COMMENTARY

Generalists are needed more than ever!

Rolf A. Streuli

Honorary President of the International Society of Internal Medicine, Langenthal, Switzerland

If today you want to keep up with basic and clinical research, you need to concentrate on a very small field and reach tremendous depths in this very field. And, actually, life is too short to also accumulate the knowledge necessary to do meaningful scientific work even on closely related topics. Hence, specialization is inevitable not only in research; it was a prerequisite for the development of our highly complex society with its myriad of different professions, which brought us prosperity and longevity never seen before in the history of mankind.

People are fascinated by the word "specialist". It stands for the person who has got the right solution to most difficult problems, whose knowledge and abilities surpass those of the ordinary people, and who is an expert in his or her field. The generalist, on the other hand, is struck by the blemish of amateurism: he knows a lot, and has broad education, but to get an answer for an important question you would probably prefer the specialist. However, since the specialist has to limit the width of his knowledge in favor of its depth, he runs the risk of progressive concentric contraction of his visual field. Our society can only work, if in all of its sectors generalists co-ordinate the knowledge of specialists, arrange it, and set priorities. Thanks to his or her wide horizon, the generalist is able to keep in mind the whole thing, to appoint the specialist to the right place, and to distribute scarce resources in a wise and just way. Hence, the generalist is determined for leadership, as seen in politics and in business, and where almost nobody contests such a division of tasks.

In our profession, however, the relationship between generalists and specialists became more and more strained; this especially pertains to the medical school level, where the future directions of our health care system are defined. What makes the difference between a generalist and a specialist in medicine? Richard V. Lee[1] from Buffalo, New York 1995, published some thoughts concerning this question: he indeed found it much easier to define the specialist than the generalist. According to him, specialists have a focused and demarcated vista; they confine their thoughts and actions, avoiding clutter and vagueness; they are exclusive, expert. Generalists, on the other hand, are hard to grasp and do not constrict their horizons. Generalists inhabit a cluttered, untidy world. They are inclusive, welcoming; they know a lot about a lot, and they are always available. The methods used by generalists are the exact observation of the patient and the long-term pursuit of his or her disease. Specialists, on the other hand, intrude upon their patients with the help of their technical instruments; they act invasively. In many cases, the method of choice of the generalist is doing nothing – mere observation of a patient. For specialists, it is essential to always be active; they tend to discard the "undoable" patient and move on to the next procedure. The dichotomy between generalists and specialists in internal medicine is the most important topic today; it will have far-reaching consequences for the entire medicine.

Internal medicine was born on April 20, 1882, when the famous German Professor, Theodor Frerichs, opened the first German Congress of Internal Medicine in Wiesbaden. In his speech, he declared with pathos which was usual in those times: "We are leaving more and more the unity of the human body represented by internal medicine. It is the duty of internal medicine to hold together all subspecialties. Internal medicine is a broad stream, from which the different subspecialties branch off as smaller creeks. However, they would dry out in the sand, if they would be separated from the broad nourishing stream."[2] Internal medicine is the epitome of a generalistic subject. However, the enormous development of medical knowledge in the last few decades has made the increasing specialization unavoidable. The different organ-centered specialties developed so to speak as the daughters of internal medicine. With their sophisticated techniques and methods, the experts of all these fields today achieve diagnoses and treatment results that were unthinkable some years ago. It is therefore understandable that these daughters desperately wanted to emancipate themselves from their internal medicine mother. They

Correspondence to:
Prof. Dr. med. Rolf A. Streuli, MACP, FACP, Honorary President of the International Society of Internal Medicine, Hinterbergerweg 15, CH 4900 Langenthal, Switzerland, phone: +41-62-922-99-20, e-mail: r.streuli@besonet.ch
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no longer want to be subspecialties of this subject, but to become independent specialties. In several European countries, they already reached this goal, which means that the decay of internal medicine is approved by legislating authorities.

The decay has begun where future internists are trained, i.e., in the departments of internal medicine at our universities. Here the sections of the organ subspecialties fought for their independence because they no longer wanted to live under the wings of an almighty department of internal medicine. The University of Bern, Switzerland, performed a quantum leap in this regard: several years ago, it totally abolished the department of internal medicine and horizontally integrated its components together with surgical subjects into organ-centered departments. Thus, the heart department consists of the divisions of cardiology and cardiac surgery. At first glance, such total and consistent organizational fragmentation of the patient into his or her organs seems to be quite clever and logical. However, we have to carefully keep in mind the long-term consequences of such an atomization of internal medicine for our health care system. Almost all ailments and diseases that motivate people to seek medical help belong to the field of internal medicine and can be treated by general internists and family practitioners in a competent and cost-effective way. These physicians are generalists who are well aware of their limits, and therefore refer about 10% of their patients with specific problems to specialists.

