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The future of laboratory medicine in Switzerland

The view of opinion leaders and professional clinical chemists

During the annual meeting of the Swiss Society of Clinical Chemistry (SSCC) the future of laboratory medicine in Switzerland was addressed in short presentations by opinion leaders or representatives of professional societies such as SULM, FAMH, labmed, SSCC, and exponents of important players in laboratory medicine, e.g., large hospital labs and university labs. A brief panel discussion was followed by electronic voting on questions put by the referees to the audience, made up primarily of professional clinical chemists and laboratory technicians.

Background

The future of laboratory medicine concerns all of us as inhabitants of this country, potential patients and/or professionals. Laboratory medicine activities can be segmented into at least three different groups according to their primary business fields, e.g.,

- private small or large (international) laboratories,
- public clinics or regional hospitals, and
- large academic laboratories.

The roles of the laboratories in physicians' consultancies, of IVD industry and the government (BAG) were not addressed directly, but it was understood that they play an important part in laboratory medicine in Switzerland, providing highly decentralised, top quality (laboratory) medical services for the Swiss public. Within these scenarios, the subjects discussed were:

- laboratory organisation and structure,
- implementation of science and technology,
- education at the graduate, post-graduate (FAMH) and continuous level,
- the attractiveness of the profession,
- research and development capacity and mission,

- potential private–public and industry–clinics partnerships,
- the economy.

Questions, voting results and comments

Question 1: Significance of clinical chemistry in the future

a) Clinical chemists are predestined to be the heads of the core laboratories in hospitals or the high-throughput laboratories in private labs.
 b) Clinical chemists will be responsible for the more administrative sectors in individual labs.
 c) Clinical chemistry will disappear because most analyses will become POCT tests or be taken over by other specialists.

Results: a: 77% | b: 19% | c: 4%

Comment: One strength of clinical chemistry certainly lies within core lab activity and automation. However, specialised testing such as HPLC, MS, GC and protein analysis is also part of the clinical chemists' portfolio and should be further developed. In addition, like lab directors of other disciplines, they support clinicians in ordering lab tests and interpreting their results.

Question 2: Role of non-physicians in clinical chemistry

a) The head of a laboratory must be a physician.
 b) Non-physicians are capable of managing a laboratory.
 c) No opinion.

Results: a: 29% | b: 67% | c: 5%

Comment: Switzerland should continue the tradition of peaceful coexistence and cooperation between MDs and PhDs. However, for the patient's benefit and fruitful interaction with clinicians and practitioners, medical knowledge is of great importance.

Question 3: The Swiss laboratories in the context of the international/European lab market

a) Price pressure from the market forces labs to join international groups.
 b) Switzerland will be able to sustain its own excellent system of decentralised labs.
 c) No opinion.

Results: a: 33% | b: 52% | c: 14%

Comment: The audience is quite realistic about internationalisation and the price competition, but remains optimistic that decentralisation can be maintained. Latest developments, however, show shrinkage of the physician's office lab market and further reduction of independent middle-sized labs.

Question 4: Who should pay for pre-graduate and post-graduate training?

a) Government (canton, Confederation?).
 b) Students.
 c) All of the above.

Results: a: 62% | b: 14% | c: 24%

Comment: A large majority of the audience believe that "public service" and to some degree the student should pay for training. The current problem, however, is that under DRG rules it has not been decided who will pay for training. This important question needs to be brought forward to politicians, government and insurance corporations.

Question 5: Due to convergence of technologies and its consequences, the traditional professional disciplines should be

a) separated,
 b) combined,
 c) mixed-structured (operational vs professional).

Results: a: 0% | b: 41% | c: 59%

Comment: Since going solo as a mono-discipline seems to be outdated, it is not clear what form future collaboration should take. This may, for example, depend on the type of services a lab offers (private vs public).

