Some Comments On The Inverted Pyramid Of Medical Qualification In Brazil And How It Affects Training In Cardiology

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Just over six years ago, Brazilian medical residency underwent an important change of paradigm. This change, determined by the National Medical Residency Commission, was the establishment of a rule calling for two years of prior general residency as a prerequisite for all of the so-called subspecialties of internal medicine, including cardiology. This ruling amounted to the implementation in Brazil of a postgraduate model inspired on American training programs that require not only two, but three years of generalist residency training prior to acceptance in the so-called "clinical subspecialties"[1-3]. The change was corroborated by the Brazilian Society of Cardiology, which came to value generalist training when evaluating curricula prior to granting the title of specialist[4]. Despite some arguments to the contrary – among which the fact that medical courses in Brazil are six-year courses, and not the four-year American model – the benefits seemed obvious. In the first place, such a change should produce more highly trained specialists, since the training period would necessarily be longer. Physicians trained under the new rule would be capable of acting as both general practitioners and specialists, thus increasing the number of generalists on the market. In the second place, the change should lead to more value being placed on generalist training residencies which, as of this change, would become an essential gateway to the clinical subspecialties. And in the third place, the change would help do away with the admittedly disastrous so-called "premature specialization". I recall – as clearly as though it had happened just today – giving my hearty congratulations to Dr. Antonio Carlos Lopes, then president of the Brazilian Society of Clinical Medicine (SBCM), for his having been one of staunchest supporters of that change, and consequently, among those responsible for implementation of the new rules[5].

Now, several years later, I come before the Brazilian medical community as an ex-enthusiastic supporter of this change of paradigm to pose some questions regarding the change. Such questions do not refer to the undeniably desirable nature of the prerequisite – which in fact I must acknowledge has improved the quality of trained clinical cardiologists – but to its absolutely compulsory nature and to the inverted pyramid that has stemmed from its adoption.

Although it may be true in part that the change has led to the qualification of better specialists, some questions must be addressed. For professionals who intend to devote themselves to private practice or to caring for hospitalized patients, the two-year prerequisite is highly recommendable, but for physicians who intend to undergo lengthy training in invasive electrophysiology or interventionist cardiology, as well as for those who intend to devote themselves to research, embarking on post-residency master's or doctorate studies, two-year residencies may be excessive. In these cases, one year of generalist training may be sufficient. It should be kept in mind that virtually all exponents of Brazilian medicine qualified at a time when general medicine residencies were not yet compulsory. At one time there were no requirements whatsoever, which was obviously also wrong. Then came a time when one year of training in general medicine was required, and that requirement was fulfilled within the qualifying institution's own facilities. The programs thus lasted three years, the first year in general medicine and the other two in some subspecialty. Later, professionals qualified in this manner continued their medical training by means of master's or doctorate courses, residencies in complementary methods, or even fellowships abroad. The fact is that until quite recently, most of the programs known for their excellence in the south of Brazil, such as those of the Federal University of Rio de Janeiro (UFRJ), the University of São Paulo (USP), or the Federal University of São Paulo (UNIFESP), continued to use this method. The greatest merit of this training model was the fact that it broadened the range of training possibilities. Physicians coming out of these schools had two ways of going on to residencies in clinical subspecialties: directly, by means of training that included

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one year of general practice; or after a previous two-year residency in general medicine. In addition, although many of those who concluded their residency in general medicine continued as internists, a good number of them acquired training in clinical subspecialties by means of the so-called "specialization courses with on-the-job training". I myself was once a professor of this type of course at the Federal University of Ceará (UFC) where we worked with ex-general medicine residents and produced many exceptional cardiologists, all with good clinical qualifications. There was also a third training option for those who had just finished their generalist residency: the excellent "master's courses with on-the-job training" such as those offered by UFRJ and UNIFESP. Such programs constituted an additional training option and also produced specialists with good clinical experience. It seems that currently, such "master's courses with on-the-job training" are taking on ex-residents in subspecialties instead of in general medicine, making preparation for teaching redundant and excessively time-consuming. Be that as it may, in the past there were more training opportunities for recent graduates. Training opportunities today are absurdly reduced due to the mandatory requirement of two years of general medicine, a veritable "Procrustean bed" (a measure that arbitrarily forces all candidates to conform to the same model).

