



# Research and Teaching: Essential Components of a University Hospital

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During the recent crisis at InCor (Heart Institute/Zerbini Foundation), scant emphasis was placed on the research/education system established at InCor since its foundation 30 years ago. When discussing the InCor issue, it is the assistential side that emerges most clearly: 80% of cases are treated through the Unified Health System (SUS) – highly complex procedures and the use of advanced techniques in virtually all areas of cardiology such as imaging, hemodynamics, arrhythmias, surgeries, and pediatric cardiology. Obviously, this assistential side is a basic pillar that helped bolster InCor's prestige.

In its turn, the academic side, made up of teaching and research, is worthy of more in-depth examination. InCor is responsible for teaching on both the undergraduate and graduate levels. Third, fourth, and sixth-year medical students of the University of São Paulo Medical School (FMUSP) train at InCor. At present, there are 165 students in the *stricto sensu* graduate program and 20 theses were presented in 2006. Residency at the InCor – currently numbering 88 residents – is among the most sought after in Brazil in the proportion of five candidates for each opening. These students and physicians are trained to work throughout the country. Many InCor graduate alumni are now heads of teaching units, heads of medical services, presidents of professional associations, and professors or researchers at both Brazilian and foreign medical schools.

The professional research structure, with basic investigation laboratories such as molecular biology, and clinical investigation in all areas of cardiology, was set up gradually over time. In fact, prior to the InCor, there was no professional cardiac research structure. The surgical, clinical, and experimental divisions – each with its own administrative structure – were created concomitant to InCor's foundation. This simple but decisive factor of administrative policy was the starting point for the professionalization of research, and was followed by the recognition of research as a full time professional career. With time, InCor achieved what it has today: qualified researchers – most of whom have doctorate degrees and many who have *post doc* abroad – working full time. This leads to a large number of scientific publications and presentations at congresses each year. For example, only in 2005 the InCor research team had 213 papers published in Brazil and 203 abroad. InCor has thus contributed to the progress of cardiology on a regular basis. Funding for several of these research projects is obtained by the researchers themselves

from funding agencies such as FAPESP (the São Paulo State Research Foundation) and CNPq (the National Council of Technological and Scientific Development), or from the pharmaceutical industry.

This would not have been possible without the Zerbini Foundation, which foots the bill for researchers' salaries or supplemental income, constantly renewing staff, maintaining an ongoing training program abroad, and purchasing the required research instruments. It must be made clear that eventual administrative problems, which must always be corrected in a timely fashion, do not invalidate the university hospital foundation model that has contributed so much to development of the assistential/teaching/research system that InCor symbolizes.

Frequently, however, when analyzing InCor's performance, only the assistential factor is taken into consideration i.e., how much it costs InCor to treat patients. Actually, there are estimated cost criteria related to medical care such as consultations, catheterization or surgery, whether private or through health plans and SUS. Hospital and professional health worker remuneration is based on these criteria.

No such cost criteria – not even estimated – are applied to scientific production. It would seem that scientific production and teaching cost nothing and are therefore worth nothing. How much does it cost to publish a scientific paper? How much does it cost to develop a cardiac valve prosthesis? How much does it cost InCor to produce an artificial ventricle?

Obviously, neither InCor nor any other university hospital can be evaluated exclusively on the basis of its assistential work, as though it were a community hospital dealing only with patient care. University hospitals, in addition to providing top level medical care, generate new knowledge and training that revert to the benefit of the population. In addition, they play an essential role in the triage of equipment and new technologies developed in the First World that are later used throughout the country's whole health system.

Therefore, this evaluation criterion based solely on medical assistance must be reformulated by the government agencies when discussing budgets and the destination of funds. One solution would be to consider the costs of assistance and research, with equal priority, as intrinsically inherent to the nature of university hospitals. An administrative structure must be created that would allow university hospitals to obtain funding earmarked specifically for research/development, and that could provide funds through the Secretariat for Science and Technology, as though the university hospital were one of its research institutes. This would make it possible to incorporate expenses related to personnel, equipment,

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facilities, maintenance, and overhead. FAPESP, which lends substantial support to science and technology in the State of São Paulo, does finance research projects, but its funding scope is very limited. For example, it does not finance personnel or infrastructure, the counterpart expected of an institution that proposes research.

Who should be responsible for funding a university hospital structure? Primarily, the government itself should foot the bill, because the government is responsible not only for the health of its citizens, but for the country's technological development as well. Civil society should be held equally responsible because it is the direct beneficiary of the development generated by a university hospital. And it is here that we come to foundations that lend support to university entities.

It is well-known fact that the government lacks sufficient

funds to meet the country's needs in terms of health, research and development. Civil society must help, and the support foundations are the appropriate funding vehicle for this purpose.

Civil society has demonstrated that it is aware of these needs, even acknowledging common interests with universities and other academic entities. Joint university/industry and public/private actions are a positive trend in modern politics. As far as university hospitals are concerned, we need conceptual change and innovation that would take into account the participation of university hospitals in the fields of research and teaching. Coordinated and ongoing action on the part of university, government, and civil entities is essential if we are to continue drawing up programs aimed at scientific and technological development that reverts to the benefit of the community.