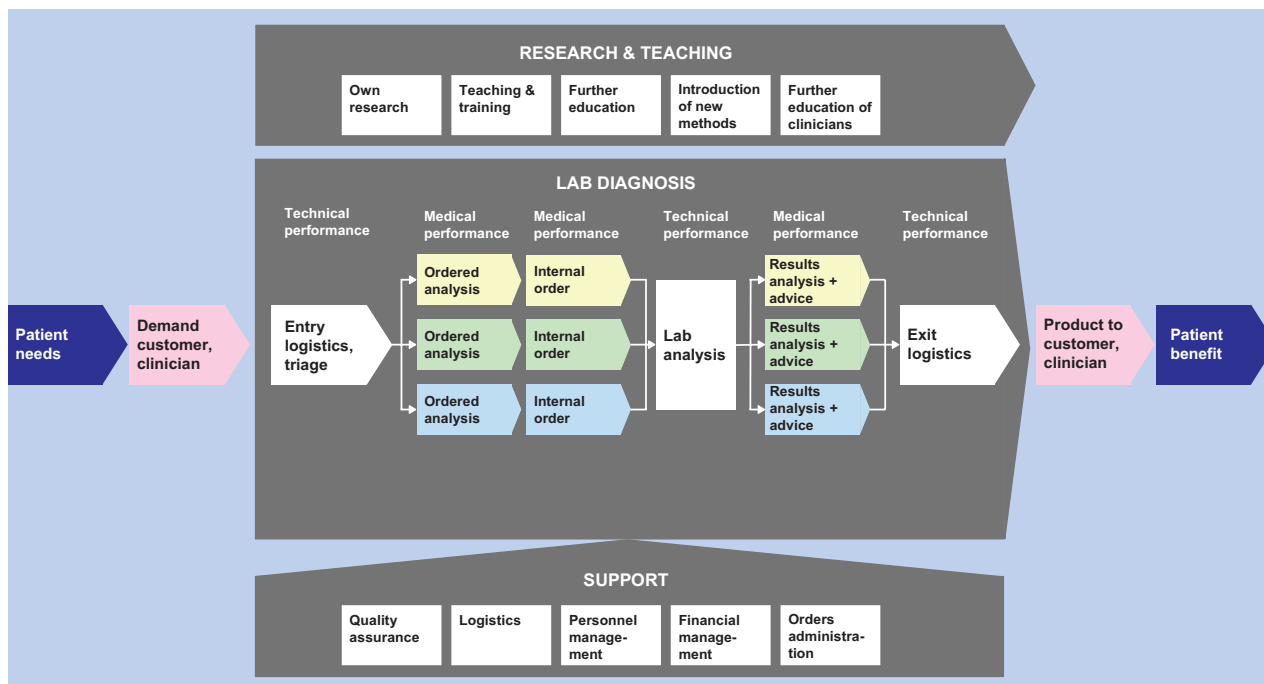


Figure 1

Question 6: Should Swiss training be harmonised with EU programmes?

- a) Yes, to allow foreigners into Switzerland.
- b) Yes, to allow Swiss to go abroad.
- c) To allow both.
- d) No.

Results: a: 3% | b: 3% | c: 85% | d: 0%

Comment: The replies seem to be unanimous that there should be no borders and other obstacles to professional migration in Europe. However, since our postgraduate education is not an accredited health profession and thus does not fall within the federal law on medical professions, degrees obtained in Switzerland are not valid in the EU. In contrast, EU fellows can obtain an equivalent attestation in Switzerland quite easily and gain free access to Swiss markets.

Question 7: Among MD sub-specialties the lab academic has little recognition unless he/she carries a FMH title. How can this problem be solved?

- a) New FMH (sub)title.
- b) More lectures during medical school.
- c) Appointment of MDs as lab directors.
- d) All of the above.

Results: a: 28% | b: 45% | c: 19% | d: 17%

Comment: Respondents were obviously unanimous that the medical profession and an appropriate curriculum play an important role in laboratory medicine. The plenum was undecided how this problem should be overcome. A majority believe the attractiveness of lab issues could be improved through lectures (passive or active) during medical school.

Question 8: Three different lab types are seen in Switzerland, e.g., private lab, public lab and lab in physicians' consultancies. Does this structure have a future?

- a) Yes, because the federal office guarantees adequate rules.
- b) Yes, because the system is so complex that it will last for a very long time. Change will occur on other levels.
- c) Yes, future technological progress will integrate the Swiss demands for laboratory medicine. It will provide good opportunities for all stakeholders.
- d) No, because the regulatory environment will not allow a decentralised supply of laboratory medicine, if further cost savings are commanded by the federal healthcare offices.