As far as doing away with premature specialization is concerned, I would like to state, emphatically, that such was not the case. Many general medicine residents continue to behave as though they were premature specialists. Is there any head of any department of cardiology who has never come across some future dermatologist or endocrinologist totally uninterested in learning the subtleties of cardiac auscultation? Besides, to avoid simply leaving residency vacancies unfilled, most of the so-called "specialization courses", as well as the "medical residencies" not accredited by the Ministry of Education (the quotation marks are mine, since in fact, only MEC-accredited programs can be called medical residencies) are forced to accept doctors without any previous training in general medicine. Physicians who take such programs will continue to be premature specialists, and to make matters even worse, they will be poorly trained specialists. Generally speaking, the qualifications of such physicians are not accepted as valid.

As far as the hoped-for increase in the number of general practitioners is concerned, it seems more than obvious that what occurred was exactly the opposite. In view of the ease in being accepted for a residency in clinical subspecialties (again, the inverted pyramid), nearly all general medicine residents opt for one of those subspecialties. Consequently, the pure 'general practitioner' can be seen as an endangered species. This seems to be sad evidence that in fact, general medicine is no longer considered a specialty (apart from a few exceptional professionals) and has come to be seen merely as one stage on the road to subspecialization.

One sole and apparently positive aspect resulted from making the two-year requirement mandatory: residencies in general medicine have undeniably come to be more highly valued. On the other hand, I am sorry to have to say that they may have been overvalued. Unlike in the US, where virtually all physicians who graduate in the country manage to get admitted to some residency program (there are even vacancies left over for foreign doctors), Brazilian physicians are on the way to being divided into two separate castes: those who manage to get admitted to some medical residency program, and those who do not. These latter are obliged to enroll in the Family Health Programs (PSFs) – often lacking the slightest vocation or prior training in family medicine – and are contracted by city governments without any labor rights or career plan. We are all witnesses to the uncountable number of excellent students who fail to get into any medical residency program and are marginalized in terms of training, and consequently, in terms of their professional future as well. Unfortunately, strict application of the prerequisite has left increasing numbers of recent medical graduates excluded from residencies, and has produced deformities such as proliferation of the infamous "medical residency prep courses".

Anyone who takes the trouble of consulting the Internet regarding MEC-accredited medical residency programs (just go to www.Google.com and write Residência Médica MEC in the search box) will find that for a universe of more than 12,000 medical school graduates, there are only 980 general medicine vacancies in 177 programs. This is obviously very few. In the meantime, for cardiology we have 304 vacancies in 76 programs, and for the subspecialties in internal medicine, 1316 vacancies in 561 programs (Table I).

Table I – MEC-accredited programs and first-year vacancies in medical residencies – area of clinical medicine

Specialty or subspecialty	Programs	Vacancies
Clinical medicine	177	980
Cardiology	76	304
Endocrinology	44	94
Gastroenterology	48	78
Dermatology	47	71
Geriatrics	12	26
Infectology	44	130
Hematology	45	94
Clinical immunology	1	2
Nephrology	63	174
Neurology	53	116
Pulmonology	56	116
Clinical oncology	31	79
Rheumatology	28	50
Intensive care	12	18
Total in subspecialties	**561**	**1,316**

Source: Table drawn up by the author based on Internet research in Google (Residência Médica- MEC) and at the following web site: http://www.tudoresidenciamedica.hpg.ig.com.br/vagas/vagasmec.htm[6]

Taking into account that one of the reasons for the change was to adopt the American model, it should be kept in mind that in the US, for a number of medical school graduates not much larger than ours, there are 408 internal-medicine programs with 21,451 vacancies[2]. It is this situation that has led the American programs to "import" the so-called Foreign Medical Graduates, and constitutes undeniable proof of the absurdity of the existence in Brazil of an inverted pyramid in the medical residency system. The problem is further aggravated by the fact that some of those who conclude their general medicine residency, instead of going on to some clinical subspecialty, remain as internists or migrate to non-clinical subspecialties. Inversion of the pyramid becomes even more pronounced due to the existence of a large number of "specialization courses" in medical subspecialties that would simply have to shut down for lack of candidates if they were to demand the desirable prerequisite residency in clinical medicine. It seems obvious that the consequence of this situation is the large number of existing vacancies in clinical subspecialty residencies that simply remain unfilled. Extreme difficulty in being admitted to a residency, unfilled vacancies in the subspecialties, and talented recent graduates being marginalized or subjected to inappropriate training constitute an absurdity that cries out for solutions. Though it may seem Incredible, there are various available options that could solve the problem, as shown below.

