board of Directors

- Management of business operations
- Administration according to economic and business principles
- Designing a budget plan
- Allocation of funds to the departments and institutes
- Negotiations and agreement with the faculties in terms of use of funds for **research and teaching** in accordance with § 15 (so-called state subsidies)
- Directives to the departments – (not applicable in case of medical decisions)

Scheme 8

University Hospital / Medical Faculty of the
Johann Wolfgang Goethe-Universität
Frankfurt am Main

Responsibilities of the Supervisory Board of the University Hospital

- Advice and guidance for the hospital board of directors
- Election of and remuneration plan for the members of the hospital board of directors and the departmental heads
- Consenting to the structural plan of the university hospital
- Approval for the implementation resp. termination of departments
- Establishing the budget plan and the annual balance; allocation of annual profits
- Assisting and supporting the hospital board of directors in their various functions and duties

Only a few states favour the integration model as an alternative to the here described co-operation system. In the integration model, all theoretical institutes – including the so-called preclinical institutes which encompass anatomy, biochemistry, and physiology – will be part of the university hospital. To the author, the integration model seems to be the preferred choice, as this design does not have the above described pitfalls.

Section 3: A new federal law for university regulations which supports the advancement of research and teaching

As already described, the prerequisites for achieving a more structured and streamlined organization and guidance applying to both institutions are provided by the office of the presidency, the office of the dean, the hospital board of directors, and the supervisory board.

The newly prepared federal law for university regulations provides an additional stimulation for the universities, whose medical faculties are subject to reform. Likewise, a new civil service pay act for scientific personnel will be passed, the content of which is not yet known in detail.

All efforts made towards effective and modern research promotion regrettably have been much too slow. One can almost say that the people in charge actually slept through this highly necessary task towards reform.

Scheme 9 describes in detail the most obvious pitfalls and defaults in need of correction:

In the currently existing German university scene, the young scientists remain much too long in a state of dependence. The time span during which they work towards achieving their qualifications for independent teaching and research at the university (Habilitation) currently is far too extensive. A scientist's appointment to a professorship will generally not occur before he has reached age 40. And in most cases, such call will occur much later. Only after having been appointed, the German academic will have reached his competitive capacity – a stage that many of his European or American counterparts may very well have attained in their early 30s. But even after his appointment,

there is not too much encouragement for a researcher's advancement. Rather, the young professor – just like the academic middle-level employee – is highly limited by the existing rigid official regulations. Also, the incentives available for excellent teaching or research are insufficient.

The German university professor and researcher suffers from a restricted international competitive capacity. This state of mind then frequently leads to the well-known brain drain of our young scientists, primarily to the United States. Teaching and research in our country develop only insufficiently. These areas could do much better in a goal-oriented and more international-minded organization.

Scheme 10: What would be a good solution to the problem?

The individual terms of medical education, such as the completion of the doctoral thesis (dissertation), the completion of post-doctoral education, the time of residency training, etc., definitely need to be shortened. The young medical researcher, who simultaneously receives a scientific education, should get an opportunity to reach the status of scientific independence much earlier. Yet, this can only be realized by implementing more flexible official regulations plus a performance-based remuneration.

The best way to improve this situation consists of the already mentioned shortening of the individual educational steps, after which our young colleague may become eligible for an assistant professorship. This so-called junior professorship is to be limited to two terms of three years each. After three years an interim evaluation has to be conducted; and then, after six years, a final examination, which – provided, it is successful – could culminate in a permanent, full professorship.

In terms of corporate legal regulations, the status of a junior professor shall be equivalent to the status of a full professor. An experienced theoretician / clinician will act as an advisor to our young researcher – however, without giving instructions.

If his performance has been outstanding, the researcher is allowed to apply for a full professorship at his home university. In this case, the so-called ban on in-house appointments will be waived.