Results: a: 4% | b: 20% | c: 24% | d: 52%

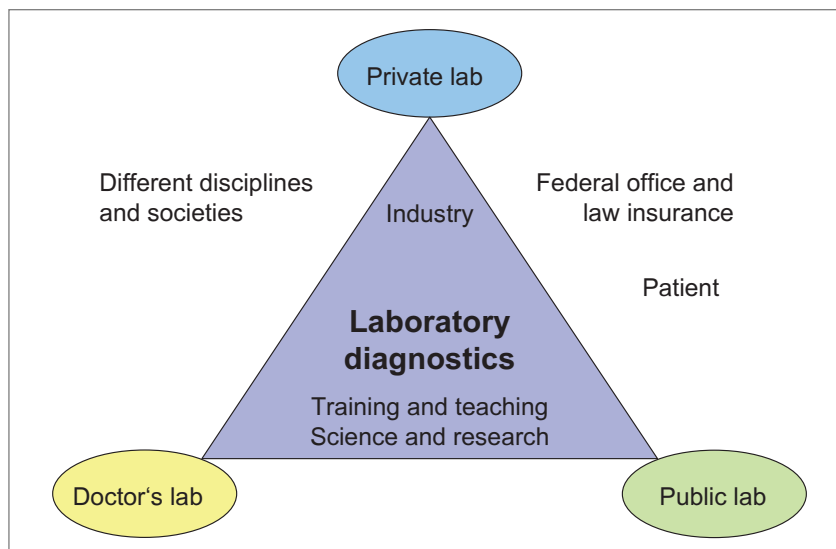


Figure 2

Comment: A majority are obviously still realistic about market forces. One fourth of the plenum believe in government and bureaucracy. Option c) does not really belong to the question but is still preferred by 24%.

Question 9: What is your opinion on common and selfish interests of stakeholders in laboratory medicine?

- a) Common and selfish interests are balanced.
- b) Common interests outweigh selfish interests.
- c) Selfish interests outweigh common interests.
- d) I have no idea what this means.

Results: a: 14% | b: 11% | c: 64% | d: 11%

Comment: The answers seem to show a degree of honesty, accepting that “money makes the world go round”. Luckily there is no black or white answer; the question remains, how much black and how much white? 14% have good intentions and 11% pretend innocence.

Question 10: Of what does a “good” professional postgraduate education consist?

- a) Pluridisciplinary programme.
- b) Monodisciplinary programme.
- c) Both.

Results: a: 23% | b: 20% | c: 57%

Comment: This question is somewhat outdated in view of the new proposals for change in postdoctoral education to synchronise with the EU programmes in the EU proposed by the SAMW expert group and the FAMH expert committee. The plenum, however, is in favour of both programmes by a large majority.

Question 11: What competence(s) does a lab director need?

- a) Financial management skills.
- b) Human resource skills.
- c) Scientific skills.
- d) Clinical skills.

Results: a: 3% | b: 17% | c: 45% | d: 34%

Comment: A small amount of everything, but little concerning finance. This response pattern to some extent contradicts the same plenum’s answers to questions 3 and 8, where financial matters were felt to be important.

Question 12: How decentralised does the medical laboratory system in Switzerland need to be? How many labs are needed in Switzerland?

- a) 10
- b) 100
- c) 1000
- d) No opinion

Results: a: 10% | b: 23% | c: 57% | d: 10%

Comment: Without the definition of “lab” this question is difficult to answer. Nevertheless, the majority feel that 1000 labs would be the right figure. A large number if you count only non-physicians’ office labs, but too small (in the private labs’ view an exciting prospect) if all labs are counted. This would, however, fit with the opinion expressed under questions 3 and 8.

Question 13: How much should laboratory medicine (diagnostics) cost in relation to other expenses in healthcare (currently 3%)?

- a) <3%
- b) 3%
- c) 3–5%
- d) >5%

Results: a: 18% | b: 18% | c: 46% | d: 18%

Comment: The audience obviously shares the opinion of the board on the importance of laboratory medicine. Whether this optimism is justified needs to be shown. Translational research, attractive training programmes, good salaries and career opportunities, evidence-based lobbying with the political community and serious outcome studies will certainly boost the position of laboratory medicine. Failure to act will do harm.