a) Doubling the number of vacancies in basic residencies (general medicine and general surgery, because the surgical subspecialties are facing a similar problem). This is a fair and urgent demand on the part of medical students. Although supporters of the prerequisite (among whom I included myself until very recently) consider this the best solution, the fact is that its implementation would take quite some due to the scarcity of grants and programs.

b) Until such time as this situation (the lack of grants and programs) can be remedied, the current rules could be made more flexible. The two years would continue to be recommended, but no longer absolutely mandatory. Such a measure would allow institutions to reserve 50% of their vacancies for exceptionally well-qualified graduates who would do only one year of residency in general medicine – as per the old rules – followed by two years in the subspecialties. That would undoubtedly be the best alternative in the eyes of critics of the prerequisite that calls for two years of general medicine. In the case of cardiology, such a change would not necessarily imply reduction in the length of the training period. The reason is that professionals qualified in this manner could opt to enter the market, work as generalists/cardiologists, or go on to additional training in more complex methods such as hemodynamics, ecocardiology, or electrophysiology. Those with a vocation for research or teaching could also go on to take master's or doctorate programs without rendering their qualification period excessively lengthy. It should be noted that the greatest benefit of this change is the fact that if it were applied to all the clinical subspecialties, we would be unblocking the admittance bottleneck as though by a stroke of magic, with a consequent doubling of the available vacancies for residency programs in the clinical area. This measure is obviously feasible since it was already adopted for certain clinical subspecialties (dermatology and neurology – CNMR Resolution 07/2004). It is interesting to note that in the US, at the time when I did my residency there, it was permitted for doctors with exceptional qualities to reduce their clinical residency by one year prior to their training in a subspecialty. According to a recent proposal made by Valentin Fuster[4], in the case of cardiology, the prerequisite in general medicine should be reduced by one year while creating one additional year of training of a flexible, intermediary nature – something between internal medicine and cardiology – that would be followed by the traditional Fellowship. Why not do something similar in Brazil?

c) Make residency in family medicine – a field that currently has unfilled vacancies – more attractive. One simple measure would be for the family health programs (PSFs) to pay higher salaries to physicians with formal training in family medicine. Another would be to allow that the training of those who have completed a residency program in family medicine be considered to have fulfilled the prerequisite for residency in clinical medicine subspecialties. The greatest merit of these measures would be to enhance not only the value of the training, but of the status of doctors who take part in the PSFs. These doctors would be encouraged to get appropriate training and would no longer be characterized as 'second-class professionals' – a characterization that is both erroneous and tragic.

d) Encourage the institutions that offer "specialization courses with residency-level training" (the so-called non-accredited residencies) to extend their training programs to three years by including an initial year of clinical medicine. In the case of cardiology, this would result in an enormous improvement in the quality of specialists qualified by such programs, in addition to bringing these courses closer to compliance with the SBC[5] standards (standards that demand one year of training in general medicine in order to be exempt from the practical exam otherwise required to obtain the Title of Specialist). Such a measure (one year's previous training in general medicine) would also render the professionals qualified in this manner better prepared for the labor market, which often demands general practitioners and not subspecialists.

This paper shows a clear picture of the harmful consequences of the strictly mandatory two-year prerequisite, as well as various options capable of minimizing the current vacancy crisis. Given the extreme gravity of the current situation, I will leave the responsibility of choosing the best alternatives for solving the problem to the leaderships of the Societies of Specialties (among them the SBC) and the National Medical Residency Commission.

References

1. Langton LO, Toskes PP, Kimbal HM. Future roles and training of Internal Medicine Subspecialists. Ann Intern Med 1996; 140: 686-91.

2. Zerbini CAF. Residência e estágio médico nos Estados Unidos em Medicina Interna. Rev Bras Clin Terap 2000; 26: 115-18.

3. Fuster V, Nash IS. The generalist/cardiovascular specialist: a proposal for a new training track. Ann Intern Med 1997; 127: 630-4.

4. Moretti MA, Maciel BC, Malachias MVB et al. Normatização para a concessão de título de especialista em Cardiologia e de área de atuação em Cardiologia. Arq Bras Cardiol 2004; 82(supl. III): 1-10.

5. Lopes AC, Moreira, FT. Duração do Pré-requisito e acesso a programas de residência Médica em especialidades Clínicas. Rev Bras Clin Terap 2000; 26:110-114

6. Residências médicas credenciadas pelo Mec em:http://www.tudoresidenciamedica.hpg.ig.com.br/vagas/vagasmec.htm