Doctors learn their profession as generalists during their residency at the departments of internal medicine and the outpatient clinics of our hospitals. In all Western countries the average age of patients is old, often older than 70 years! Almost all these patients are polymorbid. This segment of our population, i.e., people over 70 years, is the fastest growing group of patients in all industrialized countries and requires the largest part of our health care expenditures. Therefore, the care for polymorbid patients is one of the most important and most difficult challenges for our health care system. This is the genuine domain of generalists, who aim at carefully considering their work-up of the patient and their therapeutic activity; they always keep in mind the whole personality of the patient as well as the good quality of life, which should be the aim of all their endeavors.

In 1980s, everybody in Europe believed that the need for hospital beds would drastically decrease and that most patients would be treated in outpatient clinics and private practices. Everybody believed that the few patients that would nevertheless have to be admitted to the few remaining hospital beds could be cared for by superspecialists. However, in the last 10 years, the number of hospitalized patients has been relentlessly increasing in Europe, and they include primarily these old, polymorbid patients who need the care of generalists.

We need generalists to lead the training centers for future generalists, i.e., the departments of internal medicine at our hospitals. These heads of department should be leaders and set an example in the practice of holistic medicine to their young residents. Where do these heads of department come from? They have been trained in the departments of internal medicine at our universities. However, if exactly all these departments of internal medicine are abolished, the formation of future generalists is severely jeopardized. In several countries, the professional associations of general internists and family doctors demand a transfer of training from hospitals into their practices; that would mean something like an apprenticeship and resemble the formation of bare-foot doctors. Of course, this is an illusory solution. It is my firm belief that medicine still is and always will be an academic profession.

What is the number of generalists we need? According to several studies conducted in the United States and Europe, 50% of all practicing physicians should be generalists. Any decrease in this figure would have grave economic consequences for the country. As we discussed above, specialists are interventionists and are trained to use their expensive techniques, such as endoscopies, cardiac catheters, and so on. In the health care system that prevails in many European countries and in the United States, patients are allowed to see every doctor they choose, which means that they are allowed to directly see a cardiologist if their ribs hurt. Therefore, the bad and expensive habit of "doctor shopping" is real in those countries. This leads to a tremendous increase in our health care costs. And, as you all know, today we can simply no longer do everything that is feasible! We need to co-ordinate diagnostic work-up and treatment plans for those polymorbid patients; in order to do that, we need experienced generalists. Of course, many colleagues will object that patients with heart and lung diseases or those with diabetes mellitus are much better cared for by specialists and that the care provided by generalists would diminish the quality of treatment. Several investigators explored this issue. In a review published in 1998, Martin T. Donohoe[3] from Oregon concluded that there are differences, namely, that there are some deficiencies in the generalist's care which are nonetheless minor compared with the deficiencies in long-term care and preventive measures not taken by *all* physicians, be they specialists or generalists!

In this dangerous situation, generalists are desperately needed to take right and moderate decisions. They are also the right people to counterbalance our modern, highly technical medicine. Of course, modern medicine has brought us unbelievable innovations. However, an alarming and increasing number of patients are seeking tender, loving care from all sorts of quacks because they no longer get it from us, whom they only see sitting behind cold machinery. In my department, we conducted a study on the percentage of cancer

patients who were looking for advice from alternative healers.[4] From earlier investigations, performed in the United States, we know that up to 80% of cancer patients use alternative methods. In my hospital, 39% of the patients have at least once used alternative methods in the course of their treatment. Probably, we do not take enough time to talk to our patients, to touch them, to listen to their heart using our good old stethoscope, to palpate the liver and spleen. Of course, echocardiography is much more precise than our stethoscope; the same is true for the ultrasonography of the abdomen. However, our patients have a profound need for the old intuitive "touchy-feely" medicine, which was practiced by our old teachers – Aesculap and Hippocrates. For our generation, who grew up in the century of high technology, it is difficult to believe in this other side of medicine. However, the hopes and fears of our patients cling to the verbal and nonverbal communication abilities of us – doctors. In the case of a life-threatening disease, we cannot comfort our patients with medical statistics, outcome research, and randomized studies.

In summary, we definitely need both the specialist and the generalist. We owe all scientific innovations to specialists; they can solve most difficult problems in a minority of our patients. Generalists, on the other hand, have learned to care for the majority of our patients in a moderate and cost-effective way. However, their formation is in danger if the decay of internal medicine cannot be brought to a halt.

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