Question 14: Does every lab need accreditation (ISO)?

- a) Yes.
- b) No.
- c) No opinion.

Results: a: 82% | b: 18% | c: 0%

Comment: Is *vox populi* always right? That a physician’s office can not and should not be accredited. For smaller labs accreditation seems also being unrealistic. SULM came forward with a reasonable proposal years ago. Unfortunately, QUALAB and the Federal Office of Health have taken no action in this respect.

Question 15: What plan should a lab director put in place for a lab technician’s (BMA/TAB) further career development?

- a) Additional specialisation in a laboratory discipline.
- b) Career development in the direction of chief lab technician.
- c) Development with the aim of heading a laboratory under reasonable supervision.
- d) None of the above.

Results: a: 7% | b: 44% | c: 37% | d: 11%

Comment: The audience is in favour of development of BMA/TAB to become chief technician with professional competences (44%) and even managerial competences (37%). Whether this result is derived from an estimation of the competences of BMA/TAB or their money-saving potential is not clear. Hopefully it was the former.

Question 16: In contrast to support for continuous education of physicians and lab directors, there is far less support for the education of lab technician staff. Why?

- a) This is not necessary.
- b) The technician is needed in the lab and this is an unacceptable distraction.
- c) Continuous education already exists in a large number of laboratories.

Results: a: 4% | b: 4% | c: 92%

Comment: The audience contradicts (correctly in our opinion) the question posed. The problem is that labmed has still not decided on a continuing education guideline (e.g., 30 credit hours’ external education and 20 hours’ self-directed study). Other affiliated professional health organisations have had relevant regulations in place for many years.

Question 17: The attractiveness of the profession of BMA/TAB, which is at “diploma” level, might suffer in comparison with higher level education of other affiliated health professions such as nursing and physiotherapy.

- a) Yes.
- b) No.
- c) No opinion.

Results: a: 36% | b: 40% | c: 24%

Comment: It is not easy to decide whether the degree level is the most important feature for careers. Being

compliant to the market and having a solid education also has its value. However, in our “modern” times of Bologna a title seems to be everything (36%). Additionally it is important to highlight that, since three years and at least in the German-speaking part of Switzerland, BMA’s education occurs on the tertiary level, so that there is no difference with nurses and physiotherapists.

Question 18: Nurses and physiotherapists are graduates of a higher educational level than BMA/TAB and thus seem to benefit from this. It seems that BMA/TAB are respected as simple laboratory test labourers. How could this “deficit” be overcome?

- a) By regular structured continued education.
- b) By programmes that foster specialisation.
- c) By salary improvements.
- d) By better hierarchical positioning.

Results: a: 48% | b: 23% | c: 19% | d: 10%

Comment: A profession is rated primarily in terms of its value generation. The plenum seems to believe that continuing education holds out greater promise for better positioning of a profession than artificial, perhaps unjustified diplomas or unnecessary specialisation not conformable to the market. In general salaries are linked to value generation (with some exceptions recently seen in the banking industry). Artificial hierarchical manipulations do not usually survive for long.

Question 19: What are the main target groups for teaching in clinical chemistry/laboratory medicine?

- a) Undergraduate students (e.g., medicine, pharmaceutical sciences).
- b) Postgraduates (e.g., FAMH trainees, FAPL/AFCLP).
- c) Future lab technicians (BMA/TAB).
- d) Physicians and lab directors (= continuous medical education).

Results: a: 29% | b: 39% | c: 18% | d: 14%

Comment: It seems realistic to consider that teaching activities should be intensified on all levels and for different professions. Activities in postgraduate education should be the primary aim.

Question 20: What should be the focus of research in clinical chemistry/laboratory medicine?

- a) Basic research aiming at understanding disease mechanisms and discovery of new biomarkers.
- b) Development of methods (technology).
- c) Clinical evaluation of methods and biomarkers (diagnostic tests).
- d) Service to research of other scientists from clinics or industry.

General goal

New biomarkers or methods for early detection, diagnostics, prognostics or monitoring of diseases:

- Biomarker discovery (pathogenesis research, -omics approaches)
- Development of methods and technologies
- Clinical/epidemiological evaluation of biomarkers and methods

plus support for projects of other researchers in the academy and industry.