A transparent appellate procedure is required before filling the position of a chair of a hospital director or director of a research institute. Yet likewise, an appointment to another university may

Scheme 9

University Hospital / Medical Faculty of the
Johann Wolfgang Goethe-Universität
Frankfurt am Main

The Need to Implement a New Federal Law for University Regulations

Current deficiencies

- State of dependence during the „Habilitation“-term limits self-direction and self-sufficiency of the young researcher and physician.
- Appointment to a full professorship frequently occurs at the age of 40 or even later.
- Not enough incentives available after appointment.
- Rigid official regulations, which also apply to the middle academic level.

Consequences

- Limited competitive capacity
- „Brain drain“ of top scientists
- Insufficient support of the advancement and quality of teaching & research

Scheme 10

University Hospital / Medical Faculty of the
Johann Wolfgang Goethe-Universität
Frankfurt am Main

Proposed Goals and Instruments for the New Law for University Regulations

Goals

- Shortening of the qualifying phase
- Early scientific independence
- More flexible official regulations; performance-based remuneration

Instruments:

- Duration of doctoral research and thesis maximum 3 years; post-doctoral phase maximum 3 years
- Subsequent position as research assistant or junior professor (2 periods of 3 years each)
 - own budget, independent research (supported, but not directed by advisor)
 - in terms of corporate legal regulations, equivalence to full professor status
 - tenure track system: potential in-house appointment according to transparent call procedures
- For medicine: two careers – one with a clinical profile, the other one more basic research-oriented.

Identification and Solution of Problems

Open questions:

- Can a performance-based remuneration be realized in a cost-neutral fashion?
- How can a variable pay-roll system (not only for professors) - which will be re-assessed annually - be realized?

Prerequisites:

- Commitment to the economic factor EDUCATION
- Termination of an administration of want and deficiencies
- Implementation of efficient decision-making and management structures
- Creation of an open, performance-based university culture

be possible. As stated in several papers, the influence of the „old boys“ shall be reduced.

If the aspiring scientist is to achieve the status of junior professorship in medicine already during his residency training period, a detailed voting procedure needs to precede this integrative promotion.

Two different career profiles should be made available: one which is less research-, but more clinic-oriented; plus another career pattern, which tends to be more basic research-oriented, and which includes the junior professor track.

As will be described in *Scheme 11*, all these measures to be used towards improving the system still leave many open questions. The following professional groups such as The German Scientific Council, The Conference of University Presidents, The German University Association, The Alliance of the Scientific Medical Associations, and The Association of German Medical Faculties do not see any real possibility that such restructuring of the university career can be realized without additional money. Yet, the Federal Ministry for Education and Research envisions and proposes such cost-neutrality.

Considerable problems will arise when to determine which university committee shall master the job of a continuously ongoing performance evaluation.

In this paper, I like to refrain from discussing other well-known problems and issues in need of being solved.

It is obvious though, that the university reforms taking place at the medical faculties can only proceed in a streamline fashion, if the verbal commitment of politics and business to the economic factor education will be followed by visible actions. Many a university professor complains about a rigid administration full of want and deficiency. But the political arena tends to ignore this criticism. The current dilemma is also reflected in the fact, that the number of students have increased, yet, at the same time, the universities receive fixed, or even reduced financial subsidies from the state.

With its new university laws, the State of Hesse has facilitated the development of an efficient decision-making- and organizational structure. However, to ensure that such reforms will be

successful, the State will have to allocate more money to medicine.

Section 4: Future perspectives for university medicine in Germany

New structures as well as fundamental organizational changes, generated by the new law for university regulations, can be a pacemaker towards a true modernization of the universities. This process includes a significant support of research promotion. However, if this process is to be successful on all levels of university, as well as in society, a mental reorientation such as a firm commitment towards reform will be an essential requirement.

After this has been accomplished, the German universities will be able to quickly grow into modern educational institutions. An international exchange as well as international competition will accelerate the globalization of the universities.

It is regrettable that the German university hospitals do not sufficiently publicise their significant achievements and their high performance. Here certainly is room for an effective public relation activity. The fact that the university hospitals are the centers of medical excellence at the forefront of science, should be conveyed to the general public. For the university hospitals are highly competent and respected members of the international scientific community.