Doctors don't break even

Médicos não se pagam

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"I am 48 years old and still have several years until reach the highest point of my career". This quote can't be heard from almost any professional. Among financial analysts, for instance, 29 years old is already too late. Few employees would hire a 35-year old "brilliant mathematician" and a 45-year old virtuoso violinist is unthinkable. Doctors are one of the few professions where age translates into experience and, to some extent, more success.

Unfortunately there is a progressive cost associated to this maturation. Young students survive on pizza and beer; residents already demand wine and blue cheese and senior doctors don't survive without Bourbon and French cuisine.

In the country I live (Brazil), private schools are preferable until College, and public Universities are the choice after that. In the US, public and free medical education is very rare if existent. Top-notch schools may cost up to 40K per year[1]. After graduation doctors are usually willing to sub-specialize and go through residency programs that barely support them financially. An additional two or three years of specialization are required before a decent job. Post graduation degrees, such as a PhD, are necessary for University positions. Attending meetings and authoring-papers are a must for continuous medical education; a regular meeting might cost up to $600.

The personal costs (living expenses and education) must be added to the ones paid by the society (medical school and training hospitals) in order to deliver a doctor. It is known that medical schools are bad businesses. Not surprisingly, MIT does not have one... Teaching hospitals are much more expensive than regular ones, since apprentices use more resources, including a long learning curve. The cost of undergraduate medical education has been rising at more than twice the inflation rate in recent years[2].

It is, therefore, challenging to balance the health care system based on more and expensive doctors. Several attempts have been made to build a collaborative health organization with technologists, technicians and paramedical personnel. The doctor and nurse role has been redirected to organize the team and aim for the diagnosis and therapeutical measures.

Some savings arise from this structure but are lost in the hospital-centered model, which values expensive technological equipment as essential tool for the practice. Either because of lawsuits fear, or the push of the high technology industry, expensive exams are used as means for almost any diagnosis.

It is no surprise that the money that goes to the health care system is never enough and, in fact, decreases every year compared to the rising cost. This kind of medicine won't ever break even.

New ideas and developments might change this reality in the short term. The construction and widespread of accurate, inexpensive and precise mobile solutions may change the equilibrium towards a patient-centered medical model, empowering the community with self exams and compelling the system to decrease the number of doctors and lower the cost of diagnosis.

Off-the-shelf solutions detect health more often than disease, avoiding unnecessary visits and evaluations. The technology inside mobile phones has already proved to be able to detect myopia, hyperopia and astigmatism[3], and shortly will offer retinal images of the vessels and optic nerve[4], substituting, for the price of $300, a $30K device. Additionally, these instruments help to save money in terms of medical personnel, since a self-exam is proposed, along with the possibility of performing this task outside special environments at expensive clinics.

Not only economical consequences are to be expected from the accurate mobile medical technologies, but a shift in the medical behavior and consequent medical education. Doctors will no longer make a living on

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performing exams or owning diagnostic facilities, but in suspecting diagnoses from understanding signs and symptoms, as well as collecting and analyzing data from several sources.

A major paradigm change in medical education as described above may, for the first time, bring back a level of sustainability to the health care system and doctors specialization costs. More notably, to the benefit of us all, it may initiate a movement towards the ancient medicine (or, if you will, Dr. Gregory House or Sherlock Holmes) based in evidences and rational thinking.

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