Results: a: 27% | b: 13% | c: 53% | d: 7%

Comment: The plenum feels that diagnostic test evaluation in the clinical setting should be the foremost research activity followed by basic research. We would like to add that this clinical research includes outcome studies more and more needed for justifying the use of laboratory tests.

Question 21: What are the opportunities for clinical chemistry/laboratory medicine?

- a) Evidence-based medicine.
- b) Technological progress.
- c) Standardisation.
- d) Collaboration.

Results: a: 47% | b: 7% | c: 7% | d: 40%

Comment: The auditorium strongly favours cooperation and evidence-based laboratory medicine, and believes that this will enhance the profession. It is however difficult to keep “eye-level” with the owner of the patient (clinician). The closer a researcher is to the patient (benefit), the more able he will be to draw attention for funding.

Question 22: What are the major threats to clinical chemistry/laboratory medicine?

- a) Cost pressure.
- b) Monopolies in industry and laboratories.
- c) Lack of attractiveness for the next generation.
- d) Too little academic embedding.

Results: a: 37% | b: 22% | c: 26% | d: 15%

Comment: The plenum seems to feel that all of the above threats are important. It is of note that the different answers are interdependent. Financial factors seem to dominate.

Discussion

The use of an electronic real-time voting system allowed rapid polling of a

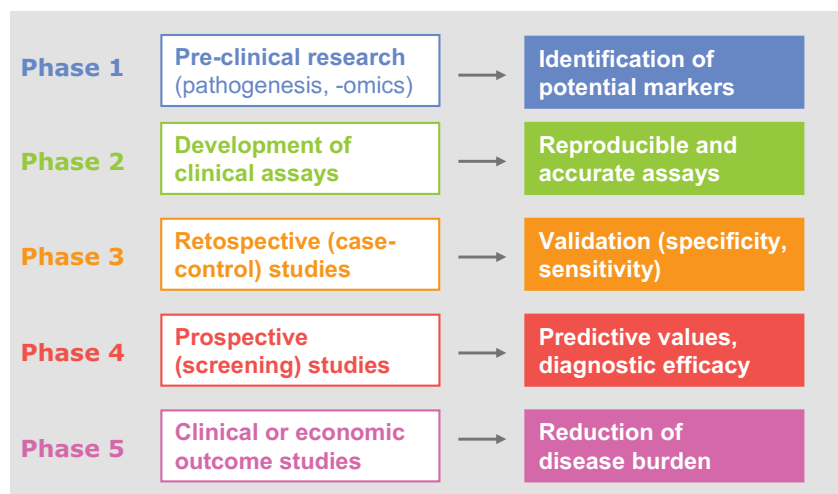


Figure 3

group of laboratory peers on a number of important questions which will dominate the future of laboratory

medicine. Within one and a half hours many interesting topics were addressed. The answers were illustrative,

although not always conclusive. In a later step the questions will need to be analysed further and appropriate action planned. It is felt that the peer group has in general a realistic grasp of the situation in laboratory medicine. The differences of opinion seen on some questions certainly reflect the various life situations in which the peers work. Nevertheless, common sense and agreement were also observed in some response patterns. The result signals that the various interests need to join forces in addressing future challenges.

<p>Strengths</p> <ul style="list-style-type: none"> • Central role in diagnostics and therapy monitoring • Technology, informatics • High quality, efficiency • Technical standardisation • Well trained technical and academic personnel 	<p>Weaknesses</p> <ul style="list-style-type: none"> • For many parameters the clinical outcome is not demonstrated • Often too little communication with clinicians • Relatively poor recognition from clinicians • Lack of attractivity for technical and academic recruits
<p>Opportunities</p> <ul style="list-style-type: none"> • Molecular medicine (-omics) • Technological progress • Evidence-based medicine • Diagnostic pathways • Reforms of (medical) studies • International standardisation of basic training, further and continuing education • Centre information 	<p>Threats</p> <ul style="list-style-type: none"> • Cost pressures in healthcare (e.g. tariff point reductions, DRGs) • Monopolisation (industry and labs) • Shortage of recruits • De-academisation of lab medicine in university hospitals

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Figure 4